Capturing value from wildlife tourism: growth corridor policy and global production networks in Zambezi, Namibia

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Summary

To overcome economic injustices and spatial disparities inherited from the apartheid era, the Namibian government pursues regional development in the Zambezi region. Two popular policies are applied that build on the commodification of nature via wildlife tourism: growth corridor policy is envisioned to enable the coupling into global production networks (GPN) via increased connectivity and targeted investments into tourism. Similarly, community-based natural resource management (CBNRM) schemes are designed to attract foreign investments in the safari and hunting tourism sector to benefit rural communities. Despite the hopes that are set on international tourism, GPN theory indicates three threats connected with global market integration: first, emerging social inequalities and disarticulations in the host region, second, the appropriation of value by central nodes of the GPN and therefore limited value capture at the production stage and third, the alteration of human-environment relations at the production stage. Notwithstanding this, a conceptualisation of nature's integration into GPNs is still pending. Therefore, the aim of this dissertation is to scrutinise the commodification of nature through wildlife tourism and growth corridor policy effect on regional development. To this end, value capture among the actors and localities of the tourism GPN was examined, the role of infrastructure for nature-based GPNs assessed and the mechanisms that lead to the integration of nature into GPNs revealed. A single case study approach was applied that comprehensively studied the effects of tourism development policies connected with the Walvis Bay-Ndola-Lubumbashi Development Corridor (WBNLDC) in the Zambezi region. A mixed-methods approach combined qualitative interviews, archival research and the review of existing scholarly and grey literature with a business survey, a traffic census and the analysis of quantitative data, inter alia a household survey. Findings reveal that infrastructure development and the expansion of nature conservation territories led to increased value creation from tourism in the region, but traffic census data indicates that extra-regional actors are able to capitalise on these opportunities. Nevertheless, conservancies as local institutions are able to capture roughly 20 % of the value, while tourism accrues to only 5.5 % of the income of rural households. Lastly, the institutional configuration on the local and national scale is crucial for determining how wildlife is economically utilised and who benefits from it. These findings highlight the role of local institutional actors in value capture, confirm the necessity to study the territoriality of GPNs and the role of infrastructure therein and call for a closer look at social-ecological relations at the production stage, since they are decisive for regional development.

Zusammenfassung

Die namibische Regierung wendet zwei populäre Politiken an um wirtschaftliche Ungerechtigkeiten und räumliche Disparitäten aus der Apartheidzeit zu überwinden und Regionalentwicklung in der Sambesi-Region voranzutreiben. Sowohl die Wachstumskorridor-Politik als auch das Programm der kommunalen Hegegebiete (Community-based natural resource management, CBNRM) basieren auf der Kommodifizierung der Natur durch Wildtiertourismus. Die Wachstumskorridor-Politik verfolgt die Logik, die Einbindung in globale Produktionsnetzwerke (GPN) durch erhöhte Konnektivität und gezielte Investitionen in den Tourismus zu ermöglichen. In ähnlicher Weise sollen CBNRM Programme ausländische Investitionen in den Safari- und Jagdtourismussektor ermöglichen, um so Gewinne für ländliche Gemeinden zu erzielen. Obwohl mit der Anwerbung von internationalem Tourismus große Hoffnungen verknüpft sind, weist die GPN-Theorie auf drei Szenarien hin, die durch globale Marktintegration ausgelöst werden können: erstens können in der Gastregion neue soziale Ungleichheiten entstehen, zweitens liegt es nahe, dass zentrale Knotenpunkte des GPN sich große Teile der Wertschöpfung aneignen und so die Wertsicherung auf lokaler Ebene gefährden und drittens besteht die Möglichkeit einer Neukonfiguration von Mensch-Umwelt-Beziehungen in der Gastregion. Ungeachtet dessen ist der Prozess der Integration von Natur in GPNs noch unzureichend konzeptualisiert. Das Ziel dieser Dissertation ist es daher, die Kommodifizierung von Natur durch Wildtiertourismus und die Auswirkungen der Wachstumskorridorpolitik auf die regionale Entwicklung zu untersuchen. Zu diesem Zweck wurde die Verteilung von Werten zwischen den Akteuren und Orten des Tourismus- GPNs untersucht, die Rolle der Infrastruktur für naturbasierte GPNs bewertet und Mechanismen aufgezeigt, die zur Integration von Natur in GPNs führen. Mithilfe einer Einzelfallstudie wurden die Auswirkungen der Tourismusentwicklungspolitik im Kontext des Walvis Bay-Ndola-Lubumbashi Wachstumskorridors (WBNLDC) in der Sambesi-Region umfassend untersucht. Zu diesem Zweck wurden qualitative und quantitative Methoden kombiniert: neben qualitativen Interviews, Archivrecherchen und der Durchsicht von vorhandener wissenschaftlicher und Sekundärliteratur wurden mithilfe einer Unternehmensbefragung und einer Verkehrszählung auch quantitative Daten erhoben. Hinzu kommt die Analyse bestehender quantitativer Datensätze, u.a. einer Haushaltsbefragung. Die Ergebnisse zeigen, dass die Entwicklung der Infrastruktur und die Ausdehnung der Naturschutzgebiete zu einer erhöhten Wertschöpfung aus dem Tourismus in der Region geführt haben, die Daten der Verkehrszählung lassen jedoch vermuten, dass von diesen Prozessen insbesondere Akteure von

außerhalb der Region profitieren. Dennoch sind die Naturschutzgebiete als lokale Institutionen in der Lage, etwa 20 % der Wertschöpfung zu sichern, während der Tourismus insgesamt aber nur 5,5 % zum Einkommen ländlicher Haushalte beiträgt. Die institutionelle Konfiguration auf lokaler und nationaler Ebene ist letztlich entscheidend dafür, wie Wildtiere wirtschaftlich genutzt werden und wer davon profitiert. Diese Ergebnisse unterstreichen die Bedeutsamkeit lokaler institutioneller Akteure bei der Wertsicherung, bestätigen die Notwendigkeit, die Territorialität von GPNs sowie den Einfluss der Infrastruktur hierauf zu untersuchen und legen nahe, dass die sozial-ökologischen Beziehungen auf der Produktionsstufe für Regionalentwicklung entscheidend sind.

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List of Acronyms

CBNRM	Community-Based Natural Resource Management
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
GPN	Global Production Network
GTO	Global Tour Operator
GVC	Global Value Chain
HAN	Hospitality Association Namibia
HWC	Human-Wildlife Conflict
ICT	Information and Communication Technology
IRDNC	Integrated Rural Development and Nature Conservation
KAZA	Kavango-Zambezi Transfrontier Conservation Area
MCA	Millenium Challenge Account
MEFT	Ministry of Environment, Forestry and Tourism (Formerly MET)
MET	Ministry of Environment and Tourism
NACSO	Namibian Association of CBNRM Support Organisations
NAPHA	Namibian Professional Hunters Association
NGO	Non-Governmental Organisation
NNF	Namibia Nature Foundation
NTB	Namibia Tourism Board
PH	Professional Hunter
TO	Tour Operator
SADC	Southern African Development Community
SDI	Spatial Development Instrument
TA	Traditional Authority
TCC	Trans-Caprivi Corridor
WBNLDC	Walvis Bay-Ndola Lubumbashi Development Corridor
WBPUA	Walvis Bay Port Users' Association
WWF	World Wide Fund For Nature

1 Introduction

Can tourism make nature flourish and people prosperous? Against the backdrop of current biodiversity loss, regional development policies in southern Africa build on tourism's ability to balance human aspirations for economic growth with the aim of stabilising and increasing wildlife populations. Wildlife habitats are integrated as destinations into tourism global production networks (GPN) assuming that such commodification of nature will ensure the survival of large mammals and promote regional development in peripheral regions. Similarly, growth corridor policies aim to create growth poles in the hinterland through improved infrastructure access and targeted promotion of the tourism sector. However, it is not clear whether local residents in the host region are capable of reaping the benefits of such an approach or whether the value created from nature is transferred elsewhere.

Established tourism development policies that measure success primarily by the growth of tourism arrivals, expenditures and share of international tourism are increasingly challenged. Planning is expected to mitigate negative outcomes, while capitalising on tourism's development effect. With concerns about the negative social-ecological outcomes of classical mass tourism, alternative concepts such as "new tourism" (Poon, 1994), "sustainable tourism" (Butler, 1999), "ecotourism" (Stronza & Gordillo, 2008) or "pro-poor tourism" (Hall, 2007) have emerged. These concepts are seen as a means to achieving inclusive and sustainable development pathways (Bramwell, 2011), particularly in peripheral regions in the Global South. The assumption is that economic redistribution of tourism revenues does not "occur in a trickle-down fashion" (Rogerson, 2012, p. 31). Similarly, economic geographers increasingly acknowledge the complex nature of regional and local development itself and suggest analysing "what kind of development and for whom?" (Pike, Rodriguez-Posé, & Tomaney, 2007).

How tourism affects regional development pathways is, thus, a key question on the agenda. Advocates of a tourism-driven development strategy highlight the networked nature of the industry that cuts through sectoral boundaries (Yang & Fik, 2014). By directing money-flows from the agglomerations of growth to peripheral areas (Hall & Boyd, 2004), tourism has the potential for a broad stimulating effect on the local economy. In addition, it can trigger local multiplier effects (Job & Paesler, 2013) and thereby foster inclusive growth (Scheyvens & Biddulph, 2017), since employment opportunities are created (Snyman, 2012). However, studies also suggest that tourism is associated with opportunity costs (Blake 2008),

environmental damage (Stronza, Hunt, & Fitzgerald, 2019) and undesirable changes in local livelihoods (Telfer & Sharpley, 2007). Especially in the Global South, tourism-driven development can lead to the formation of enclaves (Saarinen, 2017) and the economic effect on the host regions can be limited due to leakages, i.e. value that is created in the destination but appropriated by external actors (Lacher & Nepal, 2010).

The pioneers of tourism global value chain research (Clancy, 1998, 2002; Mosedale, 2006) have contributed to bridging the gap between tourism and political economy research (Bianchi, 2018). The global value chain framework (Gereffi, Humphrey, & Sturgeon, 2005) achieved an integrated analysis of the "tourism production system" (Britton, 1991) and was thus a means of sharpening the analysis of tourism's supply-side (Judd, 2006). By including actors both in the origin and destination, Global Value Chains (GVC) researchers are concerned with tourism-driven regional development: case studies have addressed the impact of tourism on rural livelihoods (Lapeyre, 2010), governance and upgrading (Barham, Dörry, & Schamp, 2007), the impact on low-income households (Mitchell, 2012), or the linkages between tourism and agriculture (Anderson, 2018). Referring to Tremblay's call (1998) to introduce a network heuristic to tourism research, more recently, scholars have started using the GPN framework for the analysis of the tourism industry (Christian, 2016b; Murphy, 2019).

While the two frameworks, GVC and GPN, overlap and amplify each other (Blažek, 2016), the application of a network heuristic is particularly promising to tourism research since it addresses a relevant research gap in literature, the global-local nexus (Milne & Ateljevic, 2001). The global-local nexus is concerned with the local development outcomes of an evolving tourism industry. Through the combination of a vertical with a horizontal lens, GPNs are much more suited to understand the impacts on the host economy than a chain approach (Niewiadomski, 2015). Regional development is understood as the result of integrating available regional assets into global production flows through a dynamic strategic coupling process, accompanied by bargaining between global lead firms and regional institutions (Coe & Yeung, 2015).

Notwithstanding, coupling into tourism GPNs is a double-edged sword. On the one hand, incoming firms can function as catalysts of regional and local development through spill-over effects, knowledge transfer and embeddedness in local economic structures. On the other hand, a growing body of research warns the so-called "dark sides" should be taken seriously (Phelps, Atienza, & Arias, 2017). Global market integration can bring undesired outcomes such as

enclave economies, socio-economic stratification processes and exclusion (Phelps et al., 2017). These concerns can be grouped into three lines of critique. First, the arrival of GPNs can lead to social inequalities in host regions affecting the residents who do not participate in the newly introduced economic activities (Bair & Werner, 2011). Second, large agglomerations have the power to affect the territoriality of GPNs with the result that value is appropriated by gateway cities to the detriment of resource peripheries (Breul, Revilla Diez, & Sambodo, 2018; Parnreiter, 2017). And lastly, global market integration can result in negative ecological effects (Bolwig, Ponte, du Toit, Riisgaard, & Halberg, 2010). A conceptualisation of the integration of nature into GPNs is, however, pending (Baglioni & Campling, 2017; Coe & Yeung, 2019).

These concerns are pressing in the Zambezi region in north-eastern Namibia. Two policies were introduced shortly after the end of apartheid in 1990 pursuing regional development through the coupling into tourism GPNs: the Walvis Bay-Ndola Lubumbashi Development Corridor (WBNLDC) cuts through the region on its way from the Namibian coast to the copper mines at the Zambian-Congolese border. The corridor development master plan foresees a targeted promotion of tourism in the region, which is expected to increase value creation in the region (Aurecon, 2014). Similarly, community-based natural resource management (CBNRM) schemes build on the commodification of wildlife through hunting and safari tourism. The hope is that such an integration into the global tourism industry will drive a process of institutionalisation, while improving the living conditions of the rural population and stabilising or increasing wildlife populations (Murphree, 2009). However, it is questionable whether these policies deliver the promised effects.

Growth corridor initiatives are part of a broader trend among international organisations to use GPN integration as an instrument of development policy, perhaps most strikingly illustrated in the World Development Report 2020 of the World Bank (World Bank Group, 2020). In their view, GPN integration enables knowledge and technology transfer to developing countries and, thus enhances the process of "climbing the ladder". This optimism, however, is not entirely supported by research and has decoupled from the initially more critical intention to use GVC/GPN research as a tool to understand uneven development (Bair, Mahutga, Werner, & Campling, 2021). While the development of physical infrastructure can, on the one hand, direct flows of capital, knowledge and technology to the periphery (Hesse, 2020), on the other hand, it has been shown that large cities capitalise on strategic coupling and are capable of extracting value from the hinterland (Breul et al., 2018). Attracting investments through growth corridor policy can be successful in enhancing value creation but it is not clear where related growth

effects occur. Growth corridor policies are, therefore, at risk of enforcing existing spatial inequalities.

Similar doubts are raised in the debate on CBNRM, which is considered a means to implementing sustainable tourism (Okazaki, 2008). Largely in line with Ostrom's design principles (1999), the policy is propagated as a panacea for combining conservation, rural development, and the empowerment of marginalised communities (Murphree, 2009). Communities enter benefit-sharing agreements with private safari tourism companies and hunting tourism operators. Although more positive examples exist (Carius & Job, 2019), in many parts of Western, Central and East Africa local residents are mainly passive recipients of benefits derived from CBNRM (Roe, Nelson, & Sandbrook, 2009).

CBNRM in Namibia is perceived as one of the more successful cases (Milupi, Somers, & Ferguson, 2017), which is at least partly ascribed to the high quality of national governance institutions (Nelson & Agrawal, 2008). While there is little doubt about the effectiveness of the policy to safeguard biodiversity, the distribution of benefits along the value chain (Schnegg & Kiaka, 2018) and at the local level (Koot, 2018; Mosimane & Silva, 2015) remains a contested subject. The debate on the distribution of benefits is particularly heated when wildlife is utilised as a resource for the hunting tourism industry. Critics stress negative biological effects on animal populations (Muposhi, Gandiwa, Makuza, & Bartels, 2017), argue that trophy hunting reproduces colonial power relations (Gressier, 2014) and question the benefits for local communities (Koot, 2018). On the contrary, advocates of trophy hunting emphasise its economic benefits for rural residents and the conservation of endangered species (Nelson, Lindsey, & Balme, 2013). Despite the overall significance of this market, studies dealing with hunting tourism from a GPN perspective are missing.

Referring to these research needs, this dissertation examines the commodification of nature through wildlife tourism and growth corridor policy effect on regional development pathways. The research questions are specified as follows:

(I) Which actors and localities are able to capture value from the tourism GPN? How do institutions on different spatial scales affect these patterns?

(II) What is the role of infrastructure for nature-based GPNs?

(III) What are the mechanisms that lead to the integration of nature into GPNs?

To this end, the Zambezi region in north-eastern Namibia has been studied in depth as a single case utilising a mixed-methods approach that combined a variety of data collection methods: qualitative interviews, archival research, a business survey, a household survey, a traffic census, and the analysis of existing quantitative data and policy reports.

In doing so, the dissertation provides a closer look at the role of local institutions in value capture and strategic coupling, advances the understanding of growth corridor policy from a GPN lens and explores the institutional mechanisms that lead to the commodification of nature.

In the following sections, the conceptual framework will briefly elaborate on (I) the role of institutions in GPNs, (II) the role of infrastructure in GPNs and (III) the commodification of nature through GPNs. Thereafter, the methodological approach is discussed. The presentation of the findings is conducted in three manuscripts that form the core of this dissertation. To close, findings from the three papers are combined in a summary from which the overall conceptual contribution of this work is presented. A research agenda is then proposed, before concluding with specific policy recommendations.

2 Conceptual framework

In the following, the conceptual framework of this dissertation will be briefly discussed. The section starts with an overview of the tourism GPN and its commodity, the tourist experience. Thereafter, light will be shed on the role of institutions in value capture and strategic coupling processes. Subsequently, growth corridor policy is conceptualised as an element of strategic coupling. A paragraph proposes to use a resource-making perspective to understand the integration of nature into GPNs. All this is summarised in a conclusive paragraph that identifies linkages between these concepts and thus, serves as a conceptual framework for the dissertation.

2.1 Coordinating the tourist experience: the tourism GPN

One of the challenges in studying tourism is the fact that the sector is difficult to grasp statistically (Ioannides, 2006). Tourism includes a heterogenous number of actors in both the market and the destination and many of the services are not produced exclusively for the demand of tourists (d'Hauteserre, 2006): the tourism industry is a complex organisational structure comprised of firm and non-firm actors operating on various spatial scales. The GPN framework acknowledges this complexity of globalised industrial organisation. A GPN is defined „as an organisational arrangement, comprising interconnected economic and non-economic actors, coordinated by a global lead firm, and producing goods or services across multiple geographical locations for worldwide markets" (Coe & Yeung 2015, p. 2). GPN therefore is a suitable framework for the analysis of tourism.

In tourism, the commodity that is marketed can be defined as the tourist gaze (Urry, 1990) or the tourist experience (Gibson, 2010). The logic is that tourists consume the gaze on attractions and in this way, break with the routines of daily life (Judd, 2006). The production of this commodity requires a variety of inputs: it involves the production of tangible goods and services, such as transportation, food and accommodation (Mosedale, 2006) and intangible inputs such as sunset or scenery (Judd, 2006). In the case of wildlife tourism, scenic landscapes and wild animals are an essential input to the tourism commodity. When all these inputs combine, the tourist experience is simultaneously produced and consumed. This simultaneous consumption and production of the commodity is a distinctive feature of the tourism industry (Christian & Nathan, 2013). This requires the transportation of the customer to the place of the production, i.e. the destination (Christian, 2012).

Accordingly, the tourism GPN is grouped around the production of the tourist experience and composed of five segments: inputs, components of trip, organization, sales and the final product

(Christian, 2012). These segments are represented by tourism businesses in inbound and outbound countries (Christian, 2016a). In safari tourism, global tour operators (GTO) control tourism flows by coordinating GPN activities (ibid). Inbound tour operators act as intermediaries, bundling the tour package and marketing it, thus linking the customer to the tourism services provided in the destination (ibid.). As Murphy and Carmody pointed out (2015), information and communication technologies (ICT) have substantially changed the structure of the tourism GPN. On the one hand, the internet permits international tourists to directly contact national tour operators and therefore enter a process of disintermediation (Christian & Nathan, 2013), on the other hand the huge amount of information calls for intermediaries e.g. booking websites in order to sort, refine and process information (Murphy & Carmody, 2015). Despite the overall dynamic development of online distribution channels, package booking via travel agents, global tour operators and inbound tour operators is still dominant for tourist experiences consumed in African destinations (Daly & Gereffi, 2017).

Three conceptual categories of power, embeddedness and value guide the analysis of GPNs (Henderson, Dicken, Hess, Coe, & Yeung, 2002). Power is related to the governance idea in GVC research (Gereffi et al. 2005) and sheds light on the capacity of network actors to influence the decisions of other actors. Embeddedness considers social and spatial arrangements in which firms are embedded and by which they are influenced (Henderson et al. 2002). The framework distinguishes between *territorial embeddedness*, *network embeddedness* and *societal embeddedness* (Hess, 2004). Network embeddedness refers to the position within the wider network an actor is involved in, while societal embeddedness describes the embeddedness in social structures. Territorial embeddedness looks at the way a company is anchored in a certain region and raises questions of firm ownership and control and thus is closely linked to regional development studies.

Value is divided into *value creation*, *value enhancement*, and *value capture* (Henderson et al., 2002). Value creation is concerned with the conditions of the production process and the various forms of economic rent. Value enhancement looks at the upgrading potentials of existing industries, technology and knowledge transfer, the improvement of product quality, and the creation of brands. Value capture describes the ability of actors and regions to retain economic rents locally and is determined by a variety of factors: government policy, patterns of firm ownership, and the nature of corporate governance.

While all these categories intertwine and are central to understanding regional development, two GPN concepts deserve special attention in the scope of this research: value capture and strategic coupling (Henderson et al. 2002). In both processes, institutions play a decisive role, as outlined below.

2.2 Local effects of strategic coupling: institutions and value capture in tourism GPNs

A special focus of the GPN theory lies on the role of institutions. Research is concerned with the embeddedness of transnational actors into institutional arrangements of the host region, as well as with the multitude of actors affecting the configuration of the production network, e.g. firms, business associations, labour organisations or public authorities (Coe, Hess, Yeung, Dicken, & Henderson, 2004). Thus, the GPN framework allows for the integrated analysis of the interlinkages between transnational actors and local institutions. This integration of non-firm actors into the framework bridges the gap to cluster debates, actor-network perspectives and governance discussions (Erkuş-Öztürk & Terhorst, 2010).

Institutions are crucial for the degree to which value can be retained locally due to their role in strategic coupling processes. Strategic coupling refers to "the dynamic processes through which actors in cities and/or regions coordinate, mediate, and arbitrage strategic interests between local actors and their counterparts in the global economy" (Yeung, 2009, p. 213). The idea is that regional growth is driven by the mobilisation of assets embedded in a region, and the creation of links to transnationally networked actors.

Regional institutions play an important role in this coupling process (Fuller & Phelps, 2017; Rory Horner, 2014; Jana Maria Kleibert, 2014; MacKinnon, 2012; Yeung, 2015). GPN theory uses the term regional institutions in reference to "regionally specific institutions" but also "a variety of extra- local institutions (e.g. national, supra-national) that will impact on activities within a region" (Coe, Hess, Yeung, Dicken, & Henderson, 2004, p. 470). In the case of tourism, these institutions include for instance ministries, business associations, destination management companies, NGOs, labour unions or pressure groups.

According to the framework, strategic coupling occurs when the specific assets embedded in a region fit to the needs of transnational active lead firms (Coe & Yeung, 2015). On the one hand, regional institutions actively couple into GPNs to achieve regional development. By promoting the assets of a region to global lead firms, linkages are established that enable the flow of capital, industry-related knowledge and management expertise (Coe & Yeung, 2015). Due to their ability to collect and process information on a global scale, lead firms hold a particularly strong

position within the network (Daly & Gereffi, 2017). On the other hand, regional institutions negotiate with lead firms on the terms of market entry. The bargaining position of regions is stronger, when their regional assets fit to the strategic needs of lead firms (Coe et al., 2004). One strong determinant of strategic coupling dynamics in the tourism sector is the relative importance of external vis-a vis national markets (Christian & Nathan, 2013). A low rate of domestic tourism leads to dependence on overseas outbound tour operators to connect to global markets (Christian & Nathan, 2013). However, with a higher rate of domestic tourism, national tour operators are in a stronger position (ibid.).

Depending on the negotiation capabilities of regional institutions, regions have a higher or a lower degree of value capture. The institutional configuration is therefore a decisive factor for the regional development outcome for a region's integration into GPNs (Fold, 2014). Value capture occurs "when local institutions and non-firm actors are able to retain and channel resources through ties to GPN into investments vital for long-run regional development" (Murphy & Schindler, 2011, p. 64). Besides the bargaining abilities of regional institutions vis-a-vis lead firms, the capacity of regions to capture value depends on the form of anchoring the GPN takes in host countries, i.e. the territorial embeddedness of lead firms (Coe et al., 2004). A similar concept can be found in tourism research, where a very lively debate is concerned with local or regional economic linkages around larger tourism investments in developing countries under the viewpoint of regional development (Anderson, 2013; Rylance & Spenceley, 2017) and poverty reduction (Lapeyre, 2010; Pillay & Rogerson, 2013). Missing local linkages result in enclave tourism with limited effect on local economic structures (Mbaiwa, 2005; Nunkoo & Ramkissoon, 2016; Saarinen, 2017).

Criticism has arisen regarding the concept of regional institutions in GPN research. The concept subsumes national and supranational organisations on multiple scales (Smith, 2015). Thereby, it potentially obscures "their specific policy mandates, strategic objectives and operating practices" (Dawley, Mackinnon, & Pollock, 2019, p. 4). This becomes evident when looking at the role of the nation state and the role of local institutions.

Despite the importance of institutional actors for development outcomes of GPN integration, there is a too narrow focus on the state's facilitator role (Rory Horner, 2017). The role of the state goes, as Horner has stated (2017), well beyond this. Besides its ability to facilitate investments, the state can act as a producer, buyer or regulator. Through its regulative role, the state is able to impact value capture patterns (Horner & Alford, 2019; Coe & Yeung, 2019).

This role is important in sectors relying on natural resources such as wildlife tourism. Research on extractive industries (Breul et al., 2018), fish production (Irarrázaval and Bustos-Gallardo, 2018) and timber (Murphy & Schindler) have shown that nature-based GPNs are less flexible and therefore "embedded within state structures to a much greater degree" (Bridge, 2008, p. 213). As a result, the state plays a prominent role in resource-driven GPNs and affects the network configuration and therefore regional development outcomes (Bridge and Bradshaw, 2017).

Another point of contention is the role of local institutions. Scholars have claimed that the concept of regional institutions does not entail the multi-scalar nature of state formation (Smith, 2015) and particularly, "lower territorial scales in this process, especially in developing countries, have been less subjected to empirical research" (Kleibert, 2014, p. 248). Similarly, although informal institutions such as localised norms and conventions are included in the concept of regional institutions (Coe et al., 2004), scholars claim that "a deeper consideration of institutional context and cultural influence" (Hughes, McEwan, & Bek, 2015, p. 252) is needed in GPN analysis. Therefore, regional outcomes of GPN integration cannot be regarded separately from the historical and cultural context, a thought that has been coined the "stickiness of places" (Neilson & Pritchard 2009). Therefore, more light needs to be shed on local institutions and how they are shaped by the historical and cultural context.

This is connected to value capture patterns at the local scale. It is a key question as to "which actors and localities in the network are able to acquire and maintain value?" (MacKinnon, 2012). Value capture is desirable under the viewpoint of regional development, but the distribution of gains among actors in the host economy can be unequal: while some individuals benefit, others may have their livelihood strategies challenged by the changing economic setup (Fold 2014). In case the communities receive direct economic benefits from CBNRM programmes for instance, the benefit-sharing practices may be uneven (Silva & Mosimane, 2013) and vulnerable to reproduce or enforce existing inequalities within communities (Saito-Jensen, Nathan, & Treue, 2010). Therefore, the role of local institutions and the distribution of value at a local level deserves more attention.

To sum up, regional institutions have a crucial impact on the development outcomes of a region's integration into GPNs, through bargaining for value capture in strategic coupling processes. This is especially so in nature-based industries, such as wildlife tourism. Furthermore, local linkages are needed to increase value capture. To assess the regional

development outcome more holistically, the role of local institutions for value capture, the distribution of value at a local level, and the historical and cultural context these processes are embedded in need to be scrutinised. This will be addressed in this dissertation.

2.3 Roads towards strategic coupling: growth corridors and GPNs

A second question that will be addressed is the role of infrastructure in nature-based GPNs. Logistics are a component of shaping territories in the networked economy, since a connection to or a disconnection from logistics can lead to variegated development outcomes (Hesse, 2020). Again, this is particularly true in nature-based GPNs (Bridge, 2009). Since natural resources are place-bound, infrastructure investments are needed to access the resource and make them accessible for circulation in GPNs. Likewise, in tourism, the customer needs to be transported to the site of consumption of the tourist experience, i.e. the destination. Transport infrastructure is a strong determinant of a destinations' attractiveness and thus, tourism-led development (Khadaroo and Seetanah, 2007). Growth corridors are the attempt to achieve strategic coupling by firstly, providing the physical infrastructure that allows to untap resources in the hinterland and secondly, creating an institution that actively promotes the regional assets to transnational actors and attract global investments.

Cities have received attention by researchers as the nodes of GPNs. Scholvin et al. (Scholvin, Breul, & Revilla Diez, 2019) argue that gateway cities are crucial for the strategic coupling of regions. They have identified five essential features that make cities gateways for incoming investments: logistics and transport, industrial processing, corporate control, service provision and knowledge generation. Building on these findings, Breul and colleagues (2018) show that gateway cities have a filtering effect in resource-based GPNs and are thus able to appropriate the gains from resource peripheries. Atienza and colleagues apply the filtering metaphor to secondary towns that work to the detriment of resource peripheries (Atienza, Arias-Loyola, & Phelps, 2020). While this territoriality of GPNs has been researched in the nodes of a GPN, lesser attention has been paid so far to the physical underpinnings of the connections between these nodes.

City-regions use infrastructure projects to expand their control over space and capture benefits from GVCs (Jaffee, 2019). The coupling of peripheral regions into global production networks via infrastructure development lies at the core of recent efforts to establish growth corridors. Taking into account the negative experiences with approaches that were narrowly focused on the development of material infrastructure (Mold, 2012; Paul & Steinbrecher, 2013), the design

of a new generation of growth corridors is based on global value chain and global production network integration (Dannenberg, Revilla Diez, & Schiller, 2018). The clustering of existing regional actors and the targeted intervention in specific sectors is expected to induce a strategic coupling process (Tups & Dannenberg, 2021). The hope is that such an attraction of foreign investments will bring the desired growth effects (Nogales, 2014). Growth corridors thus serve as a means to connect resources in the hinterland to global production networks (Sen, 2014).

Growth corridors have a tangible and an intangible aspect: besides investments in hard infrastructure such as roads and pipelines, regulatory reforms aim to ensure the free circulation of commodities, capital and people between production sites and economic hubs (Enns, 2018). The development of physical infrastructure increases the speed of the circulation of commodities and people and is therefore an asset that can be used by regional institutions in the process of strategic coupling. The intangible aspects of growth corridors, i.e. regulatory reforms to attract catalytic investments often accompanied by the establishment of an agency that promotes the region to international investors, equally aim to strategically couple into GPNs. In southern Africa in particular, growth corridor planning often involves the promotion of tourism (Rogerson, 2001a), since corridors in many instances cut through attractive landscapes with wildlife populations valuable for the global tourism industry. This research aims to shed light on the role of growth corridors for strategic coupling in the wildlife tourism GPN.

2.4 Making money from wildlife: the integration of nature into GPNs

Since wildlife tourism relies on access to wildlife, a third research interest elaborates on the commodification of nature through GPNs, and the role of institutions therein. Yeung in a recent literature review identifies the role of nature as a blind spot of the GPN framework (Coe & Yeung, 2019). Previous work on the role of nature in GVC/GPN is largely restricted to analysing environmental upgrading (Khattak & Pinto, 2018) and environmental degradation associated with global market integration (Dorn & Huber, 2020; Franz, Schlitz, & Schumacher, 2018). However, an understanding of the role of institutions in the process of nature's commodification at the production stage is still missing (Baglioni & Campling, 2017). Recently, calls were made to integrate the GPN perspective with a notion of resource-making (Irarrázaval, 2020). This requires the disentangling of the social configurations that construct nature as a resource and thus, make it exploitable to be circulated as a commodity in the global market.

Responding to the call of Bolwig et al. (2010) to include social and environmental layers in the analysis of global production, researchers have contributed to the debate on environmental upgrading in value chains (Khattak & Pinto, 2018). For instance, drivers of environmental upgrading at the firm level have been analysed (Khattak, Stringer, Benson-Rea, & Haworth, 2015), firms' greening strategies were examined (De Marchi, Di Maria, & Ponte, 2013) and ports' potential to reduce air pollutants has been looked at (Poulsen, Ponte, & Lister, 2016). A second line of research has analysed environmental degradation in a variety of value chains such as cotton production in Uzbekistan (Rudenko, Grote, & Lamers 2008), the iron and steel industry in the United Kingdom (Dahlström & Ekins, 2006), or shrimp farming in Bangladesh (A. K. Paul & Røskaft, 2013). Value-chain activities affect the environment in many ways: through their interaction with the local resource base or the emissions of nutrients, toxic substances, and gases (Bolwig et al., 2010). In the case of hunting tourism, the absence of hunting can lead to elephant populations exceeding the local carrying capacity (Gressier, 2014) or an increase in poaching activities (Mbaiwa, 2018). Trophy hunts on the other hand can cause changes in the male-to-female ratio in animal populations (Naevdal, Olaussen, & Skonhoft, 2012), to a decrease in horn size in antelope, and to a general population decimation in infanticidal carnivores (Packer et al., 2009). It becomes clear that global market integration significantly shapes ecological outcomes in the host region.

Another literature strand has dealt with the question of how the spatiality of resources affects the structure and development outcomes of the production network (Breul et al., 2018; Bridge, 2008; Bridge & Bradshaw, 2017). Irarrázaval & Bustos-Gallardo (2018) interpret the integration of natural resources into GPNs as an ecological contradiction. They draw on the case of the global salmon industry to illustrate how the biophysical composition of nature dictates the territorial outcomes of the GPN at the production stage. In their view, "the biophysical composition of nature (…) resists commodification by imposing obstacles to production", whereas firms "set up complex productive strategies for making the transformation of nature as profitable as possible" (p.3). Actors with access to specialist market technologies are privileged in the transformation of the natural resource into a commodity (Neimark, Mahanty, & Dressler, 2016).

Firms' strategies to overcome the ecological contradiction shape the territorial outcomes of GPNs. Gibson and Warren for instance show how the scarcity of a resource shapes the composition of the acoustic guitar wood GPN (2016). Havice and Campling explore inter-firm strategies in the canned tuna GVC (2017). By examining the seafood industry, Mansfield

exemplifies how the quality of the product shapes the coordination of the industry (2003). These analyses have advanced the understanding of how the materiality of resources shape a network's articulation. However, the social-ecological relations that commodify nature at the production stage remain unstudied. This commodification process is however relevant for the wildlife tourism GPN, since ecotourism is, as Castree (2003, p. 285) states, a "prominent recent example" of environmental commodification. One way to analyse the link between nature and the global economy is to focus on resource production.

Authors from economic geography (e.g. Bakker and Bridge 2006; Irarrázaval 2020) consider resources a social-ecological construct. Resources have a dual quality – "*part physical entity, part social category* (Bridge, 2009, p. 1219)" and result from an engagement of humans with nature. The material aspect of a resource needs to meet a set of human capabilities that turns the material into something useful for humans to become a resource (De Gregori, 1987). Oil, for example, becomes a resource when humans gain knowledge over its occurrence and develop techniques to extract it (Bridge, 2008). In a case study of natural gas production networks in Peru and Bolivia, Irarrázaval (2020) finds that the socio-ecological relations that construct the resource are crucial for the network's articulation between global and local firms.

While oil is an example of a "dead" resource, this logic is also applied to living creatures. For instance, the setting of fishing quotas via scientific methods creates the resource for the industry (Mather, 2013). Similarly, in wildlife tourism, development outcomes largely depend "on the social organisation of control over the productive assets in question" (Garland, 2008, p. 62). Hewitson and Sullivan (2021) show that a recognition of social-ecological interrelations can enrich research on the valorisation of nature and the development effects that this process causes. Wildlife can be commodified in a variety of ways, depending on the relation between society and nature (Moore, 2011): the "biophysical" elephant can be commodified through ivory harvesting, hunting or safari tourism, but also by selling the image of a "socially produced preservationist elephant"(p. 58). This perspective highlights the interaction between social institutions (Bakker and Bridge 2006) and the materiality of the resource (Bridge and Bradshaw 2017).

In wildlife tourism, CBNRM programmes are widely advocated and build on the involvement of the community into the tourism planning process. Existing territories and institutions are reshaped (Bollig, 2020) with the twofold aim of generating revenues from the global tourism industry, and to empower rural communities to make the most profitable use of natural

resources within their conservancy (Dressler et al., 2010). In much of southern Africa, CBNRM policies emerged in the context of anti-colonial struggles and are characterised by the devolution of rights to jointly manage resources on communal lands (Nelson & Agrawal, 2008). In this context, it is a pertinent question as to how the coordinated activities of tourism GPN actors and institutions on the local, national and global scale make wildlife exploitable as an input for the wildlife tourism industry. Here it is argued that a consideration of the socio-ecological relations underlying the resource-making process will contribute to an understanding of the commodification of nature in the context of GPNs.

To sum up, this dissertation is concerned with the regional development outcome of a growth corridor policy that builds on the promotion of wildlife tourism. It is argued that regional development as a consequence of global market integration crucially depends on firstly, the institutional arrangements on various levels and secondly, the materiality of the resource that is needed for production. In contrast to much of the previous work that does not unpack the concept of "regional institutions", the multi-scalarity of institutional actors will be regarded. Specifically, the role of local institutional actors in value capture and value distribution processes, as well as growth corridor policy as an institutional layer where the national and international sphere intersects with the local sphere will be looked at. However, in nature-based industries such as the wildlife tourism industry it is not all about institutions: firms depend on access to wildlife for value creation, and infrastructure is decisive for directing flows of investment and thus, lay the ground for strategic coupling. Therefore, it is necessary to look at the role of infrastructure, and how it affects the territoriality of GPNs. Lastly, the resource that is underpinning the wildlife tourism GPN, wildlife, has a material and an immaterial aspect, because its biophysical components need to be socially constructed as a resource to fuel the wildlife tourism GPN. Therefore, the resource-making lens is used to unveil the institutional arrangements that untap wildlife's development potential. Altogether, this perspective will contribute to the understanding of the development effects of wildlife tourism in the destination.

3 Research design

To examine growth corridor effect on tourism development, a single case study approach has been applied. The single case study approach in a narrow sense is the "intensive (qualitative or quantitative) analysis of a single unit (…), where the researcher's goal is to understand a larger class of similar units" (Seawright & Gerring, 2008, p. 296). Since case studies "scrutinise one or more phenomena in context" (Castree, 2005, p. 542), it is recommended to conduct a case study when a contemporary phenomenon is examined in its real-life context and the boundaries between the phenomenon and the context are not clear-cut (Yin, 1981). Therefore, case study research occupies "a tenuous ontological ground midway between idiographic and nomothetic extremes" (Gerring, 2004, p. 352).

According to Castree, it is "disciplinary common sense" that geographical difference generally matters, but this diversity is a result of multi-scaled relations (2005). Following the same logic, GPN makes use of a network heuristic to analyse multi-scalar relations of economic activities and actors (Dicken, Kelly, Olds, & Yeung, 2001). The ultimate independent variable in GPN research is regional development (Yeung, 2016): through the examination of a large variety of phenomena associated with global market integration embedded in specific contexts, the aim is to grasp uneven development outcomes across space from a holistic perspective (Yeung, 2016).

The overall objective of this dissertation was to identify growth corridor policy effect on regional development. To structure research, the following guiding questions were asked:

(I) Which actors and localities are able to capture value from the tourism GPN? How do institutions on different spatial scales affect these patterns?

(II) What is the role of infrastructure for nature-based GPNs?

(III) What are the mechanisms that lead to the integration of nature into GPNs?

In consideration of the multi-scalar relations that affect regional development, a research design was applied that follows the tradition of GPN research. GPN case studies are usually conducted combining qualitative and quantitative methods (Hess & Yeung, 2006). Accordingly, a mixed-methods approach was used to address the above research questions (cf. chapter 3.2). Qualitative data were analysed using qualitative content analysis (Mayring 2014) and subsequently triangulated with quantitative data. The analysis resulted in the writing of three manuscripts which form the results section (chapter 4,5 and 6).

In the following, reasons will be given as to why the Zambezi region has been selected as a case study, how the mixed-methods approach enabled to address the research questions, in which order research was conducted and which limitations this research design has.

3.1 Case study selection: tourism in the Zambezi region

In GPN research, the boundaries that define case studies are usually set by specifying the geographical scope and/ or the industrial sector that are researched (e.g. Atienza, Arias-Loyola, & Phelps, 2020; Murphy & Schindler, 2011). However, some case studies also apply a firm-centric perspective (e.g. Dawley, Mackinnon, & Pollock, 2019). While the industrial sector of this case study, tourism, was predefined by the research interest, the geographical scope had to be set. The Zambezi region in north-eastern Namibia is a particularly suitable case to study the regional development impact of tourism-related growth corridor policy for three reasons: the history of the region, which is marked by a reset following the independence from South Africa in 1990, the location of the region, since Zambezi is a narrow strip wedged in between the neighbouring countries, and the structure of the economy, which is mainly characterised by tourism and agriculture.

First, since the end of Apartheid and independence from the South African Empire in 1990 not only Namibia as a nation state, but also the whole region underwent a deep societal and economic transition. Although continuities to Apartheid-Namibia exist to the present day, the year 1990 is an important rupture in the history of the region and thus marks the starting point for the application of two very prominent policies that consequently affected the Zambezi region, the Walvis Bay Ndola Lubumbashi Development Corridor (WBNLDC) and Community-Based Natural Resource Management (CBNRM). The relatively recent and largely simultaneous introduction of these two policies, CBNRM and growth corridor policy, makes an interesting case to reconstruct their impact on the tourism sector.

During the 1990s, the construction of the Trans-Caprivi-Corridor (TCC) connected Zambezi with the Namibian capital Windhoek and the Namibian coast. In 2000, this corridor was integrated into an emerging transnational growth corridor vision, the WBNLDC that runs from the Namibian coast to the copper mines at the Zambian-Congolese border. Katima Mulilo, the capital of the Zambezi region, is to act as a logistical hub to facilitate cross-border trade (Walvis Bay Corridor Group, 2018) and the targeted promotion of tourism is expected to increase value creation in the region.

CBNRM legislation was introduced in 1996 with the Nature Conservation Amendment Act No. 5 of 1996 that transferred user rights to communities on communal land. CBNRM aims for the combination of three major goals: to stabilise and increase wildlife populations, to foster economic growth in previously disadvantaged peripheral areas and to politically empower rural communities (Nuulimba & Taylor, 2015). With substantial efforts by international donors, NGOs and the governments of the neighbouring states, one of the world's largest conservation areas, the Kavango-Zambezi Transfrontier Conservation Area (KAZA) was inaugurated in 2011. With the Zambezi region lying at the centre, KAZA is an attempt to combine existing national policies under one transnational vision of nature conservation.

Second, the Zambezi is wedged between Angola, Zambia, Zimbabwe and Botswana, and appears as an appendix to the Namibian territory. The narrow extension in the north-eastern corner of the country runs approximately 280 km eastward along the Zambezi river with a North-South expanse of maximum 50 km. Arriving from the western coast of Namibia, the WBNLDC cuts through the whole length of the Zambezi region and enters Zambia nearby the regional capital Katima Mulilo. This location facilitates the examination of growth corridor effects. The limited expansion of the area means that all places are in relative proximity to the growth corridor which facilitates analysis of its effects.

Third, although a variety of economic activities such as timber harvesting, fishing and manufacturing exist on a limited scale, the majority of the roughly 100.000 inhabitants engages in agriculture. Cattle herding and subsistent small-scale crop farming characterise the region's economy, while the arrival of the wildlife tourism GPN is more recent. Since the late 1980s, a growing number of tourists come for photo safari tourism and/or hunting tourism. The region does not display a high degree of globalised industries and therefore, the study of the tourism GPNs anchoring in the region is not blurred by a large number of GPNs.

An exploratory trip of two weeks to Namibia and Botswana in May 2018 served to determine the exact geographical scope of the case study region and establish first contacts to research institutions. While each of the manuscripts entails a more detailed description and reflection of the methods, the following section clarifies why and in which order these methods were applied and how they synergise, and evaluates the overall research design.

3.2 Mixed-methods approach

A mixed-methods approach was applied. The full range of data collection methods included corporate interviews (Schoenberger, 1991), exploratory interviews, qualitative interviews with non-firm actors, archival research, a traffic census and a business survey (cf. table 1).

The business survey targeted all accommodation establishments in the Zambezi region and provided general data on an enterprise level such as employment figures, supply chains and expenditure. A particularly important source for assessing value capture was a household survey that was conducted by the collaborative research centre "Future Rural Africa" covering 652 households in rural Zambezi (Meyer, M., Nshakira-Rukundo, E., Bollig, M., Börner, J., Dannenberg, P., Greiner, C., Heckelei, T., 2021). The questionnaire of the household survey addressed a wide range of topics, including sections on the household's income, assets and expenditure, employment and entrepreneurial activities. In addition, secondary datasets were collected: financial figures of the conservancies in Zambezi composed by the Namibian Association of CBNRM Supporting Organisations (NACSO), the report of monthly levies to the Namibia Tourism Board (NTB), traffic statistics from the border posts in Zambezi region, tourist arrival statistics from the Hospitality Association Namibia (HAN) and visitor counts from the Suswe entry gate of Bwabwata national park. Detailed descriptions of the individual methods are to be found in the respective manuscripts (chapters 4,5 and 6).

The measurement of value capture was largely based on quantitative data collected from interviewees and derived from the business survey and the household survey (see questionnaires in the appendix). The business survey allowed for the analysis of ownership patterns, local linkages and industrial linkages. Thus, an understanding of the territorial embeddedness of firms in the Zambezi region was achieved, which is a decisive factor for value capture. The datasets collected from NACSO and NTB allowed for the calculation of value capture at a local level. Yet, value capture at household level remained unclear. Therefore, figures regarding the household income have been extracted from the household survey dataset (Meyer et al., 2021) by using the software *R*.

The role of regional institutions in value capture and strategic coupling were grasped through in-depth interviews with firm and non-firm actors in the Zambezi region, Windhoek and Germany (cf. table 1). In-depth interviews are well suited to unveiling the rationales of actions (Schoenberger, 1991). The GPN framework highlights the importance of non-firm actors. During the corporate interviews, relevant institutional actors were identified and subsequently

contacted to be included in the research. Interviews were conducted in the Zambezi region itself, but also in Windhoek and Germany in order to account for the multi-scalarity of GPNs. Interviews were guided by semi-structured interview guidelines, which can be found in the appendix (A).

	Data collection tool	**Sampling method**	**Data**	**Research dimension**	**Time period**
Qualitative methods					
Exploratory interviews	Semi-structured interview guideline	Random Sampling	Notes and memory minutes	All	Exploration and preparation
Corporate interviews	In-depth expert interview, Semi-structured interview guideline	Complete survey, response rate 47 %	Audio records and transcripts in English and German	All	Data collection I & II
Non-firm actor interviews	In-depth expert interview, Semi-structured interview guideline	Snowball sampling	Audio records and transcripts in English and German	All	Data collection I & II
Archival research	Not applicable	Not applicable	Reports, maps and documents on hunting, conservation & tourism in the Zambezi region (1870s-today)	Growth corridor policy, Commodification, institutions	Data collection II
Quantitative methods					
Business survey	Quantitative factsheet	Complete survey, response rate 70 %	33 completed factsheets	Value Capture	Data collection I
Traffic census	Survey CTO – Online mobile data collection platform	Not applicable	Dataset on incoming and outgoing traffic in Zambezi during three days in July & August 2019	Growth corridor policy	Data collection II
Household Survey	Questionnaire	Stratified random sampling	652 completed questionnaires, dataset	Value capture	Data collection II
Other datasets	Collection from interview partners	Not applicable	NACSO, HAN Visitor count Bwabwata National Park; NTB, traffic statistics	Value capture, Growth corridor policy	Data collection I & II

Table 1: Research methods. Overview.

The effect of growth corridor policy on tourism development was partly covered by these interviews, since questions specifically asked for the effect of growth corridor policy and infrastructure development on the tourism sector. However, there were two downsides to this

approach. On the one hand, interviews could only partly reveal an evolutionary perspective on tourism. On the other hand, there was a lack of data specifically describing the dispersal of corridor effect over space, making it impossible for conclusions to be drawn on the territoriality of growth corridor policy. Therefore, the study of the growth corridor-tourism nexus included archival research to review existing policy and NGO reports from the 1970s onwards. Moreover, an innovative approach was applied to measure the effect of infrastructure, a traffic census (as described in more depth in chapter 5). During three days in July and August 2019, a team of nine enumerators recorded all incoming and outgoing road traffic in the Zambezi region between 6 a.m. and 6 p.m.. This method is uncommon in economic geography, but was found to be suitable for an exploratory study on the tourism-infrastructure nexus.

Lastly, *the commodification of wildlife* and its integration into the GPN was analysed by combining the qualitative approaches, the interviews and archival research. Since the process of commodification is deeply embedded into institutional configurations, institutions at different spatial scales (local, regional, national) were included in the analysis. The interviews with conservancies, government bodies, private enterprises and NGOs were well suited to deduct current patterns of commodification. By conducting a historical geography analysis (F. P. L. Moore, 2010), an evolutionary perspective was introduced to complement the interviews. This was instrumental to reveal the continuities of current patterns with past commodification trends. Moreover, the retrospective added data points to the analysis and thus, enabled to highlight temporal variation in the commodification of wildlife in the Zambezi region (Gerring, 2004).

	Actor Group	**Number of interviews**
Firm-actors		
	Accommodation establishments	22
	Tour operators	7
	Professional Hunters	8
Non-firm actors		
	Conservancy management boards	14
	Business associations	9
	State agencies	5
	NGOs	3
Total		**68**

Table 2: Conducted interviews. Overview.

3.3 Research process and sampling

Data was collected in three field phases in Windhoek and the Zambezi region (May 2018, August to November 2018, July to September 2019). The data processing, analysis and interpretation were conducted in between and after completion of these field phases. The reflection of findings could therefore feed into the following phase. The whole process can be roughly structured in three periods which are, however, partly overlapping.

Exploration and preparation

In a first phase starting in April 2018, a review of existing scholarly literature on tourism development, GPNs and the Zambezi region has been conducted. In addition, grey literature such as Ministries' and tourism enterprises' website content, policy and NGO reports have been analysed. This served the broader purpose of defining the boundaries of the case study, understanding the context and identifying relevant actors of the tourism GPN and growth corridor policy-making in Namibia.

This was followed by a first exploratory trip to Windhoek, Walvis Bay and the Zambezi region in May 2018. During the exploration trip and subsequently on trade fairs, unstructured interviews were conducted. Relevant stakeholders from government agencies, private companies and NGOs have been identified through desk research and contacted via email. Further interviewees were contacted by applying a snowball sampling technique. In addition, residents of the Zambezi region were interviewed in line with the objectives of the research. Notes and memory minutes were taken to record the data.

All this was used to develop the research design, choose the data collection methods and develop questionnaires and interview guidelines (these can be found in the annex). Two semi-structured interview guidelines were developed, one for corporate interviews and one for non-firm actors, both included blocks that targeted all research guiding questions. The corporate interviews specifically revealed factors relevant for value capture such as supply chains, employment patterns and ownership. However, the guideline also regarded the overall business environment to grasp the context, examined linkages with other non-firm GPN actors and assessed the relevance of growth corridor and other development policies for the business. Qualitative interviews with non-firm actors were more open and specifically asked for strategic coupling dynamics such as negotiations with firms. Here again, however, all research dimensions were addressed to enable triangulation.

In preparation of the business survey that was to be conducted in the second field phase, the *tn mobile Directory 2016/2017* (Telecom Namibia, 2017) and two common web portals: *booking.com* and *google.maps* have been analysed to identify and map tourism businesses in the Zambezi region.

Data collection in the host region

This list was further updated when verifying it with representatives from the Namibian Tourism Board (NTB). As a result, 47 enterprises were contacted via phone and/ or personal visits with the aim of a complete survey. 22 lodge managers or owners agreed to be interviewed in a personal meeting (a list of all interviewees can be found in the annex). Interviews were semi-structured, took roughly one hour and were conducted either in German or English, depending on the preference of the interviewee. Simultaneously, a quantitative fact sheet (business survey) served the purpose of collecting relevant enterprise data. 33 out of 47 businesses answered the questionnaire.

Qualitative interviews with non-firm actors of the GPN were conducted. These were identified through the interviews with the enterprises in Zambezi region, who indicated non-firm actors relevant for their businesses. Snowball sampling technique was applied to include a larger number of relevant GPN actors into the study.

Data collection on global linkages

While the first phase of data collection was mainly focused on actors and structures inside the Zambezi region, a second field phase from July to September 2019 intended to shed light on linkages and extra-regional actors of the GPN that affect development outcomes in the host region. In addition, the traffic census and archival research was conducted.

Findings revealed the importance of the German market and German tour operators in both hunting and safari tourism. Therefore, exploratory interviews with randomly sampled exhibitors have been conducted at the two major trade fairs for hunting tourism and safari tourism in Germany: Jagd & Hund in Dortmund, February 2019 and Internationale Tourismusbörse in Berlin, March 2019. By focussing on sites that constitute crucial nodes within GPNs, a similar approach to Kleibert and colleagues was applied (2020). A tourism GPN in theory is infinitely stretched over space, which makes it necessary to focus on selected points. This informed the identification of relevant inbound tour operators in the hunting and safari tourism sector in Namibia. It became clear that Windhoek is a crucial node in the GPN.

Therefore, inbound tour operators and professional hunters have then been interviewed in Windhoek and Zambezi. The semi-structured interview guideline was based on the corporate interviews of the first data collection phase, but updated considering previous findings (cf. Appendix A.). In addition, follow-up interviews were arranged with interviewees from the first phase to verify and compare findings.

Archival data were collected in the National Archive of Namibia, the archive of the Ministry of Environment and Tourism in Windhoek in September 2019 and the Bodleian Archives in Oxford in October to November 2020. Research was focused on documents, maps and photographs concerning hunting practices, the governance of wildlife and infrastructure development in the Zambezi region from 1850 to the present. The period from the 1940s to 1980s is well covered by scholarly literature (Kangumu, 2011; Lenggenhager, 2015). While in the early period up until the 1920s books and travel reports from European travellers and official documents of the different high commissioners in Bechuanaland were most insightful, conservation planning is well documented in government and NGO reports from the 1980s onwards.

3.4 Data analysis and triangulation

Quantitative data resulting from the business survey were originally recorded using a paper-based questionnaire. All datasets, including data from NACSO, HAN, the border statistics and national park visitor counts were digitalised and aggregated in Excel tables. Due to the limited number of cases, only descriptive analysis was conducted. For traffic census data and the household survey, the software *R* was used.

Qualitative content analysis was used for analysis of qualitative data since it is a common tool to structure and analyse data in various disciplines (Bengtsson, 2016; Mayring, 2014), including geography (Moodie, 1971). The advantage of such an approach is that various text data can be compiled and analysed through the same analytical frame (Mayring, 2014). Data collection methods produced different kinds of text data (policy reports, interview transcripts, archival sources). Thereofre, this approach was found to be useful.

This research used the deductive approach in qualitative content analysis for exploring value capture, assess the role of regional institutions and examine growth corridor policy. Theoretically grounded, clearly defined categories served as an analytical frame. (e.g. land rights, hunting value chain, strategic coupling, expenditure, value capture). Text components that relate to these categories were extracted from the material, paraphrased and then subdivided

to form sub-categories (Mayring, 2014). In the case of value capture for instance, these sub-categories included food supply, building material, ownership, and employment. All this was translated into a coding guideline, analysis and interpretation were then based on the text material grouped in these categories.

Since the commodification of nature is less conceptualised in the GPN literature, the inductive approach was used to build new categories. Inductive qualitative content analysis is similar to grounded theory and aims to form categories through the reduction of the material (Mayring, 2014). The formation of selection criteria was guided by the research question and subsequently used to reduce the material. While working through the text, categories were formed which resulted in the identification and formulation of new concepts, such as "the definition of the ecological surplus" (compare chapter 6).

The application of a mixed-methods approach enabled data triangulation and therefore increased the validity of findings. This was needed because quantitative data relevant for this research is scarce on a regional level in Namibia. First, the inclusion of firm and non-firm actors into the analysis allowed to cross-validate statements between these actor groups (Guion, Diehl, & McDonald, 2011). Interview guidelines were designed in a way that ensured comparability. Second, the mix of the different qualitative and quantitative methods further increased validity. For instance, the data resulting from interviews were cross-checked through the review of policy reports resulting from archival research. The analysis of tourism levy payments and conservancy financial reports were used to validate figures given in the business survey. Moreover, the parallel conduction of the business survey and the corporate interviews allowed to directly follow up on figures given. Visitor arrival numbers were composed from various sources, such as HAN, border statistics and visitor counts.

While the overall research design was satisfactory and adequate for answering the research question, some blind spots remain, as outlined below.

3.5 Reflection of the research design

Overall, the methodological approach was useful to examine tourism's development effect on the Zambezi region. Empirical research on GPNs is particularly challenging when a lead firm that is easily detectable from the outset is missing (Kleibert et al., 2020). This holds true for the tourism GPN, which is based on a wide range of services and suppliers. In the following, limitations of the overall research design are briefly outlined. A targeted reflection on the individual methods can be found in the respective chapters (4,5 and 6).

First, the starting point of this dissertation was the accommodation sector in the host region. From there, linkages were detected with non-firm GPN actors, global tour operators, travel agents and inbound tour operators. The trail led to Windhoek, which is an important gateway for the tourism GPN in Namibia. However, theoretically the industry spans endlessly since anyone can book a trip via online booking systems, investors in the Zambezi region originate from different countries and support services are procured globally. This challenge was addressed by selecting one specific distribution channel, i.e. package booking through German tour operators. The visit of trade fairs in the end markets contributed to an understanding of the global interlinkages of the Zambezi region. The German market is important for the Namibian tourism sector, but it is just one market among others (e.g. South Africa, the US, China). Upcoming studies, therefore, can set a focus on different distribution channels (e.g. via online portals) or different end markets to grasp the global linkages of the Zambezi region more holistically.

Second, due to the unspecific nature of tourism's commodity, the tourist experience, a "follow-the-thing" approach cannot easily be applied and inevitably leads to numerous ramifications. Setting the boundaries of the study is therefore not an easy task. This dissertation focuses on two main products: firstly, the safari tourism package and secondly, the hunting tourism package. However, there are numerous subcategories to these packages which rely on a different composition of inputs. For instance, safari tourists can be self-drivers or participants of a guided bus tour, they can do bird watching or a houseboat safari, or they can stay in a high-end lodge or on a campground or all of these combined. Similarly, the boundaries of the product are not entirely clear, since hunting tourists can go for a crocodile hunt and then book a tour to the Victoria Falls. Since this research was mainly concerned with the overall development impact of all these activities combined, the different kinds of tourism were subsumed under the category of wildlife tourism. Future research could look at one specific subcategory to refine understanding of the tourism industry in the Zambezi region.

Third, the application of a single case study was found appropriate since it allowed for an in-depth analysis that considered linkages and causal relationships between the individual dimensions that informed this research. Due to the lack of quantitative data on a regional level, the single case study approach was useful to set the ground for upcoming research. However, the application of a single case study limits the generalisability of findings, since explanatory factors cannot be clearly distinguished from the context. Regional development policies that combine growth corridor approaches with targeted tourism promotion can be found across the

globe. A multiple case study design could make findings more robust by looking at multiple sectors in the same region, focus on one sector and measure the effect of growth corridor policy in varying contexts, or examining the same growth corridor and the same sector with temporal variation.

Fourth, the research was designed to specifically examine the linkages between the host region and the national, regional and global scale and therefore, remained at a meso-level. While this was beneficial to understand the spatial organisation of the tourism industry and its effects on regional development, less attention has been paid to the local scale to include the perspective of labourers, conservancy members and local residents. The analysis of household survey data revealed quantitative indicators of development policies' effect on a household level. Building on this, the integration of focus-group discussions, participant observation or questionnaires could examine the influence of local institutions such as traditional authorities, the effectiveness of benefit-sharing programs and social-ecological interactions at the community level (e.g. human-wildlife conflicts, game guard activities). These perspectives could be analysed through the lens of a social-ecological system framework as outlined in chapter 7.

Fifth, there is a cultural bias inherent to the study that is related to the positionality of the researcher and potentially hinders the replicability of the study. The Namibian tourism sector is characterised by a dominance of the white Namibian minority (Jänis, 2014), many of which are descendants of German colonial settlers and thus, German native speakers. The author of this dissertation is a white German, which potentially has facilitated the arrangement of interviews due to alleged or perceived cultural proximity to the interviewees. Qualitative interviews conducted by a person with a different background may lead to varying results in a post-Apartheid context marked by ethnic and racial divisions (Stell & Fox, 2015).

Sixth, the study looked at commodification of nature and its integrations into GPNs by scrutinising the role of institutions. However, less attention has been paid to the ecological effects of such a GPN integration. An inclusion of ecological measurements or more-than-human research methods (Dowling, Lloyd, & Suchet-Pearson, 2017; Hewitson & Sullivan, 2021) could reveal further consequences of global market integration, such as changes in migratory routes, animal behaviour or the composition of the woodland cover, for instance.

Seventh, the consequences of the recent COVID-19 pandemic on the tourism GPN have not been covered by this study, since data collection was finalised before the outbreak. However, it can be assumed that similarly to other destinations, the Zambezi region will be heavily affected

by the strong decrease of international arrivals as a reaction to imposed travel bans. Further research can specifically tackle questions concerning the role of institutions, changing human-environment relations and the restructuring of the regional economy and the role of tourism in this process as further described in chapter 7.

In the following chapters, the findings will be presented in the form of three separate manuscripts. The first manuscript (chapter 4) specifically looks at the role of local institutions in value capture and strategic coupling. The second manuscript (chapter 5) is mainly concerned with the role of growth corridor policy for tourism development. The third manuscript looks at the integration of wildlife as a resource for the hunting tourism GPN and the role of institutions therein. Altogether, these manuscripts help to address the main objective of this paper, the examination of development policies that set hopes on the commodification of wildlife via tourism. This overarching research objective will be examined in the synopsis.

4 How much remains? Local value capture from tourism in Zambezi, Namibia

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Abstract:

High hopes are pinned on tourism and its catalytic potential to foster growth in remote rural areas. In the Zambezi region of northeastern Namibia, tourism plays a key role in the design of community-based natural resource management (CBNRM) programmes for nature conservation. Local communities form conservancies, small village-based entities of bottom-up nature conservation activities. These conservancies are granted rights for the use of natural resources, which are then transferred to tourism investors and trophy-hunting companies. Thus, conservancies partly determine tourism's developmental outcomes on a local level. By applying a global production network (GPN) approach, the objective is, first, to assess how much of the turnover generated in the Zambezi region remains in the region and, second, to examine the extent to which conservancies, as newly formed local institutions, enable communities to capture value from tourism. A mixed-methods approach is applied, using a business survey, qualitative interview data and financial reports which allow a calculation of value capture. Roughly 20 % of the value generated by the tourism industry in the Zambezi region is captured locally. In addition, conservancies play a key role in the GPN, acting as hinges between the local and the global: conservancies are involved in the production of the resource, mediate in strategic coupling processes and use regulatory and bargaining power to capture value. Conservancies therefore have the potential to increase local gains from tourism. On the one hand, these results underline the importance of local institutions for value capture in GPN analysis. On the other hand, as local linkages are limited and the level of local ownership is low, policies are needed that ensure the participation of local residents beyond direct transfer payments from private enterprises to communities.

Keywords: GPN, CBNRM, local institutions, value capture, trophy hunting, tourism enclaves, Namibia, Zambezi region, commodification

4.1 Introduction

Many researchers stress the potential of tourism for promoting economic transformation and poverty reduction (Rogerson, 2012). Southern Africa in particular, with its vast population of internationally valued species, has been targeted by international donors with the aim of creating conservancies (Dressler et al., 2010). In contrast to earlier more exclusionary conservation models, conservancies are based on three key ideas: first, regulations that allow the local population to manage independently their natural resources, such as wildlife or forest products, second, the active management and use of the resource and third, the establishment market mechanisms (Silva & Mosimane, 2014).

In Namibia, the establishment of conservancies was a means to overcome the historical legacy of apartheid, empowering rural communities in their struggle over resource control (Kavita & Saarinen, 2016). Community-based natural resource management (CBNRM) is an increasingly popular concept among policymakers and conservationists to combine both regional development and nature conservation (for an early overview in African countries see Roe et al., 2009, for topic orientated literature on CBNRM see e.g. Silva & Mosimane, 2014; Bollig & Menestrey-Schwieger 2014).

Although nation states implement CBNRM programmes in various forms, they are based on one basic principle: to grant communities rights of use for their natural resources and reward them for implementing protective measures (Murphree, 2009). Conservancy management boards are formed that implement and monitor conservation measures in clearly demarcated areas. Thus, conservancies have the opportunity to generate income by selling hunting quotas and tourism concessions.

Safari and hunting tourism are two important and complementary income generating sources (Naidoo et al., 2016). While the former is commonly accepted as a means of connecting with global markets, the latter is subject to criticism. Debates on hunting tourism are generally associated with the conservation discourse (Novelli et al., 2006) and follow ethical or ideological battle lines (Batavia et al., 2018). Despite being an industry worth 200 million USD in sub-Saharan Africa alone (Lindsey et al., 2007), trophy hunting has been widely neglected in research regarding tourism's development potential. This neglect comes as a surprise as this activity has the potential to channel resources to distant areas that have few cash-generating income opportunities (Naidoo et al., 2016).

The economic contribution that hunting tourism can make to conservation projects is the subject of an ongoing discussion: some researchers stress its economic potential (Samuelsson & Stage, 2009), while others tend to downplay its effects (Economists at Large, 2013). However, the results of CBNRM policies vary widely both between and within countries. Namibia is generally perceived as one of the more successful cases in debates surrounding CBNRM.

The objective of this paper is to examine the ability of conservancies, as local institutional entities, to capture value from being integrated into the global tourism industry. Conceptually, we apply the global production network (GPN) concept to assess how well regions are embedded in the global tourism value chain. The GPN concept as a further development of Gereffi's Global Value Chain approach (GVC, Gereffi, 2005) acknowledges (1) the importance of extra-firm actors (e.g. state agencies, non-governmental organizations), (2) stresses a multi-spatial dimension in firm-territory interactions reaching from the local and sub-national to the macro-regional and global level, (3) incorporates inter-firm relations in production systems in addition to the classical vertical integration, and (4) recognizes the role of regulatory and institutional factors influencing GVC governance (Coe et al., 2004; Yeung, 2015).

Against this background, this study aims to assess how much of the value created in tourism remains at local level. Based on findings from northeastern Namibia, this paper has three objectives: (I) to analyse the economic linkages and ownership structures of the tourism GPN, (II) to contribute to an understanding of the role of conservancies as actors in the tourism GPN and (III) to measure the success of these local institutions in capturing value at local level. The underlying assumption is that strong local institutions are able to retain value at the local level, which prevents the transfer of surpluses to different spatial scales of the GPN.

The structure of this article is as follows: first, theoretical overlaps between GPN discourses and CBNRM are outlined. Second, a description of the study area and the research design follows. Third, ownership patterns and economic linkages of the tourism GPN in the Zambezi region in northeastern Namibia are analysed. Fourth, different functions of conservancies in the tourism GPN are shown. Fifth, an analysis of financial flows reveals the abilities of conservancies to retain value.

4.2 Local institutions in the tourism GPN

Conservancies aim to integrate with tourism global production networks by attracting investors in ecotourism and hunting tourism. By marketing natural resources as a tourist attraction, wildlife is given a direct use value. Thus, CBNRM programmes are in line with utilisationist

conservation strategies, following market-driven concepts (Moore, 2011) and leading to further commodification of natural resources.

By establishing new commons of wildlife management, communities are granted specific rights, which are then transferred to actors in the private sector (Bollig, 2016). In a similar vein, Garland (2008) describes the current conservation field as "a means of appropriating the value of African nature and of transforming it into capital with the capacity to circulate and generate further value at the global level" (p.116). CBNRM programmes in this context can be understood as "struggles over resource control" (Garland, 2008, p. 62) - the local population is claiming profits that were previously withheld by colonial powers or political elites. Despite the appraisal of CBNRM programmes, research warns that trophy hunting reproduces colonial power relations and excludes local populations from wildlife utilisation (Koot, 2018). However, the marketing of natural commodities to global enterprises lies at the core of the CBNRM concept (Murphree, 2009). By commodifying wildlife, conservancies connect with the tourism global production network.

The tourism GPN

GPNs are increasingly popular concepts for analysing economic interconnections between spaces in globalised production processes. These interconnections are revealed by examining various production stages of a commodity and the actors involved at different spatial levels. While GPN and GVC analysis is generally applied to tangible commodities, such as manufactured goods, the rise of the service sector and the knowledge economy has led to growing interest in intangible goods. In tourism research, the conceptualisation of tourism as a GPN is relatively recent but expanding (Christian, 2016; Daly & Gereffi, 2018; Erkuş-Öztürk & Terhorst, 2010).

It can be argued that GPN research leads to a better understanding of how subnational spaces and institutions interact with global networks (Fold, 2014). Moreover, the network perspective is more sensitive to including non-firm actors in the analysis, which is crucial for a ramified industry like tourism (Erkuş-Öztürk & Terhorst, 2010). Yet, if tourism is conceptualised as a GPN, what is the commodity being produced? A particularity of the tourism value chain is the simultaneous production and consumption of the commodity, the tourist experience. Judd (2006) argues that the "tourist experience is a product consciously produced and marketed, its value is determined by the cost of the inputs necessary for its construction" (p. 324). From this viewpoint, the inputs are marketing and the investments in place are infrastructure and labour.

Local institutions in GPN debates

The purpose of this study is to reveal the role of local institutions in the value capture process in GPNs. Value capture describes the ability of regional institutional actors to retain the value created in the region for the benefit of the region (Coe et al., 2004).

When GPNs anchor in a region, they are embedded in multi-scalar institutional frameworks referred to as "regional institutions". However, these institutions are regional not because they are necessarily based in the region, but because they have an impact on activities within the region. The composition of these regional institutions is manifold: it includes organisations and actors at different spatial levels, such as international organisations, business associations, national agencies, local authorities and development agencies. Furthermore, location-specific conventions and norms are part of the concept of regional institutions (Coe et al., 2004).

Value capture depends on the density of these institutional networks - the institutional density of the location where the operation takes place can impact on the development outcomes of strategic coupling with GPNs (Fold, 2014). Strategic coupling is the dynamic process of connecting regions by establishing economic linkages to lead firms (Yeung, 2015). In the case of the tourism industry these lead firms are global travel agents such as TUI, alltours or Thomas Cook. The coupling can be initiated via the mediation of regional institutions whenever regional assets meet the strategic needs of the mentioned global travel agents. Value capture is determined by the ability of these institutions to negotiate with lead firms (Coe et al., 2004), as has been shown in the case of extractive industries (Bridge, 2008). The production of a natural resource is location-bound and embedded in ownership structures, institutions and political structures (Bridge, 2008). Due to their ability to collect and process information on a global scale, lead firms may have strong bargaining positions. On the other hand, regions can have a strong bargaining position when their regional assets match the strategic needs of lead firms (Coe et al., 2004).

Such negotiations result in different degrees of value capture, depending on control and power dynamics between regional institutions and lead firms (Coe et al., 2004). With a higher rate of domestic tourism, national tour operators have a stronger bargaining position in negotiations with global travel agents. A low rate of domestic tourism leads to dependence on overseas outbound tour operators to connect to global markets. Global lead firms, therefore, have a strong position within the network, leading to specific linkages and leakage dynamics (Daly & Gereffi, 2018).

Empirical findings have shown how different sets of regional institutions shape varying developmental outcomes of GPN coupling in the case of the oil and gas industry (Breul & Revilla Diez, 2018). Parallels can be detected between tourism and the extractive industries (Garland, 2008): just as with extractive industries, nature tourism is based on a natural resource that needs to be tapped by means of investment in infrastructure. Scholars have called tourism an "ostensibly sustainable form of resource extraction" (Fletcher, et al. 2014, p. 364).

However, research on GVCs and GPNs has so far focused mainly on inter-firm relations, thereby playing down the role of institutional actors. In recent years, the debate has been criticised as being firm-centric and the role of the nation state in value capture dynamics has been highlighted (Horner, 2017; Kalvelage & Breul, 2017). Horner (2017) shows that the state can play an active role in GPNs – as a facilitator, regulator, producer and buyer.

The role of regional or local institutional actors in coupling processes has been elaborated, but the focus has been on the efforts of regional institutions to attract investments (Kleibert, 2014). The role of local institutional actors in value capture dynamics remains largely unexplored.

4.3 Research design

The application of a mixed-methods approach has proven to be useful in GPN analysis (Hess & Yeung, 2006). Qualitative semi-structured interviews with GPN actors in Windhoek and Zambezi were combined with a business survey, a review of secondary sources, and the analysis of existing financial data. The data are the result of two fieldwork periods in the Zambezi region in northeastern Namibia and Windhoek, the capital city, in May 2018 and August to November 2018, four months in total. The focus was set on the relations between private enterprises and institutions in the resource region, as the study is concerned with value capture dynamics on a local level. Windhoek as the capital is host to most national government bodies and was therefore included in the analysis to embed the findings into a broader network.

Beforehand, desk research had been conducted to identify actors of the tourism GPN in the Zambezi region. A first step in the identification of tourism businesses, especially lodges, was the analysis of the *tn mobile Directory 2016/ 2017* (TDS Directory Operation Ltd, 2017*)* and common web portals: *booking.com* (http://www.booking.com) and *google maps* (http://www.maps.google.com). After updating the list of enterprises in the field, a total of 47 lodges were contacted via phone and/or personal visits aiming for a complete survey. 22 lodges (denoted as 'lod' in the following) agreed to a face-to face interview which was conducted with the manager or owner of the enterprise.

Due to the central role of conservancies in the tourism sector, all 15 conservancies in the Zambezi region had been contacted to participate in the survey. Members of the conservancy management board, preferably the enterprise officer, were targeted as they are responsible for negotiating with private industry actors. 12 conservancies were interviewed in this study (denoted as 'con' in the following).

The interviews with the conservancy managements and the lodges were guided by two different semi-structured guidelines, interviews took roughly one hour. The questions were partly derived from the theoretical underpinnings of this study and were partly open to additional topics. This procedure was intended to reveal negotiation dynamics with external partners and insights into internal decision-making processes. A snowball sampling technique was applied to identify other relevant actors of the GPN through the interview partners. Following up on this information, further organisations that were identified as stakeholders in the tourism/conservation sector were contacted to be included in the study: 4 business associations (denoted as 'ba' in the following), 4 government agencies (denoted as 'gov') in Katima Mulilo and Windhoek (denoted as 'KM' and 'W'), 3 NGOs and international organisations (denoted as 'ngo'), 2 hunting (denoted as 'ho') and 3 tour operators (denoted as 'to'). This list is, however, not exhaustive and does not involve actors in outbound countries.

The interview material was recorded and transcribed. A deductive qualitative content analysis was applied to form theoretically guided categories (Mayring, 1994). During the coding process, categories were revised based on the empirical findings and finally interpreted in the light of the theoretical background. These analytical categories serve to structure this article in the sections presented below.

In addition to the qualitative interviews, a quantitative factsheet (business survey) was presented to evaluate general enterprise data, employment figures, booking procedures, supply chains and expenditure. Thus, data was collected for the evaluation of ownership patterns, local linkages and industrial linkages with other GPN actors. Due to time shortages, some lodges refused to take part in the qualitative part of the survey, but accepted to answer the quantitative questionnaire. 33 businesses out of 47 in total answered the quantitative factsheet.

In addition, available secondary quantitative datasets from stakeholders were collected for further analysis. These datasets include figures collected by the Namibian Association of CBNRM Supporting Organisations (NACSO), parts of which are publicly available on the NACSO website (http://www.nacso.org.na), and financial data from the Namibia Tourism

Board (NTB), which reports the monthly payments of tourism levies. Furthermore, secondary sources such as relevant academic literature, policy reports and online content were reviewed to interpret and frame the results of the study.

The high response rates of tourism GPN actors allows a detailed picture to be drawn of the tourism industry in the Zambezi region. By surveying different stakeholder groups and combining qualitative and quantitative data, it was possible to triangulate results. However, many lodges refused to share detailed financial information which calls for a more sensitive design of the questionnaire. Challenges remain in operationalising value capture in empirical studies. Depending on the data sources and the definition of value used, comparability of different empirical studies can be limited. Therefore, more research is needed to develop a standardised method to measure value capture.

4.4 Ownership and local linkages of the tourism GPN in Zambezi conservancies

Although the nation state has ultimate control over the land in Namibia, several laws give traditional authorities the rights to grant customary use rights and be responsible for land use planning (Massyn, 2007). These areas are referred to as communal lands. The Nature Conservation Amendment Act of 1996 paved the way for the creation of conservancies in Namibia. Since then, residents of communal areas have been permitted to form a common property resource management institution, the conservancy (Bollig, 2016).

To be registered as a conservancy, it is necessary to have a defined boundary and membership, a management committee, a legal constitution and a benefit distribution plan (Kavita & Saarinen, 2016). Five key compliance requirements are regularly controlled by the Ministry of Environment and Tourism (MET): the annual general meeting, elections, a benefit distribution plan, a game management and utilisation plan and an annual financial report (KMgov1).

Anyone over the age of 18 who is a Namibian citizen and lives within the boundaries of the conservancy can register as a member of the conservancy. Once a year, all members attend the annual general meeting, where the conservancy committee is elected. The staff of the conservancy management comprise a chairperson, a manager, a secretary and an enterprise officer. The enterprise officer is responsible for identifying land for tourism development, attracting investors and functioning as an interface between private enterprises and the conservancy.

Conservancies mainly generate income from contracts with professional hunters for the use of their trophy hunting quotas and from joint venture contracts with tourism companies to develop

tourism facilities on their land (Snyman & Spenceley, 2019). For members of the conservancies, employment at joint venture lodges and hunting camps provide income opportunities. Apart from tourism, additional revenues are realised from the sale of other natural commodities, such as devil's claw, reeds, poles and timber.

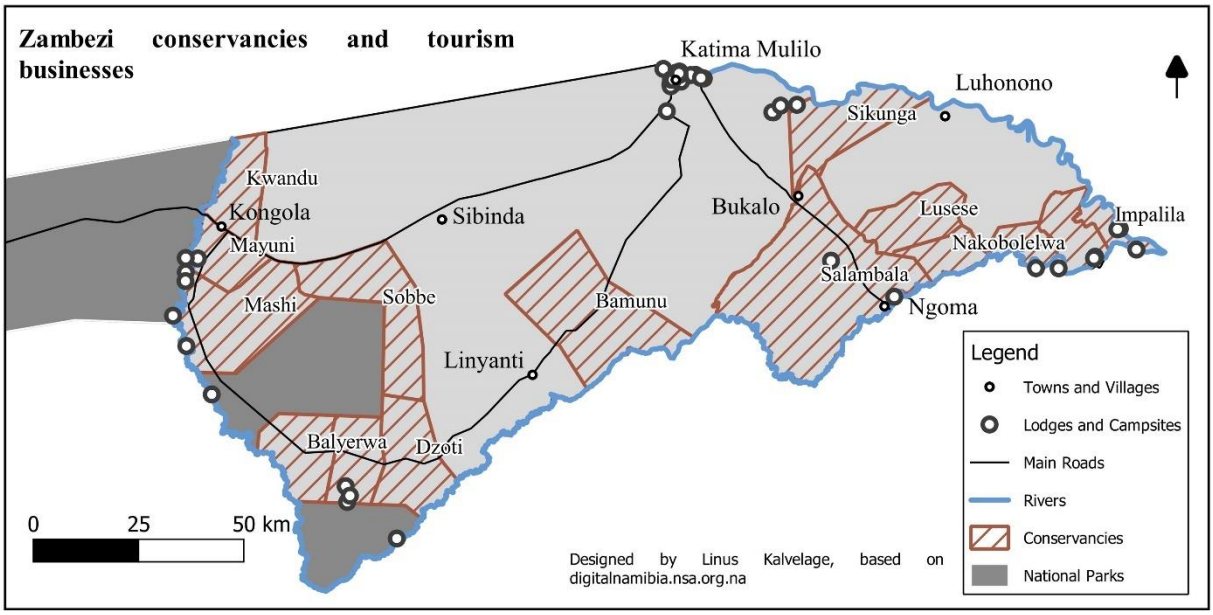

Figure 1: Zambezi conservancies and tourism enterprises. Source: Own illustration.

As most conservancies are formed in areas with a high presence of big game, these regional assets meet the needs of global tourism enterprises. Regional assets can be seen as pull factors for investment attraction, as Kleibert (2014) showed. Especially the more exclusive lodges with reliable connections to global tour operators are located on conservancy lands.

However, not every landscape is attractive to tourists, only 7 of the 15 conservancies were able to generate income from joint venture lodges. As they are allocated annual hunting quotas by the MET, all conservancies are involved in hunting tourism to some degree (see Table 3). Conservancies in the Zambezi region receive 13% of their direct income from joint venture lodges (NACSO Working Groups, 2017), while 81% is earned from hunting concessions sold to professional hunters. The remaining 6 % are derived from other enterprises, such as the sale of forest products.

Ownership patterns of the tourism GPN in Zambezi

The CBNRM programme not only targeted meeting conservational requirements, but also using income generation as a catalyst for socio-economic transformation, or more explicitly, empowering formerly disadvantaged Namibians in rural areas. The ownership of enterprises is an important indicator of the value capture of regions (Henderson et al., 2002). Owners are able

to retain surpluses and transfer revenues to headquarters, which can lead to the transfer of value to other spatial scales if the enterprise is foreign-owned. In Zambezi, there is a clear divide regarding the ownership of lodge enterprises. Within conservancies, foreign ownership and large enterprises are more dominant than outside of the conservancies, where the local participation is stronger (Table 3). As the conservancies evolve around attractive landscapes and ensure the presence of wildlife by means of conservation activities, the regional assets of these locations meet the needs of the global safari and hunting tourism industry. Thus, incoming investors choose locations within conservancies (see Table 3).

	Owner-operated			**Multinational Enterprise**		**Other**	**Total**
	Foreign	Local		Foreign	Local		
		Black	White				
Inside conservancies	8		2	10	0	2	**22**
Outside conservancies	7	10	6	1	0	1	**25**

Table 3: Distribution and ownership of lodges in the Zambezi region. Source: Business survey.

A similar observation can be made regarding the concession-holding hunting operators. In order to reward conservancies for their conservation efforts, each conservancy is granted a wildlife consumption quota based on regular aerial and game-guard counts conducted by the MET, conservancy members and supporting organisations (lod8). These quotas are then sold as concessions to professional hunters (con3). Currently, more than 400 professional hunters are registered with the Namibian Professional Hunters Association (NAPHA, ba5). The association is therefore an important voice for the political representation of the hunting industry in Namibia.

There are three different types of quotas: the guaranteed quota, the optional quota and the own-use quota (con2). The fee for the guaranteed species has to be paid even if it is not hunted, while the optional quotas only have to be paid for animals that are actually killed (ho1). Community members can also apply to shoot an animal for their own use (con10). Some of the survey respondents reported that the sale of quotas is not transparent and prone to corruption, as professional hunters try to influence decision makers in the conservancy to obtain the hunting concession (con3; ho1). The concession holder has the right to resell the quotas to other certified professional hunters, usually charging a commission fee of 10-15 % (ho2). Since the concession holders have to pay the guaranteed quota fees to the conservancy, they bear the entrepreneurial

risk (ho1). Most professional hunters holding hunting concessions have so far come from outside the region (con3). All hunting companies but one are based in central Namibia (Table 4); local communities lack the required skills and marketing opportunities to conduct these activities themselves (con4). To sum up, Zambezi is a resource-rich region with a low degree of local ownership in tourism.

Hunting operator	**Headquarters**	**No. concessions**
Eluwa Safaris	Grootfontein	1
Camelthorn Safaris	Swakopmund	1
Ondjou Safaris	Windhoek	1
Jamy Traut	n.a.	2
Thormählen & Cochran	Windhoek	1
Ngwena Big Game Hunting	n.a.	3
Vaughan Fulton	Windhoek	1
Ndumo Hunting Safaris	Katima Mulilo	3
Huntafrica Namibia Safaris	Windhoek	1
Omujeve Hunting Safaris	Windhoek	3
Caprivi Hunting Safari	n.a.	1

Table 4: Ownership of hunting operators active in Zambezi conservancies. Source: based on NACSO data (NACSO Working Groups, 2017).

Local linkages

In tourism research, a lively debate has evolved about local or regional economic linkages between hotels and lodges and their local environment from the viewpoint of regional development (e.g. Rylance & Spenceley, 2017). It seems clear that a lack of local linkages results in enclave tourism with a limited effect on local economic structures (Saarinen, 2017). Local linkages are a crucial factor for spill-over effects to foster local entrepreneurship and have a larger regional value capture.

Yet larger lodges tend to strive for a high degree of autonomy. This includes possessing an autonomous power supply via diesel generators or solar panels (lod4), their own water supply (lod4), their own waste management and in-house vegetable gardens (lod2; lod4; lod9). With regard to the energy and water supply, many lodges have to have their own equipment due to their remote locations. The aim of having their own vegetable gardens is to guarantee a stable supply of fresh vegetables. Some lodges actively encourage farmers to start vegetable

production, but with limited success: *"There was a guy who started a vegetable garden and in the beginning we helped him a lot. We gave him seeds, I helped him to put a water tank, pipes, I shared my water, I gave him a water pump. I gave him all of that but there is nothing there* (lod8)*".*

Most lodges buy vegetables in bulk from the producers around them, if available (lod5; lod6; lod10; lod12; lod13). These transactions are not formalised and are usually conducted on a day-to-day basis. As the supply is unreliable (lod6), the lodges often have to purchase vegetables from the supermarket chains in Katima Mulilo (lod8). The supermarkets in Katima Mulilo and Kasane play an important role in the supply of beverages, meat, eggs and dairy products to the tourism sector in the region. However, supermarkets procure most food from South Africa – the impact on regional food production therefore is low (Emongor & Kirsten, 2009). In the absence of slaughter facilities, the local meat production does not meet the hygienic standards expected by the lodges: *"I cannot see myself putting a piece of steak on the table for a guest which I bought here next to the road* (lod8)*"*. Larger lodges rely on the services of specialised logistics firms that deliver food and beverage products directly from Windhoek to the lodge by truck and boat: *"We get certain things from Windhoek, we have our Seapride* [food service distributor from Windhoek] *(...) they deliver anything from cool drinks to meat to flour, those kind of things* (lod12)*".*

Larger machinery, such as water pumps, is often procured directly from South Africa, while firewood, reeds and poles for the construction of buildings are bought from the surrounding communities (lod2; lod8). Lodges in the Zambezi region usually organise fishing or safari tours in-house (lod10; lod9; lod2). Cases of outsourced activities are rare (lod8): lodges located on the border with Botswana make use of Botswanan tour operators due to cross-border restrictions (lod4) and small-scale projects like so-called "village walks" try to involve local communities.

As the lodges are often the only private enterprises in the region, they regularly receive requests for donations. The most common practice is to support communities with transport for medical reasons or funerals or to provide funding for fuel for the patrols of the conservancies' game guards (lod4; lod5). Lodges also frequently provide financial assistance for traditional festivities or schools (lod10). In some cases, they finance the university fees of community members or help build a police station (lod5; lod13).

These findings obtained in the interviews indicate that the economic linkages to other businesses in the region are limited. Large shares of the food and beverages supply are procured

either from national and global supermarket chains in Katima Mulilo and Kasane or via food delivery directly from Windhoek. The stimulative impact on local food production is therefore limited. Furthermore, there are rarely any linkages to local tour operators. Value capture due to local linkages only happens via voluntary donations and the small-scale supply of locally produced goods.

Mbaiwa (2017) describes enclave tourism as preventing "the host populations from deriving meaningful economic benefits and access to the decision-making process on the use of resources in their local environment" (p.17). Although the tourism sector in the Zambezi region shows some symptoms of an enclave economy, it cannot be classified as such: the conservancy structure ensures political participation and economic benefits that go beyond low-paid employment. In the following section, a more detailed view reveals conservancies' ability to capture value from tourism.

4.5 The role of conservancies in value capture

Even if value capture via local linkages and local ownership is low, conservancies ensure a transfer of value through direct payments. Furthermore, conservancies take on a variety of functions within the tourism GPN that can impact local value capture as is shown below. These functions include the production of wildlife, mediation and strategic coupling, negotiation for value capture and the use of regulatory power to improve local linkages.

Producing the commodity

The process of incorporating nature into GPNs can be understood as two opposing forces (Irarrázaval & Bustos-Gallardo, 2018): on the one hand, the biophysical composition of nature imposes obstacles to production, on the other hand, firms develop strategies to make the commodification of nature profitable. In the case of wildlife tourism in Namibia, parts of these strategies are conducted by conservancies.

By establishing conservancies, economic spaces are created that differ from their surroundings in three respects: first, the implementation of conservation measures, such as game guard patrols and anti-poaching activities, ensure the continuous reproduction of wildlife, which is the main resource for tourist activities, as the managing director of a leading NGO puts it: "*Would say wildlife is the major resource* (ngo1)" and "*... you cannot develop a thriving tourism industry in context where you don't have a resource base* (ngo1)". Without nature conservation measures conducted by the conservancy, the habitat of wildlife would be endangered.

Second, the commodification of this resource is made possible via the coordination of conflicting interests in the area. It is a challenge for conservancies to combine hunting and safari tourism (con8). These two tourism sectors compete for the same resource: the more transcendent or more direct consumption of wildlife. Conservancies try to mitigate such challenges by designing and implementing zones of use. Maps are drawn up which assign areas to individual activities and are generally respected (lod8). Nevertheless, conflicts and mistrust between lodge owners and hunters are common because of their competing interests in the use of wildlife*: "No we understand that you need the hunting because it is also part of the tourism industry (…), but the way they are doing it, that is a conflict. (…) It's like you are sitting here with your guests having breakfast that morning and you saw the elephants the previous night crossing the river (…) and the next moment you hear 11 shots* (lod8)*"*. Dividing the territory into different usage zones is thus a key task for conservancies. Seven different usage zones are established: a settlement and cropping area, a multiple use area with varying priorities for livestock, hunting and tourism activities and an exclusive wildlife zone for tourism only, hunting only and no disturbance (NACSO, http://www.nacso.org.na).

Third, this zoning allows trophy hunting, an activity that is prohibited on communal land outside conservancies. By creating a new form of exclusive land use, space is made available for the territorialisation of the tourism GPN.

Mediation and strategic coupling

When regional assets match the needs of the GPN, a coupling process can be initiated. However, only the active promotion of these assets by regional institutions makes the coupling process strategic (Yeung, 2015). Continuous mediation between actors of the GPN at different spatial levels is needed for this coupling process. There are two ways in which conservancies act as intermediaries in the process of strategic coupling: first, by promoting their land for tourism investments and second, by facilitating land allocation for tourism investments.

The strategic coupling of conservancies generally relies on the support of NGOs and the MET. Contracts between the conservancies and tourism operators are usually negotiated in a process accompanied by additional stakeholders: since Namibia gained independence in 1990, a variety of institutions have actively promoted tourism in the Zambezi region. The initiative to foster rural development through the establishment of conservancies by the MET was led by NGOs, such as Integrated Rural Development and Nature Conservation (IRDNC), the World Wide Fund For Nature (WWF), the Millenium Challenge Account (MCA) and the Namibia Nature

Foundation (NNF). These NGOs continue to play a major role in the governance of natural resources until the present day. IRDNC acts as the key contact for conservancies, supporting them in terms of professional training, legal assistance, accounting and institution building. The MET and NGOs are closely bound by a web of interchanges of personnel and joint activities (KMgov1).

The institutions mentioned above actively promote an utilisationist agenda, the commodification of wildlife and other natural resources in this narrative is the basis for rural development. A leading official of the MET in Katima Mulilo states: *"So yes, it is for rural development, you know when you have wildlife; it has an economic value. It is not just conservation value but also economic value to the country and also to the communities on the ground* (KMgov1)*"*. Communities depend on investments to unlock their tourism potential, as they lack business skills (KMgov1), investment capital (KMgov1) and international networks (KMgov1; ba3) to develop their own enterprises. Investors are mainly identified with the assistance of the MET or involved NGOs (con6; con3; con1). In a few cases, investors approach the conservancy without mediation (con10).

Once an investor has been identified, conservancies mediate between the interested investors and the land-holding families (con3). In the Zambezi region, communal landholders do not own their land, but have rights of use according to customary law (Harring & Odendaal, 2002). The traditional authorities allocate land to families or individuals for different purposes (con13). These families or individuals may then sublease the land for tourism developments and receive payment in return (lod8, con4). However, land rights are not always undisputed. In several cases, various traditional authorities or families have made competing claims to land (lod4).

Conservancies act as a nexus between private investors, government stakeholders and the community (lod2). Thus, conservancies facilitate the process of land allocation for tourism purposes and simplify the leasing procedure (lod4). However, once land has been allocated, the traditional leadership at the village level must be involved to agree on the period of the leasehold (lod4). These periods range from 10 to 99 years (lod12). Once all the parties have reached an agreement, a contract is concluded and the Ministry of Environment and Tourism signs as the regulating body of the conservancies (lod11). It is therefore clear that the conservancies together with supporting institutions actively promote the strategic coupling of the region into the GPN.

Regulatory power

The conservancy acts as a regulating body, aiming to increase value capture from GPN participation by establishing a regulatory environment that strives for local employment and ensures the transfer of benefits from the tourism enterprises to the conservancy. Thus, conservancies partly take on the role of the regulator as described by Horner (2017). This is done by enforcing local employment and regular payments from tourism enterprises. Whenever a tourism company wishes to conduct activities on conservancy land, an agreement is negotiated that lays down the terms of the engagement. Contracts with hunting operators and lodges include agreements for regular payments to the conservancy. These payments are regarded as compensation for the conservation activities conducted by the conservancies and depend on the size and turnover of the company. Payments are negotiated in a market-driven bargaining process: since there are no clear regulations on the amount and the share, the distribution of value between tourism entrepreneur and conservancy depends on the conservancies' negotiating skills.

Employment in the tourism sector is often the only employment opportunity besides the government sector (lod5). Employment is generally organised by the conservancy and is part of the agreement: *"The contract is stipulating it very clearly. All the employment should be from the conservancy unless otherwise he is looking for a qualified tour guide for example* (con 12)*".*

In some cases, upgrading mechanisms are included in the agreement, such as the training of local assistant managers and hunters. Thus, a large share of local employment could be achieved, thereby enabling value capture via the payment of wages. The 27 surveyed enterprises report the local employment rate as 86 %. This figure is confirmed by the interview data - lodges stated that labour was recruited from the neighbouring villages (lod2; lod5; lod8). However, employment has so far been limited to low-paid jobs such as housekeeping, reception or gardening. As the education level is usually not high in the region, the staff generally receive on-the-job training (lod2; lod4). More highly qualified vacancies, such as chefs or positions in lower management, are often filled by non-local staff (con6).

The above makes it clear that conservancies, as local institutions with regulatory power, are able to negotiate contracts with tourism investors and hunters, and to enforce local employment in the lodges, thus impacting local value capture.

Conservancy	**Yearly income 2017 (USD)**	**Income from safari tourism,** % of total income	**Income from hunting tourism,** % of total income	**Non-tourism income,** % of total income	**Value capture,** in % of total estimated tourism turnover	**Population size**
Balyerwa	90504	0	91	9	16	970
Bamunu	59617	0	98	2	17	2310
Dzoti	83337	0	100	0	19	1460
Impalila	57174	23	75	2	0	880
Kabulabula	58183	8	88	4	0	570
Kasika	96287	29	69	2	10	1130
Kwandu	62048	0	84	16	n.a.	3520
Lusese	60837	0	85	15	12	880
Mashi	190574	47	52	1	20	2210
Mayuni	112064	35	60	5	14	2200
Nakabolelwa	43390	0	95	5	24	705
Salambala	113544	22	71	7	30	8240
Sikunga	43748	0	88	12	54	2470
Sobbe	78190	0	97	3	22	1010
Wuparo	161270	10	86	4	29	1140
Average	**87384**	**16**	**78**	**6**	**26**	**1980**

Table 5: Income and value capture of Zambezi conservancies. Source: own calculations based on NACSO data (NACSO Working Groups, 2017).

Negotiation for profit

The regional capacity to negotiate a larger share of the value depends on the availability of regional assets that attract the interest of lead firms to couple with that region (Coe et al., 2004). Tourism in the region is mainly driven by the presence of big game. In the case of hunting tourism, highly valued trophy animals are the regional asset of interest. Accordingly, conservancies that have a location favourable to attract these animals achieve higher concession fees than others. Hunting operators compete for these concessions, which in return leads to a more powerful bargaining position and varying price levels among conservancies. However, negotiation skills are a factor that determines the degree of value capture.

The contract period between the conservancy and the professional hunter is between 3 and 5 years (con2), but can be terminated if the professional hunter is unable to pay the agreed price - a situation that does not appear to be uncommon (con1; con2; con9; con10). Renegotiating the contract makes it possible to adapt to current price levels. Prices depend on the negotiation skills and therefore vary between conservancies: *"you go to other places like Kasika, you discover that the price it differ with our price. There is maybe 300.000* [N$] *one elephant* (con6)*"*. In several conservancies, the hunting operator was changed after the end of the initial contract term due to better offers. This indicates that conservancies improve their negotiation capabilities.

A crucial factor in these negotiations are the MET and IRDNC, institutions that bundle and process information about negotiations between conservancies and hunting operators across the whole country. Thanks to the legal support of the IRDNC (lod11), the conservancies' negotiation skills improve over time, as contracts with tourism operators show: more recent contracts include higher fees and upgrading measures such as the training of community members or the transfer of assets after a certain period of time.

All in all, conservancies fulfil a variety of functions within the tourism GPN. First, they actively produce the commodity by conserving wildlife and creating the space for the anchoring of GPNs in the region. Second, conservancies form part of a network of regional institutions strategically coupling with GPNs and promoting the regional assets of the region towards global investors and third, conservancies capture value through their regulatory power. However, the ability of conservancies to couple and negotiate is limited and is dependent on supporting institutions.

4.6 The effectiveness of conservancies in capturing value

Underlining the argumentation above, financial data reveals the value capture realised by conservancies. Conclusions can be drawn about the value capture at two different levels: the conservancy management level and conservancy members as a whole. Based on the triangulation of survey data, data provided by the NTB and financial and ecological reports collected by NACSO for the year 2017 (NACSO Working Groups, 2017), a calculation can be carried out to assess the value capture of conservancies within the region.

Tourism turnover estimate

First of all, an estimate of the general turnover of tourism in the Zambezi region is needed. In the case of safari tourism, the annual turnover of the accommodation establishments (lodges,

guesthouses, campsites) in 2017 serves as a starting point. In the Zambezi region, 22 establishments are to be found within conservancy territories. 17 of these are tented camps or lodges and can be perceived as more exclusive tourist destinations based on their price (over 1000 N$ per night). Three private campsites and two campsites run by conservancies complete the picture.

In five cases, the annual turnover was available from the survey and in nine cases calculations were based on the establishments' payments to the NTB. The average turnover of these enterprises has been applied to the missing eight figures. Thus, a total of 71,541,578 N$ (approx. 5.3 m USD, exchange rate in the following as at January 2019, 1 N$ = 0,074 USD) is calculated, which can serve as a rough estimate of the annual turnover in the lodging sector within Zambezi conservancies (see Figure 2). However, this estimate does not include value generated by other segments of the value chain, such as tour operators, car hire and restaurants.

To obtain an estimate of the annual turnover in the hunting tourism sector, the annual value of wildlife quotas was calculated. The NACSO reports contain complete figures on the quotas allocated to each conservancy and on the quotas actually used in 2017 (NACSO Working Groups, 2017). In 2017, for example, 80 cape buffalos (*Syncerus caffer*), 35 elephants (*Loxodonta africana*) and two eland antelopes (*Taurotragus oryx*) were shot in the 15 conservancies. Only trophy quotas were considered and multiplied by the common prices charged by hunting operators (Ndumo Hunting Safaris, 2018).

For instance, a 14-day elephant hunting trip is sold to the customer for 48,500 USD and a 10-day buffalo hunt costs 16,500 USD. For the allocated quotas in 2017, a total amount of 6,002,390 USD was projected, actually used trophy quotas account for 4,829,740 USD, which is 80%. These figures do not include quotas for personal use, wildlife that is brought down to provide the communities with meat. These quotas can also be sold to professional hunters, but achieve lower prices (roughly 20,000 USD per elephant). Hunting tourism and safari tourism combined generate a total turnover of 10.1 m USD.

Income, expenditure and employment

The annual fees paid to the conservancies are listed in the NACSO reports. The total yearly income of the conservancies in the region was 1.7 m USD in 2017. Hunting accounts for 1.4 m USD, tourism for 0.2 m USD, income from other sources is 0.1 m USD. Conservancy expenditure is also clearly documented in the reports and accounts for 2 m USD (Figure 2). The gap between income and expenditure may be explained by savings that the conservancy

managements carried over from previous years or financial support received from NGOs. Thus, additional costs could be covered.

As a rule of thumb, conservancies try to spend 50% of their income on operating costs and 50 % is distributed among the community (con10). Conservancies follow different guidelines for expenditure: in the past, cash distribution among members was widespread and is still practised today (con1; con8). However, since cash distribution has shown limited developmental effects and the visibility of conservancies has been low (con1), conservancies are shifting more towards aggregated investments in infrastructure projects such as village electrification, water supply and road infrastructure (con1; con2; con3; con7; con10).

In 2017, running costs amounted to 1.3 m USD, consisting of 0.6 m USD for wages, 0.4 m USD for operational costs and 0.3 m USD for per diem allowances. As can be seen in Figure 2, community benefits include the investment of 0.3 m USD in community development projects such as the electrification of villages, 0.4 m USD was spent on direct cash payments to members, traditional authorities, funeral assistance and human-wildlife conflict offsets. Moreover, expenses include student grants (con1; con2; con3). Only a few conservancies invest in income generation projects, such as the purchase of a tractor for rent (con2) and the development of their own campsites (con7).

A calculation of the employment effect of hunting tourism is not included, as no such data are available. However, employment in hunting tourism is usually temporary and fewer staff are needed than in the lodging sector. The employment includes the management of the hunting camp during the hunting season and hunting guides to track the animals. The distribution of meat as a community benefit is not included in this calculation either, as this is non-monetary. Meat distribution can contribute substantially to the livelihoods of the conservancy members (Naidoo et al., 2016). Another shortcoming of this calculation is that it disregards the local food and vegetable supply, which was included in the value capture analysis conducted by Rylance and Spenceley (2017). In the case of the Zambezi region, the interview results have shown that these local supply linkages are often very limited or even non-existent.

With regard to safari tourism, the employment effect inside conservancies was calculated on the basis of the total number of employees (566) derived from the business survey and multiplied by a yearly income of 25,000 N$ (1,700 USD). The annual income is oriented towards the following monthly wages: cook 3,000-6,000 N$, cleaner 1,500-2,000 N$, lower management 5,000-13,000 N$ (A11). The total amount is estimated to be equivalent to 1 m

USD. Thus, 18.52 % of the total turnover in Zambezi's tourism industry is spent on labour, which is in line with a study conducted in Kasane, Botswana, which estimates that 19% of turnover is used for labour costs (Rylance & Spenceley, 2017).

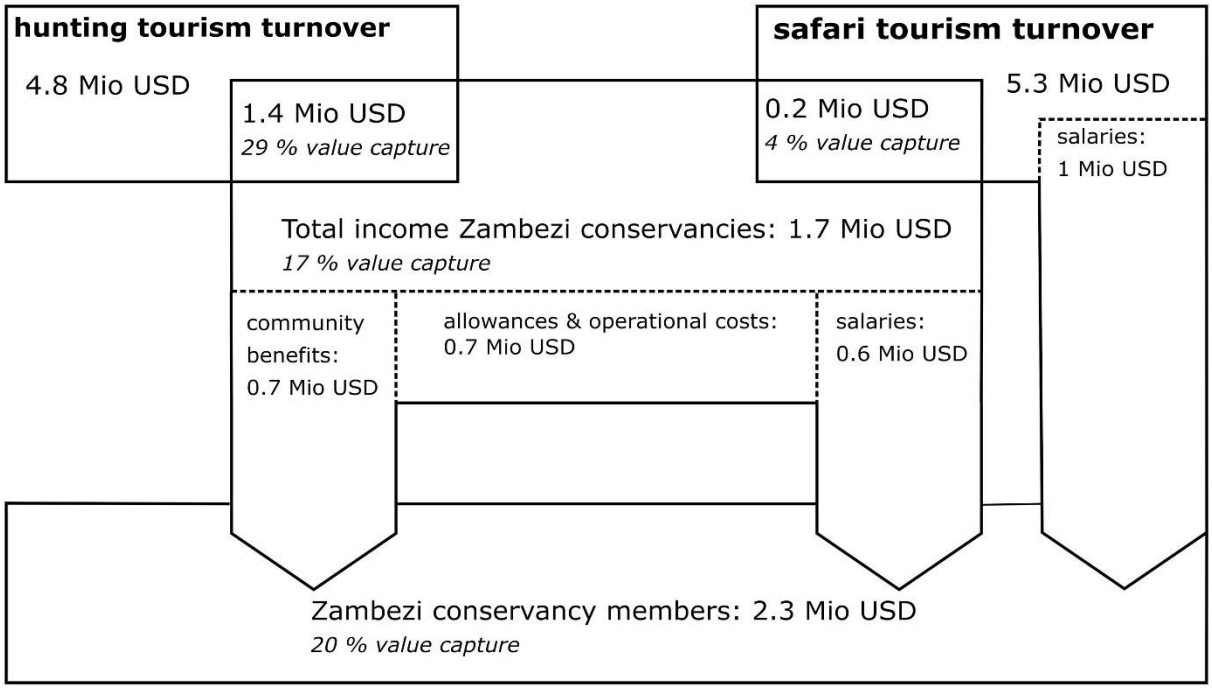

Figure 2:Value capture patterns in Zambezi conservancies. Source: own illustration, inspired by Naidoo et al. 2016 and based on NACSO 2017.

Conservancy value capture and elite capture

Research indicates that conservancies are prone to elite capture (Silva & Mosimane, 2014) and for the Kunene region in northwest Namibia, it was found that large shares of the conservancy income are spent on operating costs (Bollig & Menestrey Schwieger, 2014). Therefore, it is of interest to determine how much of the revenues reaches the conservancy at large and does not sink into the organisational structures of the conservancies.

From the calculations above, the relative value capture can be estimated for two different levels: the conservancy management level and the general conservancy level. For the purpose of this paper, value capture is defined as the share of the total turnover in the region that actors are able to retain. Zambezi conservancy managements are able to capture 1.4 m USD of the overall turnover from hunting tourism in Zambezi, which is 29 %. For safari tourism, the figure is considerably lower, with conservancies receiving only 0.2 m USD of the total of 5.3 m USD turnover, which is equal to 4 %. All in all, conservancies capture 17 % of the total tourism value created on their territories on average (Figure 2).

However, this figure cannot be equated with the amount that reaches the conservancy at large. Community benefits in the form of investment in community projects, cash benefits, funeral assistance and HWC offsets accounted for 1.3 m USD in 2017. The employment effect of the lodges must be added to the conservancy member benefits, since wages reach conservancy members directly without the intervention of management. Combined with lodge wages, the money that reaches the conservancy member level accounts for 2.3 m USD. Therefore, 20 % of the total tourism turnover can be captured at the conservancy level. Interestingly, a study by Schnegg & Kiaka (2018) in ǂKhoadi ǁHôas conservancy in Kunene region had similar findings.

It is clear that hunting tourism brings a greater direct benefit to conservancies, but this benefit does not reach the community in full. On the other hand, lodge operators contribute substantially less to conservancies, but the employment effect provides a greater benefit for the community. It is striking that these benefits are almost exclusively derived from the institutional capacity of conservancies to capture value, i.e. enforcing quota fees and local employment.

A large potential for value capture lies in active entrepreneurial engagement in the tourism GPN as a supplier or tour operator. Tourism entrepreneurs agree that the region still fails to fully exploit its tourism potential, although the sector has grown in recent years (lod12). Research shows that local value capture in the tourism sector in Kasane amounts to 37 %, a figure that is mainly driven by the local supply of food and beverages (Rylance & Spenceley, 2017). Given that the population figure in the Zambezi conservancies is 29,695 (NACSO, http://www.nacso.org.na), tourism contributed to a per capita income of 77 USD in 2017 according to our calculations.

At aggregated regional level, these figures give a first indication of the ability of conservancies to capture value. However, there are variations across the different conservancies regarding the income share derived from hunting tourism and safari tourism. Furthermore, the value capture from these activities at conservancy level differs substantially (from 10 % to 54 %, see Table 5). Based on GPN research, it can be assumed that these variations are partly determined by the conservancies' institutional quality and their ability to negotiate contracts with foreign enterprises. However, further research is needed to verify this hypothesis.

4.7 Conclusion

The aim of this contribution was to assess the impact of local institutions on value capture patterns in GPNs. It has been shown that conservancies can fulfil a variety of functions within the tourism GPN, including the production of the commodity, mediation in strategic coupling

processes, the use of regulatory power and negotiations for value capture. Thus, conservancies act as hinges between the global economy and the local social-ecological system.

If well managed, CBNRM appears to be an effective tool for value capture from tourism GPNs and can prevent enclave tourist spaces. At the conservancy level, value capture amounts to 20 % of turnover. Despite methodological challenges, calculating value capture shares can be a useful tool to ensure comparability between cases from different regions and industries. Therefore, the application of GPN analysis to CBNRM-related topics can yield new insights. The figures show that hunting tourism makes a considerable contribution to revenues in peripheral regions of southern Africa. However, local ownership and local linkages of tourism in the Zambezi region are not yet well developed and the intervention of conservancies has so far been limited to the absorption of profits, but does not increase local entrepreneurial engagement with the GPN.

These results suggest that in GPN research, it is worth including local levels of governance and non-state institutions when analysing value capture. Furthermore, GPN research on tourism benefits from including hunting tourism in order to analyse the full picture. Value capture at local level plays a significant role in GPNs that are based on natural resources such as wildlife tourism or extractive industries. As the production of these resources is location-bound, local institutions have the opportunity to bargain for profits to avoid the transfer of value to other spatial scales. According to GPN theory, it is crucial to retain value in the region to create a stimulating effect on the local economy. Therefore, tourism planners should consider to apply policies that enforce local value capture to have a larger development impact.

This analysis has two main shortcomings: first, it does not allow conclusions to be drawn regarding the benefit-sharing practices within conservancies, but remains on a meso-level. The impact of the value capture on local livelihoods is therefore unclear. Second, the results suggest that the remaining 80 % of the value are not captured locally. More research is needed to analyse these two aspects and further contribute to the debate on CBNRM.

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5 Do tar roads bring tourism? Growth corridor policy and tourism development in the Zambezi region, Namibia

Kalvelage, L., Revilla Diez, J., & Bollig, M. (2021). Do tar roads bring tourism? Growth corridor policy and tourism development in the Zambezi region, Namibia. *European Journal of Development Research*. Advance online publication. http://dx.doi.org/10.1057/s41287-021-00402-3

Abstract:

There are high aspirations to foster growth in Namibia's Zambezi region via the development of tourism. The Zambezi region is a core element of the Kavango-Zambezi Transfrontier Conservation Area (KAZA), a mosaic of areas with varying degrees of protection, which is designed to combine nature conservation and rural development. These conservation areas serve as a resource base for wildlife tourism, and growth corridor policy aims to integrate the region into tourism global production networks (GPNs) by means of infrastructure development. Despite the increasing popularity of growth corridors, little is known about the effectiveness of this development strategy at local level. The mixed-methods approach suggests a link between a tandem of infrastructure development and tourism-oriented policies on the one hand, and increased value creation from tourism in the region on the other hand. Yet, the promises of tourism-driven development reach only a very limited number of rural residents.

Keywords: Growth corridor, Tourism GPN, Hunting tourism, CBNRM, KAZA, Zambezi region

5.1 Introduction

The promotion of tourism is a central pillar of Namibia's economic development strategy. Since the 1990s, the designation of nature conservation areas has been envisioned to protect wildlife and wilderness landscapes while at the same time boosting growth in rural areas by providing suitable conditions for the emergence of a wildlife tourism industry. Recent growth corridor policies incorporate tourism as a development strategy, with the aim of fostering economic development in the hinterland through investment in infrastructure (Dannenberg et al., 2018). Growth corridors have been a spatial planning tool for decades, but it is not clear whether local residents benefit from this approach.

The Zambezi region in north-eastern Namibia is increasingly gaining popularity as a destination for two forms of wildlife tourism, hunting tourism and safari tourism. The Walvis Bay-Ndola-Lubumbashi Development Corridor (WBNLDC) is a "new-generation growth corridor" (Dannenberg et al., 2018) that is based upon its predecessor, the Trans-Caprivi Corridor (TCC), and connects the Zambezi region to Windhoek, the capital city and tourism hub of Namibia. While the TCC was limited to investments in infrastructure and the smoothing of logistic procedures, the WBNLDC is designed to incorporate more advanced spatial development policies, such as the creation of hubs, gateways and targeted value-chain promotion. In these plans, the promotion of tourism is a proclaimed means of fostering economic growth in the Zambezi region. This vision meets a partly synergetic vision of the future, which is promoted by a network of transnational actors aiming to create one of the world's largest nature conservation landscapes, the Kavango-Zambezi Transfrontier Conservation Area (KAZA). Both visions bear the promise that conservation policies and infrastructure connectivity will increase gains for local residents through participation in the wildlife tourism sector. This contribution aims to examine this claim.

In conceptual terms, the analysis is influenced by the current literature on global production networks. While this concept is gaining popularity for exploring uneven development outcomes, the role of infrastructure in GPNs remains largely overlooked. In this paper it is argued that corridor policies are designed to foster economic growth by coupling regions to GPNs. The resources underlying the tourism GPN, wildlife and wilderness landscapes, are place-bound. These resources therefore require access to infrastructure in order to untap their economic potential. Whether these developments are beneficial for the region depends on the degree of value that can be captured locally according to GPN researchers (Henderson et al., 2002). The questions addressed in this paper are therefore whether growth corridors succeed in

enhancing value creation from tourism in the hinterland and, more importantly, whether the created value can be appropriated by the local residents.

After introducing the conceptual framework and the methods, first the parallel evolution of conservation policy and infrastructure development is shown by applying a historical perspective. Second, traffic census data are analysed to assess whether infrastructure improvements have had the desired effect of fostering tourism-related traffic to the region. Third, it is investigated whether positive development effects from wildlife tourism reach local residents. This is done by presenting data from a recent household survey, all in all leading to a refined understanding of the effectiveness of growth corridor policy in fostering tourism-driven development.

5.2 Theoretical background

5.2.1 Tourism GPNs for regional development

In many countries of the world, wildlife tourism is regarded by conservationists and development planners as the ideal solution for sustainable development, stimulating the poor rural population and ensuring the preservation of ecosystems. Advocates of such an approach claim that the tourism industry is a rapidly growing sector, especially in developing countries, with the potential to diversify the economy in poor rural areas beyond agricultural production (Scheyvens, 2007). The tourism sector comprises different industries, for example accommodation, food and beverages, transportation, culture, sports and recreational services, thus ensuring a wide spread of indirect effects (Newfarmer, Page, & Tarp, 2018). However, critics warn that in many destinations the formation of tourism enclaves leads to the exclusion of local residents from the benefits (Mbaiwa, 2017), revenues are lost due to local leakages (Sandbrook, 2010) and tourism can have negative impacts on the ecological system (Stronza et al., 2019). There is also criticism that globalised tourism is vulnerable to external shocks, as the current pandemic has impressively shown (Lendelvo et al., 2020).

An increasingly popular tool used to tackle these uncertainties is the application of a GPN approach to tourism. Global production networks, a conceptual expansion of the GVC approach applying a network heuristic, is able to grasp the complexity of the industry and aims to analyse notions of power, embeddedness and value in globalised modes of production (Henderson et al., 2002). Previous research on tourism GPNs has shown how external shocks can lead to a restructuring of the industry (Nanda and Hargreaves, 2013). Murphy (2019) explores the tourism GPN in Zanzibar and finds that local enterprises are increasingly marginalised while foreign

enterprises capture large shares of the value. The role of gender and race in upgrading dynamics in the Kenyan safari tourism sector has been examined (Christian, 2016).

In the safari tourism GPN, global tour operators in outbound countries act as lead firms due to their capacities for bundling services, their direct access to the customer and their ability to govern the network (Christian, 2016). National tour operators act as destination management operators, bundling services like accommodation, domestic transport and excursions and selling these packages to the lead firm. Daly and Gereffi (2017) analyse different distribution channels in Africa, distinguishing between direct booking (the consumer books with a service provider), online packages (the consumer books via an online portal that uses global distribution systems to place bookings with service providers) and package booking (the consumer books with a travel agent, who purchases packages from GTOs that are bundled by inbound tour-operating companies). However, this specific network configuration differs considerably from a second form of wildlife tourism that plays a major role in Southern Africa: hunting tourism. In Namibia, hunting tourism is dominated by domestic actors that bundle, operate and sell the tour packages directly to customers in the outbound countries (Kalvelage et al., 2020, Gargallo and Kalvelage 2020).

Wildlife tourism shares a characteristic with other sectors linked more directly to natural resources, including extractive industries (Breul et al., 2018), fish production (Irarrázaval & Bustos-Gallardo, 2018) and acoustic guitar woods (Gibson & Warren, 2016). These GPNs have a specific notion of territoriality that affects the network configuration. Resource-driven GPNs are less flexible in spatial terms, as they depend on processes of production prior to human labour (Bridge, 2008). In contrast to other industries, in tourism the consumption occurs at the production site. In order to circulate the tourism product as a commodity, access to infrastructure has to be developed. This paper will show how the development of infrastructure access paced the way for the exploitation of wildlife and landscapes as a resource for the tourism industry.

5.2.2 Growth corridors and tourism development

Jaffee (2019) has argued that city-regions strategically use large-scale infrastructure investments to exploit and expand geographic and physical assets and in turn to capture economic benefits from GVCs. In Southern Africa, a multitude of development corridors have emerged during the past two decades in parallel to the ongoing economic integration of the Southern African Development Community (SADC). Backed by international organisations

such as the IMF and the World Bank, countries have increasingly adopted the spatial development instrument (SDI) of growth or development corridors (Dannenberg et al., 2018). The idea is to combine infrastructure development with targeted interventions to promote specific sectors and induce economic growth (Nogales, 2014). The formation of multi-stakeholder alliances aims to create a critical mass of investment in order to boost the economy in specific locations by co-location effects (ibid.). Beside other sectors like mining, agriculture and manufacturing, tourism is one of the industries that is expected to exhibit growth potential. The Maputo Corridor in South Africa, for instance, integrated tourism into its planning early on (Rogerson, 2001b). Transport infrastructure is a strong determinant of a destination's attractiveness and thus also of tourism-led development (Khadaroo & Seetanah, 2007).

Development corridors are both tangible and intangible: a network of roads, railways, pipelines and ports is accompanied by regulatory reforms with the aim of ensuring the free circulation of commodities, capital and people between production sites and economic hubs (Enns, 2018). While previous development corridors were based on envisaged neoclassical infrastructure effects for development, more recent approaches are oriented towards the GVC literature and aim to create a favourable environment for economic activities alongside the infrastructure development projects (Dannenberg et al., 2018). Thus, development corridors serve to connect resources in the hinterland of economic hubs to global production networks (Sen, 2014) and incorporate assets into flows of global finance (Hartmann et al., 2020). As Hesse (2020) states, logistics are "a vital component of the making of territories in a networked economy", as they are crucial for coordinating the flow of commodities, and a connection to or a disconnection from logistics can lead to variegated development outcomes. Spatial development initiatives come with a territorial claim: by expressing "desirable futures" of modernity, alternative uses of space are displaced (Müller-Mahn, 2019). This may have very tangible outcomes, as local residents can be displaced to make space for corridor development (Enns, 2018). To sum it up, current spatial development initiatives to install growth corridors or development corridors in resource-rich countries are strategies to gain access to and create value from resources in the hinterland.

5.3 Methods

The data for this paper are based on a mixed-method approach. Between August 2018 and August 2019, a business survey among Zambezi tourism enterprises, qualitative interviews with key stakeholders in the Namibian tourism industry, a traffic census and a household survey has been carried out. While this approach was useful to analyse the current situation, a review of

secondary sources, such as websites, policy reports and existing scholarly literature was used to add historical background and identify continuities and ruptures in the past tourism development. The business survey was used to collect data at enterprise level and the qualitative interviews with key actors in the tourism GPN conducted in parallel provided background information useful for interpreting the results. These findings were supplemented with household-level data to gain an understanding of the impact of tourism on residents. An innovative approach was needed to measure the effects of the infrastructure development, which led to the application of a traffic census. The most important reason for this multi-perspective approach is that tourism-related data at regional level in Namibia are scarce. Therefore, the triangulation of data made it possible to portray the complexity of the situation. Second, combining survey data with qualitative data is a good way to explore whether the findings can be upscaled in order to establish a regional pattern (cf. *ethnographic upscaling*, Bollig, Schnegg & Menestrey-Schwieger 2020).

The two main publications on the history of the Zambezi region (Kangumu, 2011; Lenggenhager, 2015) served as a point of departure to trace back the development of the corridor and the tourism sector in the region. A review of scientific and government reports from the 1980s and 1990s facilitated a reconstruction of the development of the region's tourism sector. Details on the corridor plans were added by analysing policy plans and reports.

A traffic census was used as a tool to measure the impact of the road on tourism. The corridor enters the region on the western edge and leads north to Zambia. There is another gateway to the Zambezi region in Ngoma, where the road crosses into Botswana. A team of 9 enumerators collected traffic data on three days in July/ August 2019 (July 29, July 31, August 2), four at the Wenela border post (2 for each direction), four at the Ngoma border post and one in Kongola (cf. figure 4). Between 6 a.m. and 6 p.m., the opening hours of the border posts, these teams counted all vehicles entering and leaving the region, collecting a variety of data on each vehicle: the origin of the number plate, number of passengers, branding on the car, the type of car, whether it was equipped with a rooftop tent and the cargo transported by trucks. The data were collected using Survey Solutions, a free-of-charge survey tool provided by the World Bank. The data collection form was installed on tablets on which the data were stored temporarily until they could be uploaded to the server whenever there was access to the network. This approach had several shortcomings: first, July and August are the peak of the tourist season in the region, so the counts are not representative of the whole year. Second, the census might include double counts, for instance cars that passed two data collection points. Third, on some

occasions when the traffic was dense, the enumerators were unable to collect all the information in detail due to time limitations. Fourth, classification as a tourist was more accurate at the border posts, where the enumeration team had the opportunity to apply a two-step procedure and consult bypassing travellers when entering the border control buildings, than in Kongola. A petrol station, a craft centre run by a conservancy and a café encourages many travellers to stop, especially tourists, but the chance of vehicles passing by is higher. Moreover, one enumerator was not enough to conduct the census while simultaneously verifying the information with the travellers. Therefore, an additional indicator used to identify self-drive tourists was the equipment of the vehicle with a rooftop tent, which is clearly visible. Fifth, our method was able to measure the flows of self-drivers who classify themselves as tourists, but this may imply that certain forms of tourism such as family visitors or business tourists were not covered. Although there is work to be done to refine the method, overall the approach proved successful to get a rough indicator of intra- and inter-regional tourism flows of safari tourists.

The household survey was conducted by the collaborative research centre "Future Rural Africa"(Meyer, M., Nshakira-Rukundo, E., Bollig, M., Börner, J., Dannenberg, P., Greiner, C., Heckelei, T., 2021). In Namibia, 652 households were surveyed, comprising 3271 household members. The sampling covered the entire Zambezi region without the urban centre (Katima Mulilo). The sampling strategy was a two-stage, stratified random sampling. First, all the rural enumeration areas were classified using three land-use categories: mainly conservation, mainly intensification and other. Out of a total of 292 enumeration areas, 45 were sampled randomly, from which 15 households were then randomly selected for surveying. The household representatives were interviewed using a questionnaire that covered a wide range of topics, including a section on the household's income, assets and expenditure. The interviews were conducted with the help of local assistants, who were able to translate the English questionnaire into the respondents' mother tongue.

The business survey gathered general enterprise data as well as information on employment figures, booking procedures, supply chains and expenditure. 33 of the 47 firms completed the factsheet. Finally, in order to detect causal explanations for the survey and census data, qualitative interviews were conducted with key stakeholders of the Namibian tourism industry during two fieldwork phases from August to November 2018 and from June to August 2019. The stakeholders included lodge operators, professional hunters and conservancy managers in the Zambezi region as well as tour operators and government officials in Windhoek (a total of

65 interviews). While all the information gathered served as background information for interpreting the data, only few of the interviews are directly referenced using the following codes: tour operator (TO), lodge manager (LOD), business association representative (BA), professional hunter (PH).

5.4 Results

In the following section, the findings will be presented starting with a brief historical overview of nature conservation and infrastructure in the Zambezi region. In a next step, the nexus of infrastructure development and the expansion of the tourism sector will be explored. Finally, it will be examined whether rural residents are included in the tourism-driven growth.

5.4.1 Accessing a resource frontier: corridor development and nature conservation in the Zambezi region

Since the early stages of colonialism, wildlife in the Zambezi had attracted travellers and hunters and hopes were pinned on the exploitation of its tourism potential. However, history reveals that the formation of a tourism industry did not unfold before three interrelated trends led to more favourable conditions: firstly, the transition from a conflict-affected region to a more peaceful region, secondly, nature conservation policy efforts to expand tourism and thirdly, the improvement of infrastructure connections.

Located in the north eastern periphery of Namibia, the Zambezi region has been regarded as a resource frontier ever since the arrival of European settlers to Southern Africa. Formerly known as the Caprivi strip, the motive for adding the region to the colonial acquisitions in South-West Africa was its presumed value as a transport corridor to the eastern parts of the continent. The dispossession of land and the establishment of white settler farms in Central Namibia was a rapid process starting in 1884. In 1907, the German colonial administration proclaimed that policing should be restricted to the "sphere of influence of the railway line or main roads" (Werner, 1993:193) which did not include the Caprivi. Between 1890 and 1909, the Eastern Caprivi strip functioned as "an El Dorado for shady characters, criminals or prisoners who went into hiding and a happy hunting ground for both part time and professional trophy hunters" (Kangumu, 2011:132). Game was abundant, as hunting was previously controlled by Paramount Chief Lewanika who lived in Western Zambia (Kangumu, 2011). Although Grootfontein was connected to the railway system in 1908, the Caprivi was still difficult to access, with the result that "the German Resident" in Katima Mulilo lived "as in exile" (Meyer, 1910:279). It was only in 1909 that Kurt Streitwolf, a German captain, was installed as

Kaiserlicher Resident in Schuckmannsburg in order to extend German colonial administration to the Caprivi (Streitwolf, 1911). However, this administration only lasted until 1914, when the Caprivi was seized by Southern Rhodesian troops and administered by the High Commissioner of the Bechuanaland Protectorate (Curson, 1947). Although the administration was formally handed over to the South-West Africa Protectorate authorities in Windhoek in 1930, the inaccessibility of the region made it necessary for administrative duties to be handled by the *Native Affairs Department* in Pretoria from 1939 onwards. By then the Caprivi could be accessed by train, bus or boat from Livingstone or Kasane, or by plane (Curson, 1947). As early as 1947 the development of a tourist industry was identified as a potential for growth in the region, besides the exploitation of timber, commercial crop farming and logistics on the Zambezi River (ibid.).

Under South African rule, the Odendaal Commission recommended government-driven development, which resulted in an upgrading of infrastructure, including the development of unpaved road connections to Western Caprivi and Ngoma (Zeller, 2009). The region gained military importance due to ongoing clashes with liberation forces in Angola and Zambia during the 1960s and 1970s (Lenggenhager, 2015), which led to further investment in infrastructure, for example the construction of the Mpacha military airport near Katima Mulilo in 1965. Parallel to the infrastructure development, conservation areas were declared: Western Caprivi was proclaimed a Nature Park in 1963 and in 1964 Katima Mulilo and its surroundings were granted the status of a nature reserve (Kangumu, 2011). However, the declaration of nature reserves was mainly motivated by security considerations (Lenggenhagger, 2015). While first resettlements for the creation of conservation areas date back to the 1930s, the establishment of a state forest and the development of two game reserves, Mamili (today Nkasa Rupara) and Mudumu, caused further relocations during the 1970s and 1980s (Bollig and Vehrs, 2020). The latter two areas were designated as nature reserves in 1989, setting a milestone for the creation of "an anthropogenic wilderness (ibid.: 34)" that serves the vision of an economically productive conservation landscape. During the 1980s, the centre of military conflict shifted westwards, away from the Caprivi, which permitted the emergence of the first camps and fishing lodges. The presence of military forces had caused a depletion of the game population, as officials had hunted excessively, both for sport and to trade ivory (Lenggenhager, 2015). Formalised trophy hunting came into being in 1988, when two concessions enabled PHs from Central Namibia to expand their business to the Caprivi. Yet revenues from trophy hunting remained limited and were estimated at 163,000 USD in 1994 (Barnes, 1995). Table 6 shows

the increase in the number of tourism establishments in the Caprivi. Prior to independence in 1990, the number of lodging facilities was distinctly low. The economic potential of the wildlife was not fully exploited until the region was connected to the rest of the country and nature conservation policies were introduced.

Year	1989*	1994*	2005*	2018**
Accommodation establishments in the Zambezi region	4	9	24	47

*Table 6: Number of accommodation establishments in the Zambezi region. *Suich et al., 2005;**Kalvelage et al., 2020*

Despite the political unrest triggered by the independence movement between 1994 and 1999, known as the "Caprivi conflict", the number of tourism establishments in Zambezi increased considerably until 2005 (Table 6). After independence, the construction of the TCC was planned to overcome regional disparities caused by the colonial system. The Zambezi region retained a peripheral status until the road connecting it with the rest of Namibia was tarred from the mid-1990s and officially opened in 1999 (Zeller, 2009). The construction of a bridge spanning the Zambezi River and connecting Namibia with Zambia in 2004 was a milestone of the corridor development, allowing access to the landlocked copper mines in northern Zambia and the Democratic Republic of the Congo (DRC). In the following years, the TCC was to be integrated into a transnational vision of infrastructure connectivity and was subsequently known as the WBNLDC.

In 2000, the Walvis Bay Corridor Group was established to manage four growth corridors connecting the port in Walvis Bay to the landlocked hinterland, including the WBNLDC. The members of the group are stakeholders from Walvis Bay, e.g. Walvis Bay Port Users' Association (WBPUA), logistics companies (Namibia Logistics Association) and Ministries. In addition to the development of "hard" infrastructure, like roads, rails, ports, electricity grid, water and ICT, the corridor plan drafted by the Australian consultancy AURECON foresees the instalment of complementary programmes such as truck stops, green-schemes, agri-hubs and logistics parks (cf. figure 3, AURECON, 2014). Furthermore, catalytic investments in key sectors (mining, energy, manufacturing, water, aquaculture, agriculture, property and tourism) are planned with the aim of inducing broader economic stimuli in selected hubs along the corridor. Due to its strategic location on the borders of Namibia, Zambia, Zimbabwe and Botswana, Katima Mulilo is highlighted in the national logistics strategy as possessing "the most viable and unique nodal development opportunities" (Walvis Bay Corridor Group, 2018).

Given its vicinity to nature parks and attractions, substantial growth potential is expected for the tourism sector (Ministry of Lands and Resettlement, 2015). Subsequently, the Tourism Investment Strategy encouraged the formation of a public-private partnership for tourism-related waterfront development in Katima Mulilo (Ministry of Environment and Tourism, 2016), which, however, failed to materialise due to maladministration and financial irregularities (https://www.namibian.com.na/148511/archive-read/Zambezi-waterfront-closes-doors).

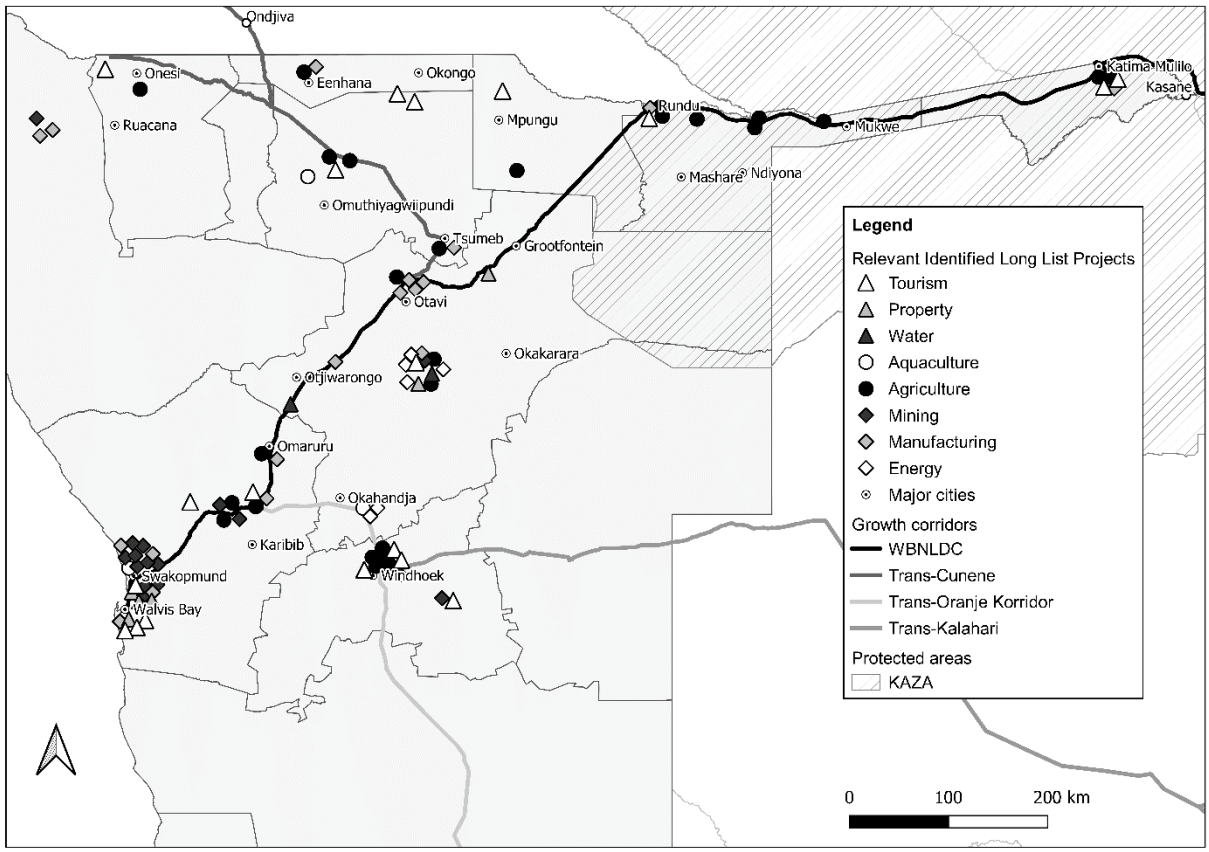

Figure 3: The WBNLDC corridor vision by AURECON: Relevant Identified Long List Projects. Source: AURECON 2014

Simultaneously to the improvement of infrastructure and the accompanying policies for fostering tourism, two newly introduced nature conservation policies, CBNRM and KAZA, expanded the previous efforts to conserve nature and resulted in the formation of a conservation landscape. CBNRM projects started to emerge across Southern Africa during the 1980s in response to more exclusionary conservation policies. In Namibia, CBNRM after independence was linked to the political agenda that aimed to overcome territorial disparities caused by colonial administration (Dressler et al., 2010). CBNRM policy permits communities to form a conservancy and grants them the right to market wildlife as a resource for the tourism industry

(Kalvelage, Diez, & Bollig, 2020b). The first conservancy to be established in Zambezi was Salambala in 1998, 14 more have emerged since then. The attention of international donors shifted increasingly towards the concept of trans-frontier conservation areas (TFCA) during the late 1990s and early 2000s (Büscher, 2010). Thus, an international alliance of donors and conservationists pushed ahead the establishment of the Kavango-Zambezi Tranfrontier Conservation area (KAZA), which integrates the Zambezi region into a wider network of nature conservation attempts in the neighbouring countries (cf. figure 5). After an initial memorandum of understanding in 2006, KAZA was finally launched in 2012. The stakeholders include international donors (e.g. German Development Bank, Swiss Agency for Development and Cooperation, World Bank), large conservation organisations (e.g. Peace Parks Foundation, World Wide Fund for Nature, African Wildlife Foundation) and government bodies (Dutch Ministry of Foreign Affairs, Southern African Development Community, ministries of the participating countries). The proclaimed aim of the KAZA initiative is "to sustainably manage the Kavango-Zambezi ecosystem (www.kavangozambezi.org)" and to transform the KAZA region "into a premier tourist destination in Africa" (https://tfcaportal.org/system/files/resources/KAZA%20TFCA%20Treaty_SIGNED.pdf). To this end, administrative units are formed with the aim of working towards a harmonised legal framework. Today, 54 % of the Zambezi region is protected to varying degrees, including national parks, communal conservancies, a state forest, tourism priority areas and wildlife corridors (own calculation). Continuing a strong critique of earlier conservation approaches, these policies are not undisputed: research has revealed discontent among smallholder farmers regarding harvest losses caused by wildlife, residents claim the distribution of conservancy income does not reach individual households and that the designation of areas for tourist activities negatively affects agriculture (Hulke et al., 2020).

The number of accommodation establishments in the Zambezi region have nearly doubled from 2005 to 2018 (table 6), in 2005, 24 establishments catered for an estimated 31,000 guests in the Zambezi region (Suich et al., 2005). By 2018, the number of businesses had risen to 47 (Kalvelage et al., 2020), although the total number of guests per year is not clear. In an analysis of border post data, the Ministry of Environment, Forestry and Tourism (MEFT) counted 1,499,442 arrivals to Namibia in 2017, with 580,519 arrivals reporting that their trip was for holiday purposes (cf. table 7). This figure is confirmed by data collected by the Hospitality Association of Namibia (HAN), which recorded 588,086 guests in 2017. The 27 enterprises that participated in the business survey reported 26 beds on average. By applying this figure to

the missing 20 values, we estimate that 456,980 overnight stays can potentially be sold per year. The average occupancy rate of the surveyed enterprises was 41.42 % (HAN data suggest an occupancy rate of 50.21 % for northern Namibia and 48.64 % nationwide), which means that 189,281 overnight stays were actually sold in 2017. The average duration of a stay in Zambezi hospitality enterprises was 3.15 days. Dividing the number of overnight stays by this factor yields an estimated 60,125 visitors in 2017, a figure that seems realistic when it is taken into consideration that both the number of establishments and the number of visitors have doubled since 2005. About one third of tourism in the region is domestic, while Europeans account for the largest group among the foreign visitors (table 7).

	Tourist arrivals in Namibia*	**Tourism arrivals at north-eastern border posts****	**Visitors in Zambezi accommodation facilities*****	**Visitors of Bwabwata National Park, eastern gate******
Total no. of visitors	830,468	127,851	60,125	10,900
Namibian	29%	*No records*	34%	17%
RSA	12%	12%	6%	13%
Other African	2%	40%	20%	2%
European	48%	30%	24%	56%
US	4 %	5%	6%	8%
Other countries	5 %	13 %	10 %	8 %

Table 7: Visitor counts in 2017[1].

Against the background of an overall increase of tourism arrivals in Namibia (Kavita and Saarinen, 2016) and the increasingly peaceful conditions in the Zambezi region after the end of apartheid, the impact that improved infrastructure access and targeted nature conservation policy interventions have had on the tourism sector is not clearly identifiable. In order to examine the correlation between growth corridor policies and the development of the tourism sector, the remaining two sections of this paper therefore aim to clarify first, whether growth corridors succeed in enhancing value from tourism, and second, whether the value created via tourism reaches rural households in the region.

5.4.2 Do tar roads bring tourism? The territoriality of a growth corridor

Qualitative interview data with tourism operators suggest a causal relationship between infrastructure improvements and the expansion of the tourism sector in the Zambezi region. However, findings of the traffic census indicate that positive effects exist, but unfold along the central nodes of the corridor.

[1] *HAN data, **Own calculation, based on MET 2019 ***estimate based on business survey, ****Suswe Gate, Bwabwata National park, from June 2018- June 2019.

Prior to the tarring of the TCC, tourism logistics were challenging in the Zambezi region: *"we started by doing logistics around the Caprivi. Because […] roads were very bad. I mean a lot of them have been tarred since we opened, and people were scared of coming to north with self-drives because the cell-phone signal was bad […]* (TO2)*".* The improvement of the infrastructure has increased the potential of tourism in the region: "*Well, I guess, since the Trans-Caprivi tar road was finished [tourism has improved], from Rundu to Katima was gravel, a nightmare, 500 km gravel, straight ahead* (TO1)". The good condition of roads in Namibia has been used to market Namibia as a self-drive destination (BA1) and the share of independent travellers has been growing steadily: "*Twenty years ago, nobody dared to come here except by bus. Because they said, you know, I get on a bus, I have a driver who takes me everywhere safely. But at some point they realized, you know, Namibia is so easy to travel. The roads are actually good, the tarred roads* (TO3)". This development has led to an overall increase in traffic, as "b*efore there was a bus with 30 people, now there are 15 cars with two people* (BA1)". Not only tour operators, but also hunting outfitters highlight the importance of infrastructure quality for business. Although most hunting clients arrive at the airport in Katima Mulilo, the road has a crucial function for the acquisition of spare parts and food supplies from Windhoek (PH1).

However, the Zambezi region remains simply a stopover on the way to the main tourist attractions of Chobe National Park in Botswana and Victoria Falls in Zimbabwe: "*Up in the Zambezi, you can now drive from Rundu to Katima everything on tar and even the loop down there in the corner is already tarred. Did it bring more tourism? It is of course faster tourism* (BA1)". Stakeholders in the region aim to overcome this shortcoming: "(…) *we are working hard with all the accommodation and other bodies here to keep people in the Caprivi for long (…). So our focus has shifted from just that to trying to get more activities and accommodation streamlined to get people to stay here for four days or a week* (TO2)*".* On the one hand, infrastructure improvements have facilitated tourism activities in the region which has led to an increase in tourism-related traffic. On the other hand, challenges remain for the domestic tourism industry to increase the duration of stay.

These findings are supported by traffic census data. Traffic was classified into three categories: tourism, cargo and other. The first category includes all vehicles with the markings of a tourist car rental, tour buses and self-drive tourists. The second category includes all trucks and cars with a company sign or logo. The remaining vehicles were classified as "other".

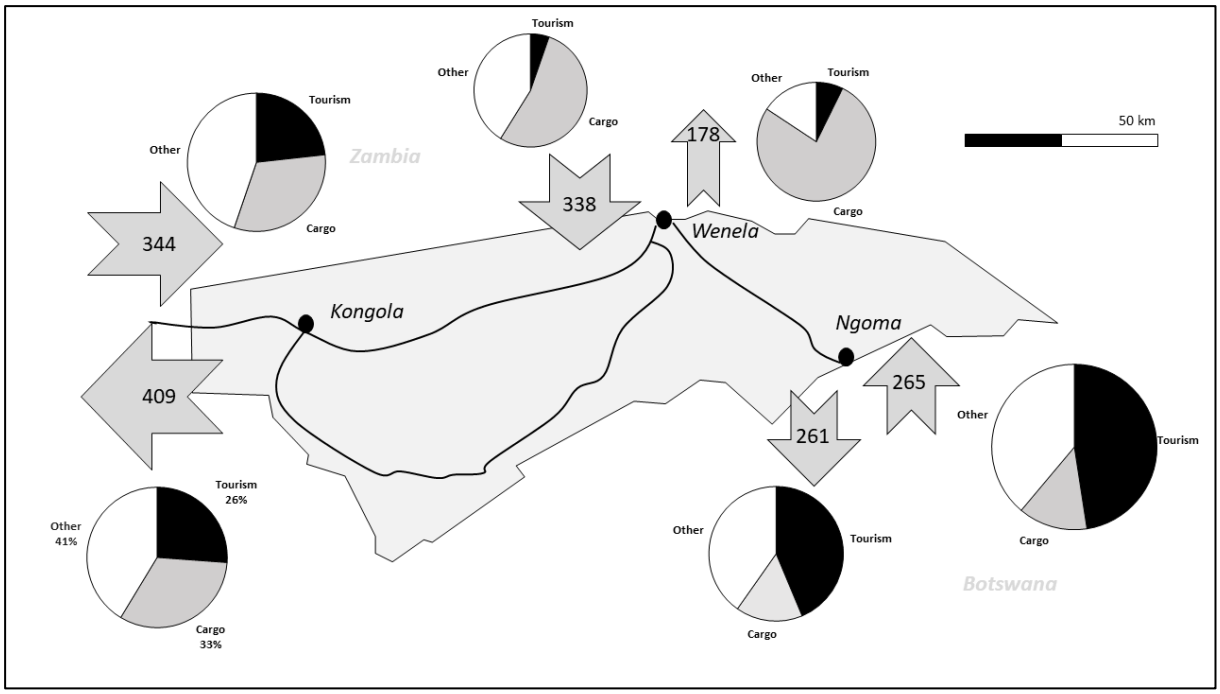

Figure 4: Results of the traffic census, number in arrows shows total N.

Figure 4 shows the traffic flows on three days at the different posts. A total of 1795 vehicles were recorded, with tourism-related traffic accounting for 25 %, cargo and other business for 36 % and other traffic for 39 %. While Wenela, the border post close to Katima Mulilo, did not exhibit a significant number of arrivals and departures, the share of tourist-related traffic was considerably higher in Ngoma. The poor condition of the roads prevents tour operators from offering tours to Zambia (TO1). The quality of the infrastructure is a crucial cost factor for tour operators: *"I think right now [tour operator] is replacing the shock absorbers on every sprinter [Mercedes Sprinter] after every trip, it costs N$ 7,000 every time, so there, infrastructure is very, very important (TO1)*". Therefore, traffic at Wenela border post is dominated by freight traffic. Freight traffic to and from the port in Walvis Bay to the mines in Zambia and Congo is significant (LOD1). At Wenela, 76 trucks travelled south with 7 containers, 33 loaded with copper, 14 with timber products and 22 with other cargos. At Ngoma, a significantly higher share of tourism related traffic was identified, which is not a surprise as the classic tourism route in Zambezi leads to Chobe National Park in Botswana and further onwards to Victoria Falls in Zimbabwe. The Victoria Falls, however, would also be accessible via Livingstone on the Zambian side. The bad condition of the road inhibits tourism in this part of Zambia.

In addition, the origin of the vehicles has been recorded as illustrated in Figure 4. 59 % of the vehicles were registered in Namibia, followed by Zambia (20 %), RSA (11 %), Botswana (7 %) and other origins (4 %). The total number of vehicles registered in the Khomas region (479)

surpassed even Zambezi (187) by far, followed by the neighbouring Erongo region (142), where the port city of Walvis Bay and the tourist resort of Swakopmund are located. It is striking that the vast majority of the number plates were from Windhoek and the neighbouring Erongo region, the country's economic powerhouse. While this analysis may serve as a rough indicator of the territoriality of the corridor, company headquarters identified by the markings on vehicles can give some indication of how far the impact of the corridor development reaches. The majority of the companies identified are located in the towns along the corridor: Windhoek accounts for 88 companies, followed by Ndola (59), Lusaka (57), Swakopmund (28) and Walvis Bay (22). Most of this traffic consists of trucks transporting primary goods from the copper mines in Northern Zambia and Southern DRC to the coast in Namibia. Windhoek acts as a gateway city for tourism and is as well home to a large number of tourism companies: *"(...) the main tourism actually starts here in Windhoek. The people fly mainly all to Windhoek or to Walvis Bay and from here the whole tours start* (BA1)". 22 vehicles from tourism companies based in Katima Mulilo were recorded, as well as vehicles from companies in Kasane (9) and Livingstone (7). These findings indicate that positive growth effects from tourism mostly unfold along the central nodes of the corridor, since the majority of companies is based there.

The corridor serves primarily as a transport route from the resource extraction sites (the copper mines in Zambia and DRC) to Windhoek and the port at Walvis Bay. Yet, during the high season, large shares of the traffic in the Zambezi region is tourism-related. Growth in Zambezi region is however limited to accommodation, whereas other segments of the tourism industry, such as tour operators or car rentals, are based in Windhoek and Kasane. Moreover, the Zambezi region serves merely as a stopover for tourists, as interview data and the low number of visitors in the national park indicates (table 7). The question arises as to whether the policy objectives of promoting growth in rural areas are being met, in other words, are rural households benefitting from tourism?

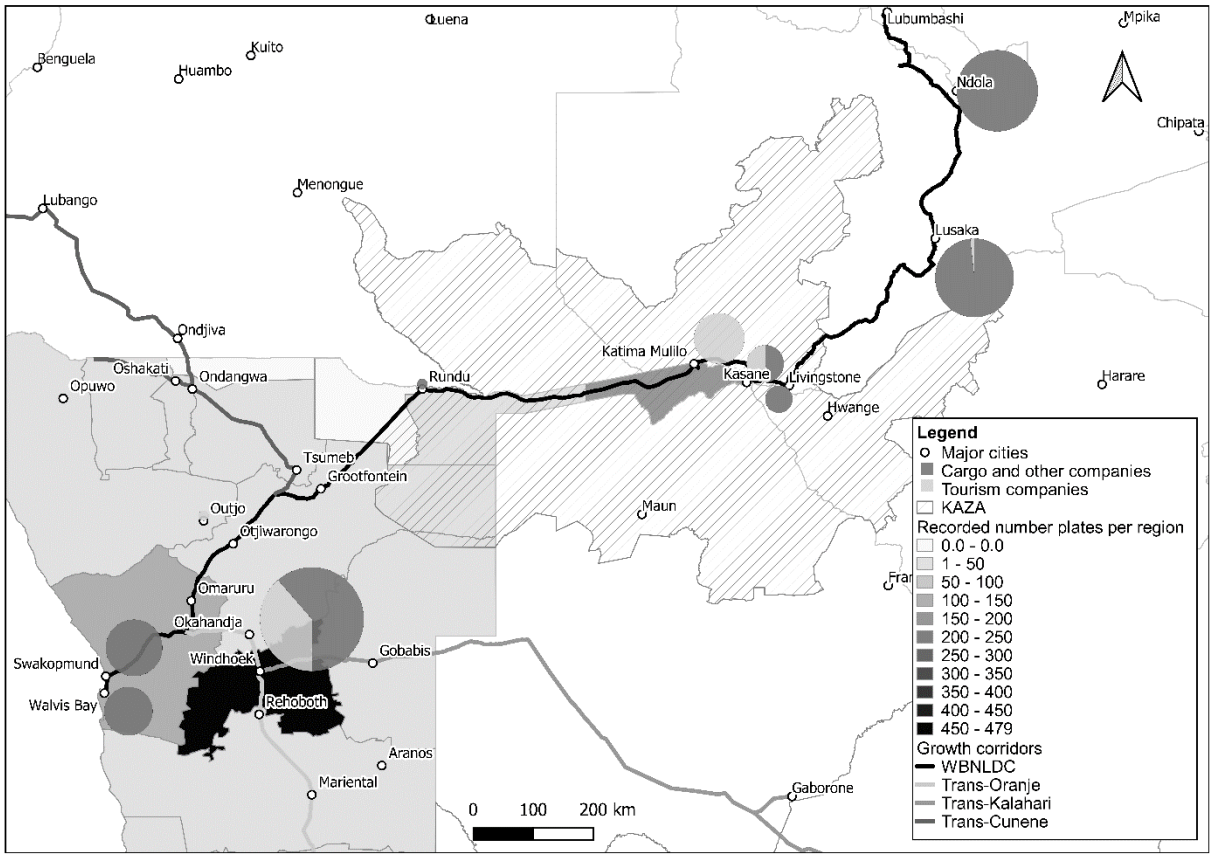

Figure 5: Distribution of number plates and company headquarters along the corridor, based on traffic census data.

5.4.3 Who benefits? Local effects of a growth corridor

From a GPN perspective, regional development is closely bound to the ability of regions to capture value. A previous study had found that conservancies as local institutions are able to enforce value capture at local level, with roughly 20 % of the tourism value remaining in conservancies (Kalvelage et al., 2020). However, other literature suggests that conservancies are prone to elite capture (Silva and Mosimane, 2014) and households actively participating in the conservancy benefit more (Bandyopadhyay et al., 2008). Hence, value capture at conservancy level cannot be equated with an inclusive development strategy for large parts of the population. To assess the effects of tourism on household income, household survey data are analysed.

As tourism is the primary source of funding for conservancies (over 95 %), tourism-related benefits for rural households in Zambezi can be classified as direct benefits (through employment at a lodge/ hunting camp or tourism business activity) and indirect benefits via conservancies (employment at a conservancy, cash pay-outs and other benefits, cf. table 8).

There are additional indirect benefits that are not revealed by the data, for example the revenues generated from the supply of food and building material to lodges. However, a previous analysis found that the effect of local procurement is small (Kalvelage et al., 2020).

	Direct benefits	**Indirect benefits via conservancies**				**Total**
Benefit	Employment at tourism enterprise	Employment at conservancy	Cash pay-out to households inside conservancies (last 12 months)	HWC offset-payments to households inside conservancies (last 12 months)	Non-monetary benefits for households inside conservancies	
% of total workforce/ households (*No. of respondents*)	2.83 % (*41*)	1.04 % (*15*)	18.3 % (*64*)	3.15 % (*11*)	12.89 % (*45*)	
Average amount (per month)	1,614 N$	1,196 N$	1,168 N$1	1,326 N$		
Total amount (per year, whole rural Zambezi population)	15,105,023 N$	4,095,890 N$	1,310,864 N$	277,550 N$		**20,789,327 N$ (5.5 % of total household income)**

Table 8: Direct and indirect tourism-related benefits, Zambezi region. Household survey data.

In the survey sample, it was not possible to identify any entrepreneur with a direct link to tourism. A previous study found that a lack of industry-specific skills, capital and a network constitute entry barriers for local entrepreneurs (Kalvelage et al., 2020). However, 41 respondents reported that they were employed by a tourism enterprise, which represents 2.83 % of the total workforce in the sample (1447, aged between 18 and 60). The average monthly wage is 1,614 N$ (114 USD). This low figure can be explained by the fact that the respondents are mainly employed in low-wage jobs, e.g. as waiters/waitresses, security guards or bartenders. Interestingly, the vast majority of the employees live in close vicinity to their place of work (97.5 %). According to the Zambezi 2011 census, the rural population figure for Zambezi is 62,234. Given that the sample represents 5.256 % of the population, the rural population of Zambezi earns roughly 15,105,023 N$ in annual wages from the tourism sector.

Projecting the number of jobs (41) to the whole population indicates that tourism enterprises in Zambezi provide 780 jobs, both formal and informal. Naidoo et al. (2016) found that lodges employ between 20 and 50 staff members and hunting camps 8-10. Given the total of 47

accommodation facilities and 11 hunting operators in the Zambezi region (Kalvelage et al., 2020), this would suggest an employment potential of between 1028 and 2460 employees in the tourism sector. However, the business survey includes smaller enterprises in urban areas, such as backpacker hostels with a considerably lower job creation effect. The finding based on the household survey therefore appears more accurate.

We add the indirect benefits resulting from the conservancy structure to these figures. The survey found that 15 individuals (or 1.04 % of the overall workforce) are employed by a conservancy, e.g. as game guards, enterprise officers or managers. The average monthly wage is 1,196 N$ (85 USD), which adds up to a total contribution of household net income amounting to 4,095,890 N$ (250,000 USD) per year for the whole population. Furthermore, 75 households reported having received payments from a conservancy, either as part of a benefit-sharing programme (64) or as a Human-Wildlife Conflict (HWC) offset payment (11). These payments amount to 1,310,864 N$ (79,000 USD, cash pay-out) and 277,550 N$ (17,000 USD, HWC offset payments). 45 households reported having received non-monetary benefits, the most common being meat, electrification programmes and community funds (however, this is not included in the analysis). Totalling 20,789,327 N$ (1,471,850 USD), benefits derived from tourism for the Zambezi population as a whole represent 5.5 % of the net household income. In comparison, the Basic Social Grant is a monthly unconditional allowance of 1,100 N$ paid to all residents over the age of 60 (https://www.social-protection.org/gimi/RessourcePDF.action?id=53959). Our sample found n=388 household members aged 60 or older. Projecting this number to the whole population, we estimate that in the rural Zambezi region, 7382 elders receive a total of 81,202,000 N$ (5 m USD) per year, which four times higher than the household income derived from tourism.

Surprisingly, these figures are not in line with the results of an earlier report (Kalvelage et al., 2020) which is based on the annual financial reports from the conservancy managements that are collected by The Namibian Association of CBNRM Support Organisations (NACSO). While these self-declarations report that direct cash pay-outs to members total 400,000 USD in 2017, household survey data suggest a total amount of 96,000 USD in 2019. Possible reasons for this discrepancy could be the methods used, that the data were collected in different years or that there was a shift in policy from direct cash pay-outs to investments in development projects. However, as the figures differ quite strikingly, there is a need for further research. Despite the overall growth of the tourism sector partly facilitated by improved accessibility, the

data indicate that the intended benefits of conservation do not fully reach the conservancy members. In general, value capture from tourism at community level in Zambezi is low.

5.5 Discussion and Conclusion

This paper aimed to examine the questions as to whether or not growth corridor policies fulfil the promise of fostering tourism in peripheral regions and, if this is indeed the case, whether local residents appropriate value from it. While factors such as the overall growth in tourism arrivals in Namibia and increasing political stability after apartheid had an impact, data suggest a link between a tandem of infrastructure development and tourism-oriented policies on the one hand, and increased value creation from tourism in the region on the other hand. Yet, the promises of tourism-driven development reach only a very limited number of rural residents who are employed in low-wage jobs and/ or receive payments from conservancy managements: the household survey data presented above shows that less than 4 % of the respondents are employed in tourism or conservancies and in total, tourism contributes 5,5 % to the household income of the rural population in the Zambezi region. The traffic census data imply that tourism enterprises from the tourism hubs Windhoek and Kasane are able to capture shares of the value, however, this requires further investigation. Despite the limited direct household benefits, the tourism industry expands the national tax base, which in return, benefits households in Zambezi through social transfers, e.g. the Basic Social Grant.

The brief historical background makes clear that infrastructure development and the creation of a conservation landscape played a crucial role in the economic opening of the Zambezi region. This process can be divided into three phases: first, the colonial era, when Zambezi possessed a peripheral status and was poorly connected to the rest of the country. During this time, wildlife was regarded as a potential resource, but its exploitation was limited to largely uncontrolled hunting activities. Second, under the apartheid regime, Zambezi was linked to the urban centres of South Africa and Namibia. The creation of nature reserves laid the groundwork for the development of a tourism industry. Tourism in the region was still in its infancy, but expanded when conditions became more peaceful. Third, after independence, major efforts were made to improve the infrastructure connecting the region to Central Namibia. Simultaneously, an alliance of national government bodies, local NGOs, global conservation organisations and foreign donors pushed an agenda of nature conservation, resulting in CBNRM policies and the creation of KAZA, thus cementing the region's status as a conservation territory while securing the resource base for the wildlife tourism sector.

In Namibia, nature conservation and growth corridor policies alike carry the promise of benefitting rural livelihoods through the commodification of nature and increased tourism. The WBNLDC case indicates that growth corridors serve as a vehicle to bundle existing regional, national and international policies and streamline them to a transnational vision of regional development. In this way, growth corridors can contribute to enhance value creation in the hinterland. While the tangible aspect of the corridor, the tarring of the road, was positive for tourism development in Zambezi region, the intangible aspect, the accompanying investment programs, have been less successful. The prestigious strategic investment in the tourism sector, the waterfront development in Katima Mulilo, did not bring the expected results. More important for the wildlife tourism sector are the complementary nature conservation policies KAZA and CBNRM, since these policies create the resource base for wildlife tourism, wildlife and wilderness landscapes.

It is common ground in southern African nature conservation debates that, if the loss of wildlife habitat is to be prevented, livelihoods of local residents need to benefit from wildlife (Roe et al., 2009). Yet, our results suggest that in the Zambezi region, rural residents only marginally benefit from tourism. This confirms findings from other case studies, e.g. from Botswana (Mbaiwa, 2017) or Uganda (Sandbrook, 2010). It is an interesting question as to why that is and points to three issues that require further exploration: first, the configuration of the tourism industry, including its spatial organisation and ownership patterns; second, the practices of value distribution among actors of the GPN; and third, the examination of entry barriers that hinder local residents from participating in the industry other than in low-wage jobs. Since wildlife tourism cannot be upscaled infinitely without damaging the natural environment (Stronza et al., 2019), tourism development should be considered a stepping stone towards a more diversified future. It is worth exploring how tourism income can be used as a catalyst to stimulate other economic activities that are in line with nature conservation. All in all, more work needs to be done to identify ways in which community business wildlife tourism partnerships can serve as a tool to achieve sustainable growth in conservation areas (Carbone, 2005; de Boer and van Dijk, 2016). However, these endeavours should not obscure that other approaches to nature conservation exist that do not build on its commodification via wildlife tourism (see Büscher & Fletcher, 2020).

Integrating these findings into a broader debate on GPNs, it can be postulated that infrastructure development is a key for value creation in nature-based GPNs. Development of infrastructure access paced the way for the exploitation of wildlife and landscapes as a resource for the tourism

industry. The territorial articulation of the production network is impacted by infrastructure development, which is, however, a double-edged sword: while on the one hand, improved access to the region can enhance value creation, reduced travelling time on the other hand can cause the transfer of value to Windhoek and beyond. In addition, infrastructure development is an essential, but not the only condition for value creation. In nature-based industries, institutions that socially construct nature as a resource are crucial, as it is exemplified here by the utilitarian policies of nature conservation. It is therefore worth investigating resource-making by actors of nature-based GPNs to understand who benefits from the commodification of nature and where development effects unfold.

To conclude, a combination of infrastructure development with tourism-oriented policies can foster value creation from wildlife tourism in remote regions. However, the marginal gains realised from tourism at the household level challenge the common narrative of the combined nature conservation and rural development success through CBNRM policy. Likewise, while the mere infrastructure development inherent in growth corridor policy appears to be successful, more needs to be done to generate growth effects in the hinterland. To be an effective tool for regional development, both policies need to ensure that the sectors they promote are embedded in the local economy to achieve the inclusion of the local population into economic growth.

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6 Who benefits from hunting tourism? Resource-making and value distribution in Zambezi, Namibia

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Abstract:

The post-apartheid government in Namibia allows for the regulated harvesting of individual animals for hunting tourism. The hope is that such an approach will incentivise residents to desist from unregulated hunting and the expansion of settlements into wildlife areas. However, there are ongoing debates about firstly, the utilisation of wildlife as a resource for the hunting industry and secondly, the distribution of value among actors that participate in the commodification of nature. This contribution applies a global production network (GPN) approach to examine the role of institutions in resource-making and value distribution. Based on archival research, qualitative interviews and quantitative data, the contribution looks at the historical and current practices of hunting in the Namibian Zambezi region and reveals the role of the state in three resource-making processes: the generation of an ecological surplus, the determination of the ecological surplus and the establishment of market relations. Communal conservancies are able to capture 51 % of the value of a hunting trip, the private sector reaps 40 % and the national government raises 9 % through taxation. These findings shed light on the role of institutions in the commodification of nature, a topic that has received little attention from GPN researchers.

Keywords: Tourism GPN, resource-making, value distribution, CBNRM, hunting tourism

6.1 Introduction

While large mammals are at the edge of extinction in many parts of the world, in southern Africa stable wildlife populations have survived the times of European colonisation. After the end of the apartheid regime, Namibia adopted the community-based natural resource management (CBNRM) policy to safeguard wildlife habitats and promote rural development (Mosimane and Silva 2015). This utilitarian approach to nature conservation follows the rationale of sacrificing individual animal's lives to ensure the survival of animal populations and provide economic benefits to humans (as opposed to deontological or virtue theory approaches, Ghasemi 2020). Therefore, the controlled harvesting of the ecological surplus of wildlife populations through hunting tourism is legalised. The prospect of tourism income incentivises the formation of conservancies, and as a consequence, rural communities contribute to the stabilisation and increase of wildlife populations in alliance with the global hunting tourism industry (Gargallo and Kalvelage, 2020). The Zambezi region in the north eastern corner of the country is one of the former homelands that has become a popular destination for conservationists and trophy hunters alike since the introduction of the CBNRM policy (Kalvelage, Diez, and Bollig 2020). Hunting tourism is subject of a heated debate, especially when emblematic wildlife from the southern hemisphere is involved.

One point of contention is the comprehension of wildlife as a natural resource that can be economically utilised. In contrast to safari tourism, which seems to be largely aligned with ethical considerations of the global conservation community, the commodification of nature through the hunting tourism industry causes recurrent outrage when individual animals are killed (see for example the killing of "Cecil the Lion" in Zimbabwe in 2015 or the elephant "Voortrekker" in Namibia in 2019). While the ethical implications of trophy hunting are debatable (Batavia et al., 2018), we are more interested in the interplay between the private sector, the government and other institutions on different spatial scales that transforms wildlife into a resource for the hunting tourism industry. In agreement with authors from economic geography (e.g. Bakker and Bridge 2006; Irarrázaval 2020), we perceive resources as a social-ecological construct. Resource-making determines what part of nature has a utility to satisfy human needs and thus, is produced as a resource. By examining the role of institutions in the development of these socio-ecological relations, light will be shed on the question of who commodifies nature and for what purpose.

A second point of contention is the distribution of benefits derived from these activities. If hunting tourism is to be a successful regional development strategy, it is crucial to ensure that

the derived gains benefit local residents (Kimario et al., 2020). While proponents emphasize hunting tourism's potential as a driver of regional development in peripheral areas, research suggests that in conservation areas tourism has limited impact on local economies due to leakages (Sandbrook, 2010), although positive examples exist (Carius & Job 2019). Previous studies have found that communal conservancies, are able to capture roughly 20 % of the value associated with hunting and safari tourism in Namibia (Kalvelage et al. 2020; Schnegg and Kiaka 2018). Despite this considerable share captured by local institutions, tourism contributes only 5 % to the overall household income of rural residents in Zambezi (Kalvelage, Diez, and Bollig, in press). It remains an open question how the remaining value is distributed among the participating actors and what the role is that local, regional and national institutions play in this value distribution.

We argue that the missing link here is the role of institutions that govern both processes, resource-making and value distribution. This is relevant because ultimately, institutions largely determine the regional development outcomes of the commodification of nature.

We derive this argument from the growing body of literature on global production networks (GPN). The GPN framework has gained popularity for the analysis of regional development in many industrial sectors, including tourism (Christian, 2016a). The network heuristic explicitly integrates institutions as active agents and does not reduce their impact on global production to the analysis of governance or policies. Despite the progress made in the last years (Alford and Phillips 2018; Horner 2017; Smith 2015), the theorization of the state in GPNs remains a challenge (Coe and Yeung 2019). Similarly, there is an insufficient theoretical engagement with the role of nature in GPNs, e.g. the social-ecological effects of GPN integration (Dorn and Huber 2020). Previous GPN research indicates that institutions play a role in the creation and distribution of value (Klooster and Mercado-Celis 2016). We argue that in nature-based GPNs, the construction of nature as a resource is a prerequisite for value creation, and institutions have a decisive role in both processes, in resource-making and the distribution of value among actors of the GPN.

Our study of hunting tourism in the Zambezi region will help to establish this claim. The following questions will be asked: Which resource-making processes transform wildlife into a resource for the hunting tourism industry in the Zambezi region? What is the role of institutions in the resource-making process? And how does the institutional framework affect the distribution of value derived from the activities of the hunting tourism GPN? To answer these

questions, we incorporate a historical perspective and analyse the evolution of trophy hunting in the Zambezi region since the colonial era. As we will show, the institutional arrangements change over time and, consequently, so do the ways in which wildlife is commodified and value distribution is organised.

The paper is organised as follows: After introducing the methodology, a brief historical overview will analyse the construction of wildlife as a resource in the past. Following, current wildlife production in the Zambezi region will be conceptualised as a resource-making process involving government agencies, private enterprises and local institutions. In a next step, the distribution of value among different actors of the GPN will be presented. Finally, the conclusion will embed the findings into a broader discourse on GPNs.

6.2 Conceptual framework

Resource-making in nature-based GPNs

In economic geography, the understanding of resources as a compound of material things and human skillsets is well established. Far from being a novel thought, the key idea of resource-making has been prominently expressed by economic geographer Zimmermann (1933): "resources are not, they become". What counts as a resource, therefore, "depends on the interaction between biophysical heterogeneity (…) and social institutions" (Bakker & Bridge 2006, 9). Only if material entities produced by biophysical processes have a utility to satisfy human demands they count as resources. This perspective highlights the interaction between social institutions (Bakker & Bridge, 2006) and the materiality of the resource (Bridge and Bradshaw 2017). Recent thoughts on resource materialities in human geography and anthropology go even further, Richardson and Weszkalnys (2014) for example highlight sociality in relation to resource-making. Resources create sociality as neo-materialist approaches have forcefully shown (LeCain 2015). This refers to the observation that natural resources "are not only socially produced, but also produce novel social configurations (Richardson and Weszkalnys 2014, 9)", such as the emergence of new social groups around the newly bred Longhorns in the American Mid-west in the mid 19th century or the establishment of new hierarchies around the specific demands of the silk worm in medieval Japan (LeCain 2015).

We share a similar view to Hewitson and Sullivan (2021) when we state that a recognition of these social-ecological interrelations can enrich research on the appropriation of nature and the variegated development effects that this process causes. By focussing on the socio-ecological

relations that make nature a resource, the biophysical processes that occur prior to the circulation of a commodity are acknowledged. In this way, the resource-making perspective can contribute to understand the production process of a commodity. Moore (2011) has convincingly demonstrated how wildlife can be commodified in various ways, depending on the relation between society and nature: while there are approaches that commodify the direct use value of the "biophysical" elephant, i.e. ivory harvesting, hunting or safari tourism, another form of commodification involves the consumption a "socially produced preservationist elephant". Hence, resource-making (the interaction of social institutions with the materiality of the resource) results in different commodification strategies and thus different beneficiaries of commodification. We argue that it is useful to analyse socioecological relations that make a resource to understand how this process results in patterns of value distribution among actors participating in the resource-making process. This in turn allows to contribute to the broader questions as to how nature is appropriated by GPNs and who benefits from such a commodification of nature.

Despite the fact that nature is the beginning of all commodity production, GPN research neglects questions dealing with the appropriation of nature (Baglioni and Campling 2017). This neglect reflects the general emphasize on the circulation of commodities in the debate, whereas the "political-economic and socio-ecological dynamics at points of production (Baglioni and Campling 2017, 2)" are analysed to a lesser extent. Similarly, scholars have observed that the "material resources underpinning commodity production" (Gibson and Warren 2016, 434) are often overlooked in GPN research and the role of material resources in shaping the global dynamics of industrial organisation is unresolved (Gibson and Warren 2016, 434). More recently, researchers have looked into extractive industries and thus highlighted the territoriality of GPNs (Breul, Revilla Diez, and Sambodo 2018) and the role of the state in strategic coupling processes (Bridge 2008). In a case study of natural gas production networks in Peru and Bolivia, Irarrázaval (2020) finds that the socio-ecological relations that construct the resource are crucial for the network's articulation between global and local firms. In distinction to extractive industries, in the cases of tuna (Havice and Campling 2017), salmon (Irarrázaval and Bustos-Gallardo 2018), wood (Murphy 2011) and fur production (Kleibert, Hess, and Müller 2020), renewable resources significantly shape the configuration of GPNs. Another example of a nature-based GPN is the wildlife tourism industry. In a study of Kenya's safari tourism industry, Christian (2016) maps the production stages of the tourism product and finds that lead firms "are typically global tour operators" (Christian, 2016, p. 29). In contrast, research on hunting

tourism in Namibia shows that the number of intermediaries is limited and most trips to Namibia are sold directly by the professional hunter (Gargallo and Kalvelage 2020).

Value distribution and the role of institutions in GPNs

Value distribution in GPNs is closely linked to the role of institutions. The GPN approach, by applying a network heuristic, explicitly aims to include extra-firm actors into the analysis, e.g. supra-national organisations, national government agencies, development agencies or local authorities (Coe, Hess, and Yeung et al. 2004). In the governance of natural resources, powerful NGOs and scientific organisations can play a crucial role (Neimark et al., 2016). All these organisations in GPN terminology are considered 'regional institutions', since they have an impact on the anchoring of GPNs in a region. While Coe et al. (2004) claim that informal institutions such as localised norms and conventions are included in the concept of regional institutions, Hughes et al. note that there is need "for a deeper consideration of institutional context and cultural influence (2015, 252)" in GPN analysis. From their viewpoint, regional outcomes of GPN integration cannot be regarded separately from the historical and cultural context, a thought that Neilson and Pritchard coined as the "stickiness of places" (2009).

The role of regional institutions is particularly highlighted in the process of strategic coupling. By promoting the assets of a region to global lead firms, regional institutions such as state agencies or business associations actively couple to GPNs to achieve regional development (Yeung 2015). Regional institutions negotiate with lead firms on the terms of market entry. These negotiations result in different degrees of value capture, depending on control and power dynamics between regional institutions and lead firms (Coe et al., 2004). While the GPN is embedded into a multi-scalar regulatory system (Coe et al. 2008) the nation state continues to play the role of an inter-scalar mediator and influences the processes of value creation and value capture (Coe & Yeung, 2019).

The power of nation states is particularly important in GPNs based on natural resources. Resource-driven GPNs depend on biophysical processes of production that occur prior to human engagement (Bridge 2008) and are therefore spatially less flexible. This territorial imperative implies that they are "embedded within state structures to a much greater degree" (Bridge 2008, 413). Despite the general recognition of institutions in the articulation of global production, Smith (2015) remarks that there "remains an absence of theoretical frameworks on the state in GPNs" and proposes a "strategic-relational understanding of the state" to grasp the

dynamics of GPNs. In response, Horner (2017) develops a framework that recognises the different roles states play in GPNs: states act as a *facilitator*, a *regulator*, a *producer* or a *buyer*.

It is a key issue "how the regulator role can be adopted to shape the distribution of rents or gains within the GVC" (Horner and Alford 2019, 11). By coining the term value capture, the GPN approach has put emphasize on the ability of regions to appropriate value for regional development outcomes. In this context, value is conceptualised as various forms of economic rent (Coe et al. 2004). To assess the regional development outcome of global market integration, GPN research is interested in the distribution of value among different actors, "in essence, the question of who gets what, who wins and who loses from particular forms of political-economic organization" (Alford and Phillips 2018, 103). Value capture occurs "when local institutions and non-firm actors are able to retain and channel resources through ties to GPN into investments vital for long-run regional development" (Murphy and Schindler 2011, 64). However, while strategic coupling can lead to value capture at the aggregate level, "the distribution of gains may be highly unequal; some companies win while others lose, and some households and individuals may have their existing livelihood strategies eroded, while others are better equipped to exploit new opportunities (Fold 2014, 782)". Fold therefore proposes to analyse these questions under the analytical category of value distribution (ibid.). The distribution of value and the production process are interrelated as Klooster and Mercado-Celis (2016) show for the case of a furniture production network in Mexico. The authors propose to examine how "institutions are related to value generation and distribution (2016, 1892)". Following this call, this contribution will examine the role of institutions in the resource-making and value distribution. This will be done by presenting a case study of the hunting tourism GPN in Zambezi region, Namibia.

6.3 Methods

This paper aims to assess firstly, the resource-making process, secondly, the role of institutions therein, and thirdly, the distribution of value among the actors of the GPN. To achieve this, a mixed-methods approach has been applied. The standard procedure for GPN research is an integrative approach that combines qualitative and quantitative methods (G. Yeung, 2016). To this, we added a historical perspective, thus responding to the call for more sensitivity towards the "stickiness of places" in the context of GPN research.

Archival research and secondary literature review were used to collect data on the history of resource-making in the Zambezi region. On the one hand, this approach is useful to understand

the dynamic nature of resource-making as social-ecological relations in the Zambezi region change with shifting state powers, on the other hand, the historical background helps to explore continuities and ruptures that impact the current articulation of the GPN. Academic literature on the history of the Zambezi region is scarce. Therefore, the review of existing literature was complemented by the analysis of primary sources during one month of research in the Oxford University archives at the Bodleian Library in 2020. Here, insightful documents and books were found, especially from the collections of the high commissioners in Bechuanaland between 1890s and 1940s.

Qualitative interviews with private and institutional actors of the trophy hunting GPN allowed for the analysis of the resource-making process under CBNRM legislation, and the combination of a dataset on conservancy finances together with qualitative interview data lay the foundation for the analysis of value distribution. To cover a wide range of actors of the trophy hunting GPN, qualitative interview data were collected in Germany, Windhoek and the Zambezi region. Explorative interviews at the major trade fair for hunting in Germany, *Jagd & Hund* in Dortmund in February 2019, offered an excellent point of entry to research the trophy hunting industry, since Germany is the main market for hunting trips to Namibia. Three field phases in the Zambezi region and Windhoek between April 2018 and September 2019 that sum up to a total of seven months allowed for the conduction of 51 qualitative semi-structured interviews with lodge owners or managers (21, following abbreviated with *lod*) conservancy management boards (14, *cons*), professional hunters (7, *PH*), ministry staff in Windhoek (2, *Wgov*) and Katima (2, *KMgov*), business associations (2, *ba*) and involved NGOs (3, *ngo*). Interviews took roughly one hour and were conducted in English or German, depending on the preference of the interviewee. Qualitative data was collected and analysed following Mayring's (2014) approach of qualitative content analysis and the development of categories was guided by theory.

The collection of financial datasets from NACSO in combination with the analysis of internet sources and qualitative interview data were crucial for analysing the value distribution among actors of the GPN, a procedure that will be explained in more detail below.

6.4 Findings

Resource-making in the past: the emergence of hunting tourism

Relations between humans and wildlife in the Zambezi have changed considerably in the past. Resource-making was largely influenced by the dominant institutions that aligned the use of

wildlife with their broader interests. Prior to the introduction of the CBNRM policy after independence, which will be elaborated in the section that follows, these changes of shifting state power can be divided into three phases: first the precolonial phase, when Barotse leaders were in control over wildlife and used access to it as a means to substantiate their royal claims; second, the short German colonial rule and the following period under Bechuanaland administration, when the colonial administration only hesitantly controlled hunting activities, which benefitted both ivory hunters and trophy hunters; and third, the South African rule, that is marked by more exclusionary game laws and the demarcation of conservation areas, which were, however, permeable for the ruling class.

Hunting for human consumption was a common practice to use wildlife resources in precolonial southern Africa. Especially during periods of reduced agricultural production, wildlife was (MacKenzie 2017) and continues to be (Lubilo and Hebinck 2019) a source of food. The rising demand of ivory for luxury products in Europe and North America during the 19th century however incentivised the large-scale harvesting of elephants and the establishment of global value chains (Bollig 2020), thus connecting the Caprivi (as the Zambezi region was known until independence) to consumers in the global North. The Barotse conquered the area in the beginning of the 18th century and installed a feudal system (Streitwolf 1911; Flint 1970). Reports by European travellers reveal that commercial ivory hunters had arrived to Caprivi since the 1850s (Foà, 1899; Holub, 1881; Livingstone, 1857) and gradually, ivory trade replaced slave trade as the principal revenue of Barotse leaders (Flint 1970). Since the Barotse rulers regulated hunting activities in the region (Livingstone 1857; Streitwolf 1911), ivory was raised as a tribute to the king, who distributed the benefits resulting from it at his court (Livingstone 1857). Trade with Europeans initially was conducted with the Portuguese at the Western coast, but Chief Sipopa decided to move his headquarter to Sesheke to facilitate trade with the Cape (Flint 2003). It is reported that "Sipopa had only ideas about hunting, selling ivory and amusing himself"[2]. Similarly, his successor Lewanika expresses the importance of ivory for his reign: "What are the riches of a country? The riches of mine is ivory. But ivory diminishes every year; and when all the elephants in the country are exterminated, what shall I do? (Coillard 1903, 222)". Sesheke soon was to develop into a trade hub for the export of cattle and ivory and the import of European products, such as weaponry, ammunition and cloths (Coillard 1903). In 1906, 4000 people lived in Sesheke, of which 80 were whites. Export of

2 History of the Caprivi Strip 1890-1984, C.E. Kruger, National Archives Namibia, A0472, page 90

ivory was controlled by *Boers* who used the boat to Kazungula and an ox wagon to Livingstone, which was connected via railway to the Cape (Fisch, 1999).

In this phase, the value of an elephant therefore was largely determined by the size of tusks it carried. The increasing demand for ivory by the European traders and improved infrastructure connectivity transformed it into a valuable resource that could be exchanged for European goods. The rule of Barotse leaders firmly leaned on the control of ivory trade, since the distribution of revenues from this trade was an instrument of power.

Facing pressure from the expansion of agricultural land and a skyrocketing demand of ivory in North America and Europe, the game in the Cape Colony and Bechuanaland was sharply decreasing towards the end of the 19th century (MacKenzie, 2017). Caprivi, on the contrary, still had large numbers of wildlife, since the occurrence of sleeping sickness caused the death of oxen and horses and the Caprivi was thus found to be unsuitable for European settlement (Streitwolf, 1911). Following the Berlin conference, the exchange of territories between the German and the English Empire set German rulership over the Caprivi starting from 1884, but no German official arrived before 1909 and law enforcement was therefore limited. The region attracted a number of hunters who came both for leisure and commercial reasons: "the Caprivi Strip, until the German administration arrived in 1909, was without authoritative control - a sort of No Man's Land, terra incognita - wonderful Game country wide open to hunters and adventurers some of them doubtless questionable characters"[3]. First specialised companies emerged in the Cape colony that offered "shooting expeditions to (…) interior places on the most favourable terms" (Nicolls and Eglington 1892) and the Zambezi was a popular destination for the rising number of "sportsmen" from the Cape that hunted for leisure (Nicolls and Eglington 1892). The sale of ivory was often used to fund these leisure hunts (Fisch, 1999). In 1898, 1000 kg of ivory worth 6000 Mark were exported from Southwest Africa, a figure that sharply decreased to 20 kg (438 Mark) in 1911 (Reichs-Kolonialamt 1913). Starting in the end of the 19th century, colonial governments increasingly restricted the access to wildlife. As a consequence, the ritual hunt emerged as an elitist form of relationship to wildlife in the Caprivi (MacKenzie 2017) and existed in parallel to ivory harvesting. Due to the absence of law enforcement in the Caprivi, the beneficiaries of wildlife were primarily individual hunters and the emerging trophy hunting industry. With the start of WW I the Caprivi was seized by Rhodesian troops and administered by the Bechuanaland commissioners. Colonial

[3] History of the Caprivi Strip 1890-1984, C.E. Kruger, National Archives Namibia, A0472, page 116

administration, however, was limited to a minimum[4]: in 1925, nine officials policed a population of 11.000[5]. The tax base of the area was thin, in 1925 the colonial administration was able to raise 151 pounds (compared to an expenditure of 1191 pounds), of which 72 were earned from the sale of hunting licenses[6]. Proclamation No. 13 of 1921 repealed existing hunting regulations for the South-Western Protectorate, differentiating between "royal game" (e.g. elephants, rhinoceros, zebra, giraffe) big game (e.g. kudu, impala) and small game (other antilopes, wild pig, ostrich)[7]. According to the proclamation, hunt on royal game was restricted for scientific purposes, while big game and small game licenses could be purchased for 20 pound or, respectively, three pounds sterling. Exports from the protectorate in 1925 consisted primarily of diamonds, ore and agricultural products, while the export of ivory is not officially documented[8].

In 1939, the Native Affairs Department in Pretoria took control of the Caprivi and aimed to preserve "indigenous fauna" (Kangumu 2011). Following the recommendations of the Odendaal 1963 commission, Caprivi was transformed into a "native homeland" during the 1960s (Lenggenhager 2015). Although wildlife tourism was early identified as a potential driver of economic growth (Curson, 1947), the declaration of nature reserves in the area was mainly motivated by security considerations (Lenggenhager, 2015). The situation along the northern boundary of the South African Empire (Henrichsen et al. 2015) changed in the mid-1960s. The Caprivi became one of the Cold War's battlegrounds when anticolonial movements resulted in the emergence of independent Zambia (1964), Botswana (1966) and Angola (1974). Encircled by (what Apartheid South Africa framed as) enemies, the region gained strategic importance as a military base from which air-raids were launched into Zambia and Angola. Illegal ivory trade soon became a lucrative source of income for officials of the South African Defence Force

4 Unpublished memoirs of Sir Charles Fernand Rey, Chapter 18, Oxford, Bodleian Libraries, MSS. Eng. C. 7192, fols. 250-86.

5 Letter from the Prime Minister of South Africa to the Secretary General of the League of Nations, Oxford, Bodleian Libraries, Papers of Frederick Dealtry Lugard, Baron Lugard of Abinger, relating to Bechuanaland, MSS. Lugard Box 136 File 1

6 Report on the Administration of the Caprivi Zipfel (South-West Africa), Oxford, Bodleian Libraries, Papers of Frederick Dealtry Lugard, Baron Lugard of Abinger, relating to Bechuanaland, MSS. Lugard Box 136 File 1

7 Official Gazette of South-West Africa, Proclamation No 13 of 1921, Oxford, Bodleian Libraries, Papers of Frederick Dealtry Lugard, Baron Lugard of Abinger, relating to Bechuanaland, MSS. Lugard Box 135 File 6

8 League of Nations permanent mandates commission, finances of the railways and harbours in South-West Africa Oxford, Bodleian Libraries, Papers of Frederick Dealtry Lugard, Baron Lugard of Abinger, relating to Bechuanaland, MSS. Lugard Box 135 File 8

(Ellis 1995) and together with leisure hunts, caused a drastic reduction of game numbers during the following decades (Lenggenhager, 2015).

While the German laissez-faire approach towards the Caprivi largely continued under the rule of the Bechuanaland administration, the situation changed considerably when the Caprivi became more closely tied to the South African Empire. The apartheid state imposed exclusionary hunting laws and high license fees that made wildlife largely inaccessible for local residents. At the same time, however, the state turned a blind eye towards hunting by military officials to regain control in the area via military operations. Wildlife was valuated through illegal trade networks and benefited the ruling class of the apartheid state.

In contrast, a shift in legislation had profoundly changed socio-ecological relations in Central Namibia, leading to the rise of the trophy hunt. In 1967, a proclamation gave farmers the use rights over wildlife formerly owned by the state, which led to a revaluation of wildlife (Botha 2005). While trophy hunting on farms had been common but not commercialised (PH2), the legalisation of trophy hunting was further pushed by a group of farmers in the 1970s, mostly of German-Namibian decent (PH5). 92 game farms had been established by the mid-1970s (Bollig 2020) and farmers decided to merge plots to form so-called conservancies (PH5). Proposals to attract hunting tourists to the Caprivi were presented in 1976[9], but the first trophy hunting concession areas were not established before 1988. Following the global trade ban on ivory from 1989, integrating into tourism GPNs was the remaining alternative to economically benefit from wildlife. Revenues from these activities, however, were limited. In 1994, trophy hunting in Zambezi yielded an estimate of 163,000 USD (Breul et al., forthcoming). Hunting concessions were in the hand of owners of large farms in Central Namibia acquired during the colonial land grab.

After independence in 1990, the new government aimed "to provide for an economically based system of sustainable management and utilisation of game in communal areas (Nature Conservation Amendment Act of 1996)". These former homelands were transformed into communal lands under state control, where communities are entitled to claimant and proprietor rights over tourism resources (Lapeyre 2011). Nowadays, there are 15 registered communal conservancies in Zambezi serving as a resource base for the trophy hunting industry (NACSO 2019). While the ongoing designation of conservancies expands the number of trophy hunting destinations, most professional hunters are still based in central Namibia. Out of 630 hunting

9 History of the Caprivi Strip 1890-1984, C.E. Kruger, National Archives Namibia, A0472, page 469

operators, 249 are based in Windhoek, the capital. Otjiwarongo (64 businesses) and Okahandja (56) in the neighbouring region of Otjozondjupa are also important nodes of the trophy hunting GPN in Namibia. Windhoek's dominance can further be illustrated by the upward trend during the past 12 years. Overall, trophy hunting is on the rise in Namibia, the number of registered businesses increased sharply from 438 in 2006 to 630 in 2018. The three regions of Khomas, Otjozondjupa and Erongo in 2006 hosted 330 businesses combined, thus accounting for 75 % of the total business activity. This figure increased to 489 in 2018, which equals 78 % of all registered businesses. In Windhoek alone, the number of registered hunting businesses more than doubled from 113 in 2006 to 249 in 2018.

To sum up, the brief historical overview shows firstly, that institutions play a crucial role in resource-making and value distribution. With shifting state powers in the Caprivi region, wildlife was used either as commodities (notably ivory, but also skins) or for the trophy hunt, or both. Moreover, providing access to wildlife is a tool to exert state power, and favours different segments of the population, depending on the institutional context. Secondly, the "stickiness of places" matters for the articulation of the GPN. There is a continuity of firm ownership that dates back to apartheid legislation. The utilisation of wildlife was granted to white owners of large farms, which allowed for the introduction of hunting tourism. The creation of conservancies enables these farm owners to expand their business activities to communal land. In the following section, the resource-making process under CBNRM legislation will be analysed in more detail.

Resource-making under CBNRM

In the context of CBNRM, the social construction of wildlife as a resource for the trophy hunting GPN is a result of the interplay between government institutions, local communities and the private sector. More specifically, three forms of social-ecological relations can be identified that constitute the resource-making process: First, the generation of an ecological surplus through the establishment of local institutions, the conservancies, which oversee and implement conservation measures to ensure the reproduction of wildlife; second, the determination of the ecological surplus through the instalment of a nation-wide monitoring and quota - system, supervised by the Ministry of Environment, Forestry and Tourism (MEFT) and third, the establishment of market relations by coupling with private enterprises that connect these quotas with specialised knowledge of the tourism industry and enable the circulation of the hunting trip as a tourism commodity.

The generation of an ecological surplus – the implementation of conservation measures by the conservancy

Wildlife populations in southern Africa currently face two main threats, unregulated hunting and habitat loss. In response to that, the MEFT has introduced the CBNRM legislation for conservancies as institutional arrangements that are designed to combat poaching and provide space for wildlife by coordinating conflicting interests in the area (Kalvelage et al. 2020). The Zambezi region, as a former homeland, today is communal land governed by officially recognised community leaders, the traditional authorities (TA). Although wildlife formally falls under control of the nation state, the MEFT grants communities use rights to utilise wildlife when they establish a conservancy. In the process of forming a conservancy as well as in operations, conservancies are supported by the MEFT and a range of local NGOs and global nature conservation organisations such as the Integrated Fund for Development and Nature Conservation (IRDNC) or the World Wide Fund for Nature (WWF).

In order to be recognised as a conservancy, a number of institutional changes have to be implemented (Nature Conservation Amendment Act 1996, 4). First, a committee "representative of the community residing in the area" with the task to govern wildlife needs to be elected. On annual general meetings, members of the conservancy elect the conservancy management committee, which assigns the conservancy management staff for executive purposes. In total, 225 conservancy staff are employed to manage the 15 conservancies in the Zambezi region (NACSO 2019). In addition, all conservancies in Zambezi combined employ 140 game guards and 46 staff for monitoring wildlife (NACSO 2019). Their duties include the prevention of poaching and the removal of traps, the screening of human wildlife conflict incidents and the identification of problem animals. In this way, access to wildlife is restricted to regulated hunting activities and the conflicts between agricultural use and wildlife are mitigated. Second, boundaries have to be instituted, and a zoning map needs to be presented to the MEFT which divides the territory into different usage zones: a settlement and cropping area, a multiple use area with varying priorities for livestock, hunting and tourism activities and an exclusive wildlife zone for tourism only, hunting only and no disturbance. In addition, the demarcation of wildlife corridors aims to ensure the free movement of animals. The adherence to these zones is supervised by conservancy staff. Third, the membership in conservancies has to be defined. Usually, local residents are eligible for membership.

Since the animals are of economic interest as the major resource for hunting tourism, continuous reproduction of the fauna needs to be guaranteed. Conservancies have been an effective tool to

increase wildlife populations and thus to creating ecological surplus (Stoldt et al. 2020). Besides the conservation measures described above, conservancies attempt to increase the ecological surplus through the re-introduction of species (CONS11) and investments in boreholes and fencing (KMgov1). Boreholes in particular lead to increasing elephant populations (Schnegg and Kiaka 2018). This surplus, however, needs to be defined, and this is done by a nation-wide system of quota-setting, steered by the MEFT.

The determination of the ecological surplus - the quota-setting process

Setting quotas is a crucial mechanism of turning the ecological surplus into a resource, as it defines the ecological surplus that can be harvested. In order to reward conservancies for conservation efforts, each conservancy receives a wildlife consumption quota from the quota-setting committee consisting of MET staff at the beginning of each year (lod7, ba5). The quota-setting committee is composed of experts in different species: common game (buffalo, plains and mountain zebra, oryx, kudu, hartebeest, blue wildebeest, springbok, ostrich, baboon, wild dogs, steenbok, duiker), special general game (giraffe, roan, sable, black faced impala, common impala, bushbuck and bush pig), predators, elephants, wetland species and huntable birds (Wgov4). Together with staff from support organisations like the IRDNC and WWF, annual game counts are executed by conservancy game rangers which serve as a basis for further calculations to set a quota (Wgov4). Usually, these game counts are conducted in the form of "bush walks", when 50 to 60 people cross a delimited area and count the animals they see (PH1).

Critics argue that these counts are rather imprecise, as they do not take into consideration weather conditions, seasonal variations and fluctuations due to bushfires and rainfall (PH7). Furthermore, rough terrain, such as swampland, is difficult to access which means that large areas are not included in the count (PH1). On the other hand, "when we are talking about elephants, when we are talking about lions or wetland species, there is a lot of science that's going into that one. And stakeholder involvement. So that one is not really dependent on game counts" (Wgov4). Instead, the quota-setting committee looks at available data from aerial surveys, human-wildlife conflict reports and game count figures (Wgov4). The process involves professional hunters, NGOs and conservancies, guided by workshops and questionnaires for professional hunters. All this data is compiled by the individual expert from the MEFT and a recommended quota is calculated based on fixed arithmetic codes, e.g. 0.5% of the population in the case of elephants (PH1). Interestingly, the findings of these surveys are not publicly available, even though these figures are of high interest to the scientific community.

Once the recommended quota has been agreed on in the quota-setting committee, it is taken to the regional MET staff for approval. Following the reception of the feedback, the recommended quota is sent to the technical steering committee of the MET, where the directors of scientific services are organised and finally sent to the minister for validation (Wgov4). Once validated, quotas are formally transferred to the conservancy in a written statement; previously this was done on an annual basis but since a few years ago this has been done on a three-yearly basis. The community then tenders the quotas to hunting professionals with considerable NGO help regarding the negotiations with professional hunters and the drafting of contracts. The transaction costs accruing from such a procedure are habitually born by NGOs and the MEFT.

There are three different types of quotas: first the guaranteed quota, second the optional quota, third the own-use quota (CONS3). The fee for the guaranteed species has to be paid even if they are not hunted, while the optional quotas only have to be paid for the actual killing of the animal (H03). Community members can also apply to shoot an animal for their own use to provide meat for traditional festivals (CONS7).

The determination of the ecological surplus therefore builds on an institutionalised process involving the MEFT, scientists, local communities, professional hunters, conservancies and NGOs. However, quotas are subject to continuous criticism. Conservancies financially rely on hunting and push for higher quotas which, in turn, jeopardises the sustainability of the wildlife population (PH1). On the other hand, professional hunters argue that certain species are overlooked by the methods and do not appear on the quota (PH1). Several professional hunters stated that in the case of Zambezi, the quotas are too high in general which would lead to a depletion of the wildlife population in the long run (PH7, PH1). Recent research on the collection of wildlife population data at the conservancy level supports these critical voices (Hewitson and Sullivan 2021).

The establishment of market relations: coupling with private enterprises

Quotas are tendered publicly in the form of concessions for particular conservancies. Concessions are granted for hunting blocks and entail guaranteed and optional quotas. The share of guaranteed quotas vis-a-vis optional quotas depends on the negotiation between the professional hunter and the conservancy in the process of concession tendering (PH1). The more guaranteed species are on a quota, the more solid the financial planning for the conservancy, but the greater the entrepreneurial risk for the hunting operator. The hunting operator makes losses if he purchases guaranteed quotas and is then unable to sell it on the

market. A high share of guaranteed quotas can therefore lead to unsustainable hunting practices, as financial pressure pushes the PH to hunt animals that have not reached the age to be taken out (PH1). The PH who acquires a concession is granted exclusionary access to the resource and is, thus, able to use market knowledge to bundle tourism experiences into marketable packages and sell them to global customers.

Each year, 5000 - 7000 trophy hunters arrive in Namibia (BA5). The Zambezi region with its 15 concession blocks is a popular destination for the more exclusive experience of a free-range hunt. Specialised travel agents in outbound countries (e.g. *Westfalia Jagdreisen, Rainsford Hunting*) offer hunts in Africa or worldwide and include hunting operators in their portfolio charging a commission of 15 % (H08). However, interview data suggests that the share of intermediaries among the total hunting packages sold is low in Namibia, less than 5 % (PH5). The main distribution channel is based on direct contact between the professional hunter and the customer. First contacts are usually established through word of mouth, websites or specialised trade fairs (BA7).

For the Namibian case, there are two main events: Jagd & Hund in Dortmund in Germany and the annual convention of the Dallas Safari Club in the US. In 2019, 31 hunting operators offered hunting safaris at the Annual Convention of the Dallas Safari Club (https://www.expocadweb.com/2020dsc/ec/forms/attendee/index5.aspx#fpPanel) and 35 were present at the Jagd & Hund in Dortmund 2020 (https://osc.messe-dortmund.de/whdo/servlet/rubin.osc.bis.BisServlet). Customer acquisition in hunting tourism is effortful (PH5, translated from German): "(…) a huge marketing effort. Newspaper advertisements, appearances at all the international hunting fairs, (…) and then a large part of it goes via word-of-mouth propaganda (…)". Trust between the customer and the professional hunter is a key selling point in hunting tourism. Being a luxury good, hunting packages are sold by the professional hunter directly to build a relationship of trust and customise the product (PH9, translated from German): "(…) many hunters (…) invite you home, you get to know the family. (…) Then you discuss everything in detail. (…) from what age you are allowed to hunt, so that the kids can shoot a smaller animal or a warthog. Then you make a contract". However, once a trustful relationship is built, customers repeatedly book hunting trips (PH7). Hunting operators, therefore, add tourism-specific knowledge (such as customer acquisition, hospitality and catering) to the quota, which then can be sold as a product on a global market.

In sum, the three social-ecological relations outlined above (the generation of an ecological surplus, the determination of the ecological surplus and the establishment of market relations) lead to the social construction of wildlife in Namibian conservancies as a resource for the hunting tourism industry. It becomes clear that a range of institutions is involved in the resource-making process: conservancy committees, traditional authorities and NGOs at the local level, the MEFT at the national level and the global tourism industry at an international level. The resource is constructed at the intersection of the state and the GPN, and the nation state facilitates the emergence of the GPN through policy intervention. The following section looks at the role of institutions in the value distribution.

Value distribution in the hunting tourism GPN

Through the concession tendering, hunting operators acquire quotas that form the basis for bundling a hunting package marketable to global customers. Common practice is to sell a big game hunting trip consisting of either a 10-day buffalo hunt or a 14-day elephant hunt (BA), smaller game and plains game can then be added to the package according to the customer's wishes. Below, the stylised example of a 14-day elephant hunting trip to Zambezi region is used to examine value distribution among the different actors involved in the process of resource-making (figure 6).

Comparison of the price lists of six hunting operators active in the Zambezi region (*Jamy Traut Safaris, Ndumo Hunting Safaris, Omujeve Hunting Safaris, Aru Big Game, Van Heerden Safaris*) revealed that the price for a 14-day elephant hunting trip is $47,866 on average that covers all expenses, including transportation, full-board accommodation, staff, a hunting license and the field preparation of trophies. In 2017, 11 hunting operators held one or more concessions in the Zambezi region (Kalvelage et al. 2020) and the trophy hunt of 47 elephants in Zambezi (NACSO 2019) generated a turnover of $2.250.000 according to our estimations.

The hunting package price is divided into the trophy fee, payable to conservancies, and payments to the professional hunter, often declared as daily rates. The trophy fee only applies if the animal is actually brought down (BA7, 16). On the contrary, the payment of daily rates is compulsory, regardless of whether the hunt is successful or not (LOD22). The trophy fee for an elephant average $23,533, while the additional costs for a 14-day elephant hunt sum up to $24,333 on average.

Professional hunters thus receive $24,333 per elephant hunt, but claim that a hunt is associated with costs to the amount of $10.000 (H08). These expenses cover staff costs, marketing costs,

vehicle maintenance, fuel, the supply of food and beverages and donations to the community. While the exact breakdown of these costs is unknown, it is possible to estimate the costs for staff: Naidoo et al. (2016) found that hunting operators usually create 8-10 jobs, employees are paid monthly salaries of 1600 N$ on average to run the camp and assist in the hunt as drivers, trackers or skinners (Kalvelage et al. in press). The average number of either buffalo or elephant hunts in the region per concession is 11,82, by dividing the annual staff expenses of 192.000 N$ we arrive to an estimate of staff expenses associated with each hunt of 16.244 N$ ($1091). The remaining $8909 are used to procure inputs and for marketing costs, such as the participation in global hunting trade fairs. According to these calculations, $14,333 are profit of the hunting operator, but subject to income tax of 30 % (H08), which equals 4300 $. The net profit is estimated at $10,033.

Trophy fees, resulting from the nation-state induced quota and tender system, are directly paid to the conservancy management and are exempt from taxation. Trophy fees are used to cover the operational costs of conservancies ($8943), to pay salaries to conservancy staff and game guards ($7295), for community benefits such as funeral assistance payments, development projects or cash pay outs ($5883), payments to traditional authorities ($941) and offset payments to farmers suffering losses from wildlife raids (HWC, $471, calculations based on NACSO).

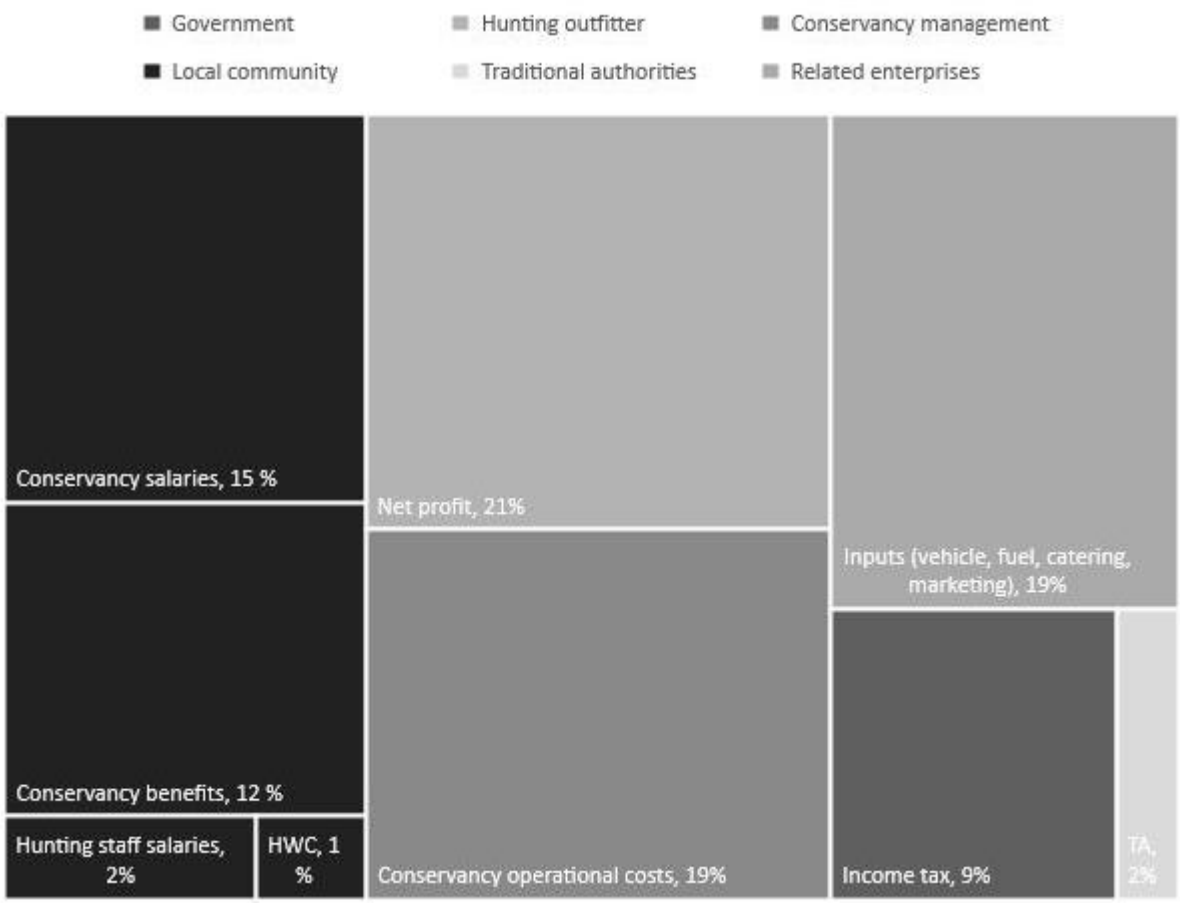

Figure 6: Value distribution among actors of the hunting tourism GPN. Own illustration, the size of the boxes is proportional to the share of the total hunting package.

The process of making wildlife a resource for the trophy hunting industry is mainly driven by the national government that had created the legislative framework for the creation of conservancies, supports the operation of conservancies and oversees the quota-setting process. These activities of the MEFT make the nation state an active agent as a facilitator for the commodification of wildlife and the anchoring of the trophy hunting industry in the region. In this way, the national government is a main driver of the strategic coupling process, as it sets the legal framework to form a market for hunting tourism. The coupling process is further facilitated by regional institutions, such as NGOs and international organisations. When it comes to taxation, however, the nation state acts more restrainedly – only the professional hunter`s profits are taxed, whereas the income of the conservancies is exempt from taxation. Therefore, only 9 % of the whole package price is appropriated by the national government. The regulative role, however, is delegated to the conservancies, since these negotiate the terms and conditions of partnership with the hunting operators.

It becomes clear that conservancies as local institutions are crucial not only for the production of the resource and value capture (Kalvelage et al. 2020), but also for value distribution. All in all, conservancies are able to capture 51 % of the hunting package, 19 % are used for operational costs that are needed to keep the conservancies running and ensure the production of the ecological surplus, 30 % are distributed as gains to the local community as salaries, benefits and Human-Wildlife conflict offset payments; additional 2 % are paid to local traditional authorities. In 2017, the 15 conservancies in the Zambezi region had harvested 47 elephants and 83 buffalos. These two species contributed $420,206 to the operation of conservancies, hunting and conservancy staff received $375,974 and $44,232 were transferred to traditional authorities. While conservancy staff and hunting staff benefit disproportionally, the 29,695 conservancy members in total received benefits worth $5,01 from the 47 elephant hunts and additional $4,68 from the 83 buffalo hunts per capita.

In total, hunting operators receive 40 % of the total package price of an elephant. 21 % are net profit and interview data suggests that 19 % are used to procure inputs and cover marketing costs. Despite all efforts, hunting outfitters did not disclose their costs in more detail. In addition, data does not show tax evasion. As distribution channels differ, the listing does not include commission rates for intermediate businesses or wholesalers (10-15 % of the total package price). Vehicle spare parts, weaponry or even meat are procured from Windhoek (PH) and the local development effect is therefore limited. Further research is needed to triangulate the data and compare the elephant hunting package to other trophy animals or different forms of resource production, e.g. the breeding of game on private farmland. A detailed breakdown of the operating costs would allow to identify the value transfer to global actors of the production network, such as outbound hunting tour operators, or the input suppliers for weaponry, ammunition and marketing.

6.5 Discussion and conclusion

We argued that in nature-based GPNs, institutions play a critical role in the construction of nature as a resource and the distribution of value among actors of the GPN.

The analysis of the history of hunting in the Zambezi region reveals that the institutional conditions constituting the resource-making process are dynamic. In a first phase, the Barotse leaders established trade relations and benefit-sharing practices to leverage commercial ivory harvests to consolidate their dominance. Elephants were thus seen primarily as a resource for generating ivory revenue. Beginning in the last decade of the 19th century, there was a growing

interest in using wildlife hunting as a source of recreation and distinguished nature experience. Leisure hunters benefitted from limited law enforcement in the Caprivi during the early 20th century. Later, ivory harvesting and leisure hunting by the South African military contributed to the decline in wildlife populations. To fully realise the potential of wildlife for rural development, the post-apartheid government initiated a resource-making process that transformed the Zambezi region into a resource region for the global hunting tourism industry. It becomes clear that the social construction of nature as a resource depends on the institutional conditions and, depending on how resources are made, different segments of the society benefit from them.

Under the current CBNRM legislation, three social-ecological interactions that construct wildlife as a resource could be identified. National government legislation has enabled the establishment of local institutions, the conservancies. The implementation of conservation measures generates an ecological surplus which subsequently needs to be defined and quantified. This is done by NGOs, scientific institutions and the MEFT through the quota system. Lastly, the strategic coupling with private enterprises, the professional hunters, adds industry-specific knowledge to the ecological surplus which is then circulated as a tourism commodity.

The value distribution pattern among the actors of the GPN is shaped by the institutional setting. Value distribution ensures continuous resource-making. 38 % are used for the operational costs: 19 % are needed for the procurement of inputs for the hunting package and additional 19 % feed into the conservancies' operational costs. The local community at large receives 30 %, which is needed to support future conservation measures despite negative effects on agricultural livelihoods (Hulke, Kairu, and Revilla Diez 2020). Similarly, traditional authorities receive compensation for tolerating hunting activities. The national government, although being heavily involved in the resource-making, collects only income tax from the hunting operators and captures 9 %. This restraint can be seen as a form of subsidy to remote rural areas. Additional 21 % are appropriated by the professional hunters.

The process of making wildlife a resource for the trophy hunting industry is mainly driven by the national government. National government bodies created the legislative framework for the creation of conservancies, accompany their daily operations, steer quota-setting procedures and facilitate strategic coupling with private enterprises. Several authors have highlighted the role of the state in the configuration of GPNs (Horner 2017; Smith 2015; Bridge 2009) and suggest

that national governments are particularly important in resource-driven GPNs. However, evidence was mainly derived from the extractive sector. Our findings indicate that it is worth exploring the role of the state in the formation of GPNs based on renewable resources. The involvement of institutions, however, is not limited to the national government. The presence and cooperation of traditional authorities, the conservancies, regional and national government bodies and local and international NGOs facilitate the harvesting and commodification of the ecological surplus.

It is yet an unresolved issue "how to appropriately account for or 'frame' the value of environment to current and future economic systems (Coe and Yeung 2019)" and GPN does not provide the methodological tools to grasp value in nature-based industries in a commensurable manner (Huber 2018). Notwithstanding these challenges, the application of a resource-making perspective to a GPN methodology has revealed the socio-ecological relations that lead to a specific pattern of benefit distribution. Unpacking the resource-making process of nature-based industries in this way can deepen our understanding of how the process of appropriating nature can drive uneven development outcomes, which is a key concern of GPN theory.

All in all, this contribution contributes to GPN research in three ways: firstly, applying a historical perspective to GPN research seems conducive to understanding the "stickiness" of places. In post-colonial contexts in particular, the analysis of continuities and path dependencies can facilitate the integration of an evolutionary perspective into GPN research. Secondly, by looking at the resource-making processes, we acknowledge the embeddedness of GPNs into a web of socio-ecological relations at the production stage and thus contribute to the "greening" of GPN research. Thirdly, by highlighting the institutions that form around nature, we show their relevance to the distribution of value and thus, to regional development outcomes.

Public discourse on hunting tourism is heated and prone to generalised statements. For instance, an estimation that communities receive only 3 % of the revenue from trophy hunting has been cited numerous times (Booth 2010). However, this figure is derived from a single case study in Tanzania and does not take into consideration the various institutional arrangements that occur when nature is constructed as a resource. Research can contribute to the debate by examining *under which circumstances* trophy hunting is beneficial *for whom*, as exemplified in this contribution. Setting the focus on the institutional arrangements allows to compare benefit distribution patterns in different cases where nature is commodified. For instance, the strong

role of traditional authorities and a weak nation state in Southern Zambia presents a very different setting. Similarly, Botswana has long commodified wildlife exclusively for a luxury safari tourism market, resulting in exclusionary benefit distribution patterns (Mbaiwa 2005).

Our contribution could reveal the mechanisms of value creation from wildlife in a GPN context, but did not provide a detailed analysis of the social-ecological relations at the local scale. For instance, it is an interesting question as to how livelihoods are changed by such a commodification of nature and what the benefits derived from hunting tourism are used for. Moreover, since tourism-related income is low at the household level, it remains an open question how other livelihood strategies such as smallholder agriculture, livestock husbandry or the consumption of social transfers relate to tourism and nature conservation. Further research is needed to address these and possibly other questions.

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7 Synthesis

The purpose of this dissertation is to examine the impact of wildlife tourism on regional development. More specifically, three questions have been tackled: the first section examines the role of local institutions for value capture in tourism GPNs. The second research question assesses the nexus between infrastructure development and value creation from tourism. Lastly, the institutional arrangements that make wildlife a resource for the hunting industry have been analysed, as well as their links to the value distribution patterns in the hunting tourism GPN. Below, key findings regarding the research questions are summarised. Based on these empirical findings, conceptual reflections follow that focus on four aspects: (I) lessons learned for tourism GPN research; (II) institutions and strategic coupling; (III) territoriality and regional development and (IV) social-ecological relations at the production stage. This is followed by a section that sketches out the need for further research, proposing an agenda that looks at (I) opportunity costs from an evolutionary perspective, (II) the integration of the social-ecological systems framework with GPN and (III) the role of institutions in building resilience for tourism destinations. To conclude, policy implications for tourism planning and nature conservation are outlined.

7.1 Summary of key findings

Value capture and value distribution in the wildlife tourism GPN

The conceptualisation of conservancies as local institutions of the wildlife tourism GPN has highlighted various functions fulfilled by conservancies. Wildlife is one of the major inputs for producing the wildlife tourism experience. It is the commodity that lies at the core of the coordinated activities of the wildlife tourism GPN. Conservancies are crucial for producing this input, through game guard and anti-poaching activities, the zoning of different land uses and their mere existence – conservancies as a legal entity allow for the legal utilisation of wildlife as an input to the hunting tourism industry. Conservancies act as mediators in the strategic coupling process: land for tourism investments is identified and promoted to potential investors. In addition, conservancies use their regulatory power for strategic coupling, by enforcing local employment for the benefit of their members and implementing benefit-sharing agreements with tourism enterprises. Lastly, the terms of the coupling are dynamic: contracts are regularly renegotiated after the end of the contract term. As prices for trophy quotas vary between conservancies, the value capture outcome depends on the available regional assets and also on the negotiation capabilities of a conservancy.

Owing to these mechanisms, conservancies can capture roughly 20 % of the value from wildlife tourism locally. Here, it is important to note the differences between hunting tourism and safari tourism. Hunting tourism makes a more direct contribution to the financing of conservancies through the benefit-sharing agreements with professional hunters but value capture through employment is considerably lower. Safari tourism contributes substantially less to the conservancy directly but has a broader impact through the payment of staff salaries. These differences between hunting and safari tourism raises the question as to whether the value that is retained locally through the conservancies benefits local residents equally and how this value is distributed at the level of households.

The analysis of household survey data reveals that the promises of tourism-driven development translate into benefits only for a very limited number of rural residents. Residents can benefit either directly from wildlife tourism via employment at a lodge or by a professional hunter or indirectly through employment at the conservancy or redistributive measures taken by the conservancy management. Data shows that 2,83 % of the total workforce of the rural Zambezi region are employed in tourism enterprises. The overwhelming majority is involved in low-wage jobs such as waiters, gardeners or trackers. An additional 1,04 % of the total workforce is employed by the conservancy, as game guards or in the conservancy management. Salaries paid by the conservancies are below the average paid by tourism enterprises directly. Additional benefits redistributed by the conservancy are cash pay-outs to members, offset payments for the loss of cattle or crop harvests caused by wildlife raids and non-monetary benefits, such as the repartition of meat from hunted wildlife, or development projects such as the electrification of villages. While the non-monetary benefits have not been quantified in the scope of this research, the total financial benefit from tourism at a household level can be estimated at 21 m N$, thus comprising 5.5 % of the total income of rural households in the Zambezi region.

These findings reveal the value capture and distribution patterns at a local and regional level, but the repartition of value among the actors of the GPN on the national or even global scale remains obscure. Therefore, a specific focus has been set on the value distribution in the hunting tourism GPN, exemplified by an average elephant hunt tour package that is associated with a cost of 48,000 USD. The example shows that conservancies capture the largest share of the value, totalling 51 %. Running costs account for 19 %, 30 % is distributed as gains to the local community and the traditional authorities receive an additional 2 %. Professional hunters receive 40 % of the total package price, 21 % is net profit but 19 % is needed to cover the supply of inputs necessary to construct the hunting tourism experience. 9 % of the total hunting

package is appropriated by the national government in the form of income taxes. This overview gives a rough indication as to which GPN actors benefit economically from hunting tourism.

In sum, the effectiveness of local institutions in value capture has been shown. This finding suggests that regulatory policies at the local level can potentially prevent the formation of tourism enclaves (Mbaiwa, 2005; Saarinen, 2017). However, it has become clear that the benefits of the GPN integration are distributed unevenly at a local level and the overwhelming number of households only benefit marginally from tourism. Therefore, it is crucial to include a value distribution perspective into GPN analysis and as such avoid what is typically discussed as an "inclusionary bias" of GPN research (Bair & Werner, 2011). It can be assumed that the tourism-related influx of capital leads to the formation of new rural elites. These rural elites are composed of those actors that govern and, therefore, have access to the benefits derived from emergent practices of commodifying nature. However, this requires further research. Notably, the benefits derived from tourism are not proportional to the emphasis that is often put on tourism as a driver of regional development in public debates. Remarkably, growth corridor policies are today also aiming to increase the benefits derived from tourism through fostering the overall volume of tourism in distinct regions. Therefore, the second research question was aimed at revealing the nexus between growth corridor planning, on the one hand, and tourism growth, on the other hand.

The growth corridor – tourism development nexus

A brief look into the history of the Zambezi region highlights how increasing infrastructure connectivity has been paramount for developing the touristic potential in the region. Under colonial rule, the Zambezi region was largely isolated from urban hubs. Hunting activities were unregulated. In the apartheid period, Zambezi gained military importance and became gradually connected to the urban centres of the South African Empire. However, it was not until independence that the tourism potential of the wildlife in Zambezi was tapped into and a rapid growth in both tourism arrivals and enterprises became evident.

Yet, the growth in tourism cannot be explained by the increased connectivity of the region alone. Until independence, tourism development was hampered by an insecure political environment and instability due to military activities in the region. Moreover, in nature-based GPNs such as wildlife tourism, developing infrastructure is a necessary precondition for value creation. This condition was fulfilled with the gradual improvement of connectivity through airlinks, unpaved road connections and the tarring of the road to Windhoek under the umbrella

of the growth corridor program. Lastly, another factor plays a crucial role. Tourism-oriented policies ensured stable wildlife populations and, thus, a resource base for wildlife tourism. While the first nature reserves in Zambezi were formed under the apartheid government, these conservation policies were motivated mostly by security reasons. The implementation of, firstly, the CBNRM program and, secondly, the KAZA vision of a transnational nature reserve has created the institutional setting for tourism to flourish. Taken together, the increased infrastructure connectivity met, therefore, a conservation landscape that ensured the availability of wildlife as an input to the wildlife tourism industry.

Notably, it was mainly the material aspect of growth corridor policy – the tarring of the road and the construction of a bridge – that proved beneficial for tourism development in the Zambezi region. The intangible aspect of growth corridor policy, i.e. accompanying catalytic investments, proved to be less important. The qualitative interviews with tourism entrepreneurs could not reveal a link between growth corridor policy and the decision to invest. Notwithstanding this, evidence was found that the infrastructure development has a positive effect on tourism.

As a result, value creation from tourism in the region has increased. This is indicated by the number of hospitality enterprises: while in 2005, a previous study found 25 establishments (Suich et al., 2005), the study conducted in the scope of this dissertation could identify 47 in 2018. The territorial embeddedness of these enterprises, however, is low. A great share of the luxury segment is owned by foreign enterprises and linkages with local businesses are scarce. This holds equally true for the hunting tourism sector: all but one of the 11 professional hunters active in the region are based outside the Zambezi region.

This hints to another downside of the tourism development in Zambezi which concerns the territoriality of the growth corridor. Improved infrastructure access to a region does not only increase value creation but also opportunities for extra-regional actors to benefit from the resources. This is illustrated by the findings of the traffic census. The census indicates the transfer of value through tour operators which are based along the central nodes of the corridor but run tours in the Zambezi region.

While it is self-explanatory that wildlife is an essential part of the wildlife tourism package, be it hunting tourism or safari tourism, the processes and social-ecological interactions that construct wildlife as a resource for the wildlife tourism GPN remain unclear. The third research question was, therefore, concerned with the valorisation of nature through GPNs.

The integration of nature by the wildlife tourism GPN

The historical perspective on hunting tourism in the Zambezi region revealed that the social construction of wildlife as a resource is dynamic and closely tied to institutional configurations. The social construction of wildlife as a resource occurred according to the needs of the ruling class. With the arrival of Europeans to the region, local leaders capitalised on the opportunity to exchange ivory for goods that would stabilise their political position. At the dawn of the 19th century, travellers of European descent had an increasing interest in hunting for leisure as an upper class experience. Consequently, the recreational effects of hunting came to the fore. Subsequently, illegal ivory harvesting benefitted members of the South African military, which were stationed in Zambezi to suppress emerging anticolonial struggles. It was the post-apartheid government that framed wildlife differently. Using the expanding conservation narrative based on a utilitarian ideology, independent Namibia introduced a new institutional setting that transformed wildlife into a resource for the hunting tourism GPN. This came with the hope of overcoming the political legacy of apartheid South Africa by empowering rural communities and promoting economic growth.

When looking at the current institutional setting and its relation to CBNRM policy more carefully, three socio-ecological relations can be identified. Each of these drive the construction of wildlife as a resource for the hunting industry and, thus, lead to the valorisation of nature. First, the establishment of local institutions in the form of legally established conservancies leads to the generation of an ecological surplus. The implementation of conservation measures sets the conditions for wildlife populations to grow and, hence, also the conditions for harvesting individual animals through hunting. Second, the ecological surplus is quantified. The installation of a quota system scientifically creates calculable numbers and, thus, alienates wildlife from its surrounding to form a commodity which is tradeable on a global market (compare Castree, 2003). Third, the strategic coupling with private enterprises adds marketing knowledge to the quotas and, therefore, supports the bundling of a hunting tourism package.

The whole commodification process is driven by the national government which, similarly to earlier rulers in the region, utilises wildlife as a means to fulfil their political goals, i.e. the improvement of the lives of previously disadvantaged communities, the creation of democratic institutions and the control of wildlife populations. This again shows the crucial role of institutions on different spatial scales in determining the regional development outcomes when coupling into the wildlife tourism GPN.

The aspect of institutions will be taken up in a series of reflections on the contribution of this research to the conceptual debate on GPNs. This is followed by a discussion of the role of edges in GPN research and, lastly, the social-ecological relations at the production stage.

7.2 Conceptual reflections

Lessons learned for tourism GPNs

Compared to other industries, GPN research on tourism is still in an infant stage. This is despite an increasing number of scholars having acknowledged the benefits of applying a GPN approach to tourism in general (Christian, 2016a; Murphy, 2019) and singular sectors relevant for the tourism industry, such as aviation in particular (Niewiadomski, 2017). This dissertation has highlighted that the GPN approach has the potential to integrate a large variety of actors on various spatial scales into the analysis and, thus, to include outbound countries as well as destinations. Moreover, GPN is a useful tool to study the global-local nexus in the tourism industry (Milne & Ateljevic, 2001). However, challenges remain and they require further research. The societal embeddedness of tourism GPNs in host regions, a more detailed conceptualisation of the tourism GPN's commodity, and the distinction between different tourism global production networks remain under-researched.

One contribution of this research is the inclusion of hunting tourism into the analysis, a topic that has been widely neglected by scholars conducting GVC/GPN research. It can be assumed that a reason for this neglect is the complex ethical implications of such a leisure activity (Ghasemi, 2020). Nevertheless, hunting tourism is a thriving industry and it is highly globalised with hunting destinations not only in southern Africa but across the world (Di Minin et al., 2021). Therefore, it is worth considering hunting tourism in upcoming research on tourism's development potential in peripheral regions.

Owing to the inclusion of non-firm actors in the analysis, this dissertation has revealed the crucial role of local institutions in value capture, strategic coupling and resource-making. GPN is a powerful framework to study the global-local nexus as it can reveal the performative nature of tourism in the host regions: tourism shapes and is shaped by the social and economic structure in the destination (Su & Chen, 2017). Further research could use the GPN framework to address the societal embeddedness of the GPN in the destination and explore the hybridisation of incoming, GPN-bound institutions with pre-existing institutions in the host region.

Another pertinent question is the composition of the commodity, the tourist experience (Gibson, 2010). Similar to other service industries, the main commodity of the tourism GPN is

immaterial. What distinguishes tourism from other service industries, however, is the fact that the product is consumed *while* it is produced and it is consumed *where* it is produced. This makes a high degree of coordination necessary to timely synchronise the productive activities and to bridge distances to assemble the elements of the tourism experience at the place of production. More research could be undertaken that not only looks at the material underpinnings of the tourism experience but also integrates its more immaterial inputs (e.g. trust, sunset, scenery, Judd 2006).

Researching tourism further means to research a production network that is composed of and partly overlaps with a range of independent production networks such as, for example, aviation (Niewiadomski, 2014). This is in line with recent calls to emphasise "the co-operation of multiple, differentiated networks at each stage of a production network" (Stephenson & Agnew, 2016: 558). There are different kinds of tourism production networks that are not entirely congruent but show considerable overlaps. What has been subsumed here as wildlife tourism, for instance, can be analysed as two different GPNs, the hunting tourism and the safari tourism GPNs, although they share the same production space, institutions and inputs (Breul, Hulke & Kalvelage 2021). Therefore, it seems fair to speak of tourism global production networks in the plural.

Institutions and strategic coupling

The role of institutions is a common thread throughout this research. While the initial research interest was to explore the nexus of local institutions and value capture, findings indicate that the role of institutions goes well beyond this. The active role of institutions on various spatial scales can affect the territoriality of the GPN and play an important role in strategic coupling processes. This can be illustrated by three points.

Firstly, resource-making processes steered by regional institutions provide the precondition for a GPN anchoring in a region. It is a political decision to frame nature as a resource and to construct institutions that transform wildlife into quotas. Hence, this valorisation is decisive for the question as to which places are integrated as destinations into the wildlife tourism GPN. In other words, the legalisation of trophy hunting in Namibia integrated Zambezi as a resource region into the GPN, whereas other destinations, such as Botswana, were previously decoupled due to a hunting ban (Mbaiwa, 2018).

Secondly, local institutions play an active role in the mediation of strategic coupling processes and thus, promote their regional assets to transnational actors. The role of regional institutions

in strategic coupling is well established in GPN theory (Yeung, 2015), however less attention has so far been paid to local institutions. The findings of this research confirm that it is worth disentangling "regional institutions" and to specifically look at the role of local levels of governance (Jana Maria Kleibert, 2014). Local institutions have the power to attract GPN investments and, therefore, to affect the places where GPNs eventually touch down. Similarly, local institutions are decisive for the form that the anchoring of the GPN takes in the resource region. Regulatory policies in the host region, for instance, are expected to prevent the formation of enclave structures (Phelps et al., 2015).

Thirdly, through the implementation of tourism-oriented and conservation policies, value creation from tourism can be enhanced. Horner (2017) highlights the role of the nation state in GPNs as producer, buyer, regulator and facilitator. It is a facilitator role that the state plays when promoting infrastructure development and policies conducive for tourism development, such as the implementation of nature conservation measures. Research shows that growth corridors are an important axis of investment flows (Hartmann, Mwaka, & Dannenberg, 2021) and, by designing these growth corridor policies, the state can direct the GPN into resource peripheries. This can affect where regional development effects occur.

Territoriality and growth corridors: regional development "from between"

In agreement with previous research, this dissertation has confirmed the centrality of GPNs' territoriality for regional development outcomes (Phelps, 2017). According to graph theory in mathematics, a network consists of nodes and edges that connect these nodes. While researchers have looked at nodes in global production networks, such as the role of gateway cities (Breul et al., 2018) or secondary cities (Atienza et al., 2020), the quality of edges between these nodes and their material underpinnings deserve more attention in GPN theory. It would be too simplistic to narrow the edges in GPNs down to infrastructure – edges constitute of tangible and intangible layers linking two nodes in the network. However, while the analysis of these intangible layers, such as commodity and capital flows, lies at the core of GPN research, the tangible aspect, i.e. the infrastructure that facilitates these flows between the nodes, is largely under-researched (Hesse, 2020).

Infrastructure connecting transnational actors with local agents of an industry can have a severe impact on regional development. The researched case shows how the tarring of the road has enabled strategic coupling processes of the Zambezi region and the global tourism industry. In this way, improved infrastructure access to resources is a regional asset that can be decisive for

a firm's decisions to integrate the Zambezi region into their destination portfolio (Khadaroo & Seetanah, 2007). The anchoring of the wildlife tourism GPN in the region provides the opportunity to direct value from the nodes of the global economy to the margins – and tourists that travel on the road from the gateway city to the periphery are the physical entities that transfer the value. This, in turn, means that the development outcomes in two localities of the GPN, the gateway city and the peripheral resource region, are determined by the quality of the edge that connects these two. The edge, therefore, is decisive for where regional development effects occur. This is illustrated by the wildlife tourism GPN that is governed from the gateway city, Windhoek, and reaches to the wildlife and wilderness in the resource region Zambezi via the growth corridor. On the one hand, this integration into the global economy enables the creation of value but, on the other hand value is extracted from the region and transferred elsewhere in the network. Growth corridors are one relevant configuration of the edges between the nodes and further research could look at pipelines, shipping routes or ICT grids to look at regional development "from between". Moreover, future studies could apply a perspective that includes potential spill-over, trickle-down effects along these edges into the analysis.

Social-ecological relations at the production stage – "matter matters"

The materiality of the commodity shapes the articulation of the GPN (Bridge & Bradshaw, 2017). The wildlife tourism experience consists of a variety of inputs, intangible and tangible. One of the tangible inputs is wildlife and the functioning of the GPN is, therefore, dependent on the locations where wildlife can be commodified. Similar to extractive industries, this has an implication for the strategic coupling process (Bridge, 2009). The GPN is equally dependent on the region that controls the asset, as the region is dependent on the GPN to tap into the economic potential. What has received less attention, however, is the valorisation of nature during the coupling process and its profound repercussions on social-ecological relations at the production stage.

Firstly, institutionalisation occurs. The commodification of natural resources is connected with the emergence of new institutions or the reconfiguration of existing institutions. This argument is derived from neo-materialist authors (LeCain, 2015) who showed that natural resources produce novel social configurations. In parallel to the valorisation of wildlife through the tourism industry, in the Zambezi region the CBNRM expanded to get control of, and capitalise on, this newly valorised resource.

Secondly, the valorisation of nature creates social inequalities and new class formations. The process of institutionalisation can induce a shift in power relations, since new elites are formed and existing elites are replaced, as has been illustrated by the evolutionary perspective on resource-making. Equally, the valorisation of nature creates an incentive to ensure exclusionary access to the resource. Hunting by wealthy outsiders, for example, is legal, while local hunting for food consumption is largely criminalised (Lubilo & Hebinck, 2019).

Thirdly, the coupling of regions into GPNs changes their ecology. On the one hand, the growth of large mammal populations is incentivised (Meyer, Klingelhoeffer, Naidoo, Wingate, & Börner, 2021), since these are the main earners of tourism dollars. This, in turn, has implications on the composition of woodland cover. On the other hand, hunting practices can have an effect on the genetic pool of mammal populations (Muposhi et al., 2017) and this affects their behaviour towards humans.

The above-mentioned points make it clear that a consideration of social-ecological relations at the production stage is crucial to get a holistic picture of the regional development effects of GPN anchoring. This can be seen as a response to earlier calls to take cultural, social and ecological shifts at the production stage more seriously in order to address the GPNs' "dark sides" (Phelps et al., 2017). A promising way to grasp the biophysical processes that occur prior to human labour and integrate them into GPN analysis is to engage with literature on commodification (Castree, 2003).

Summary

Summing up, this dissertation has contributed to existing GPN literature by scrutinising the integration of nature into GPNs, the role of institutions therein and their effects on value capture and distribution.

It has become clear that three preconditions are needed for the integration of wildlife as a resource for the tourism industry. Firstly, institutions are needed that secure the territories for wildlife to reproduce and create a resource base for GPN anchoring. Secondly, infrastructure needs to be developed to provide access to this resource and enable strategic coupling. Thirdly, the establishment of institutions that construct wildlife as a resource for the tourism industry are needed. All these interactions, the governance of wildlife territories, the development of infrastructure and the quantification of the ecological surplus are inputs that result in resource-making and hence, the valorisation of wildlife. The institutions that are co-constituted with the resource-making process on the local, national and international level shape ecologically

productive landscapes at the production stage and determine value capture through negotiations. To grasp the regional development outcomes of the valorisation of nature, it is of crucial interest to look at the hinges between the different layers of institutions: the local with the regional and national, and the global with the national. Two of these hinges have been examined in the scope of this study: the conservancy as a mediator between the global and the local sphere and growth corridors as an attempt to bundle national and global interests. The territoriality of the GPN and, therefore, the value capture across spatial scales can be interpreted as resulting from the quality of linkages between the institutions involved. On the one hand, conservancies as local institutions are promoted by the national government and, thus, the bargaining position of local residents towards global investors is strengthened. On the other hand, local interests are only marginally articulated in growth corridor plans which leads to an ambivalent outcome: overall economic activity in the region is increased, but local actors struggle to reap the gains from such an approach.

This calls for further research that specifically looks at regional development "from between", the hinges between spatial scales and the edges between nodes in networks are relevant. In addition, an engagement with historical methods, such as archival research, is useful to grasp the evolutionary character of global market integration as has been shown in this dissertation. Furthermore, integrating perspectives from neighbouring disciplines, such as the concept of resource-making, can help to carve out the complexity of institutional arrangements that surround nature and their commodification. Three possible topics of research are outlined below.

7.3 Future research agenda

Questions that arise from the analysis of this specific case study are not unique to the Zambezi region, but relevant for tourism research in general. While the list below is not exhaustive, a focus on three aspects could advance the understanding of tourism's regional development impact. Upcoming research can (I) engage with evolutionary perspectives and focus on understanding inter-path dependencies between tourism and other economic sectors in the host economies, (II) connect the social-ecological systems framework with GPN perspectives by assessing social-ecological relations in the productions sphere and (III) draw on resilience literature to examine the capacity of institutions in destination regions to innovate.

Opportunity costs of tourism development: evolutionary perspectives and inter-path dependencies

Tourism research is increasingly engaged with concepts developed in the field of evolutionary economic geography (Brouder, 2014, 2017; Ioannides, Halkier, & Lew, 2014; Ma & Hassink, 2013, 2014; Williams, 2013). While great hopes are pinned on tourism's capacity to direct flows of investment to the global periphery, the emergence of new industrial paths is associated with opportunity costs. Growth corridor policies and tourism-oriented development plans have increased value creation from tourism in the Zambezi region, but this has variegated effects on existing sectors, such as the agricultural sector. On the one hand, increasing wildlife populations lead to crop raids and cattle losses and the expansion of conservation areas that are required for wildlife inhibit the expansion of agricultural activities (Hulke, Kairu, & Revilla Diez, 2020). On the other hand, the establishment of linkages and knowledge spill-overs have the potential to drive innovation in the agricultural sector (Breul et al. 2021). Research from the field of evolutionary economic geography emphasise the role of agency (Grillitsch & Sotarauta, 2020), non-firm actors (Dawley, Mackinnon, Cumbers, & Pike, 2015) and extra-regional resources (Isaksen & Trippl, 2017) in the process of path creation. The consideration of reformation processes induced by the emergence of the tourism path, however, is more recent (Breul et al. 2021). More research on these path interdependencies is needed to get a more holistic picture of tourism-driven regional development.

Local resource-making, global circulation: integrating global production networks and social-ecological systems

This dissertation has shown that the GPN approach is useful to grasp the coupling processes between local institutions and transnational actors and analyse value capture patterns among the actors in the GPN. What has become apparent, however, are the limits of the framework when it comes to the distribution of value at the local scale and the commodification of nature. To achieve the proclaimed aim of generating benefits for conservancy members to make up for conserving and living with wildlife, there is a broad consensus that the distribution of conservancy income is inevitable to legitimise this institution among its residents (Bollig & Vehrs, 2021; Gargallo, 2020; Hulke et al., 2021). The social-ecological systems framework (SESF) allows socio-economic and ecological data to be combined and, thus, holds explanatory power for interdependencies of ecological and social relationships and their effects on natural resources at the local level (Gargallo & Kalvelage, 2020). It is therefore argued that an integration of the two frameworks can lead to a refined understanding of the effects of global linkages on a local resource system and the embeddedness of GPNs in a network of social and

ecological interactions. It is in this way that research can grasp the ecological consequences of globalised production systems and the variegated development effects at the local level more fully.

Towards resilient tourism destinations? Institutional innovation and sustainable transformation

The current COVID-19 outbreak has impressively revealed the vulnerability of tourism-dependent economies towards external shocks. Through the introduction of a localised institutional framework, the conservancy, nature conservation measures are implemented, wildlife is valuated and connected to the global tourism industry. Yet, these local institutions are highly dependent on income derived from international tourism. Against this sudden setback due to the pandemic, conservancies face an uncertain future, oscillating between the restoration of existing business models and the transition towards a more balanced, diversified, and, thus, sustainable economy. It is, therefore, crucial to understand whether conservancies, as local institutions, are resilient enough to safeguard their members from the negative economic consequences of the pandemic and whether institutional innovation will occur that can induce a transformation towards a more sustainable future (Brouder, 2020).

7.4 Policy implications for growth corridors and tourism planning

Growth corridors and regional development

Research has shown that the improvement of infrastructure under the umbrella of the growth corridor connecting a peripheral region to tourism hubs is a crucial factor for increasing value creation from tourism. However, the accompanying policies were less effective in the promotion of the tourism sector. Therefore, more can be done to integrate existing tourism policies with the growth corridor approach and, thus, reduce friction between the existing layers of policy making. Since growth corridor policy is a transnational vision that cuts through existing boundaries of lived realities, administrations and policy making, they can serve as institutional platforms to bundle policies and public and private actors from different spatial scales. In the case of tourism in Zambezi, these include inter alia the relevant Ministries in Windhoek and Katima Mulilo, the integrated land use plan, the regional council, the KAZA committee, various organisations concerned with CBNRM, tourism business associations, the border police and so on. For instance, while the smoothening of border procedures is one proclaimed aim of the growth corridor approach, the KAZA initiative is equally interested in establishing a joint visa with all member states to ensure the free movement of international tourists in the region. Forces can be joined to have a greater political impact. Integrating these

perspectives into the planning and implementation of the growth corridor could also help to achieve the increased effectiveness of public investments, since local realities are heard and the embeddedness of activities in the regional economic system is ensured. In this way, growth corridor policy can serve as a tool to establish an institutionalised global-regional policy link with the potential for institutional innovation and fruitful development impact. These efforts, however, need to respect the limits of the ecological capacity of a region, since the current climate crisis and mass extinction event sets the ecological imperative for safeguarding biodiversity.

Nature conservation and hunting tourism

One of the challenges is to create spaces that ensure the co-existence of wildlife and the human population. It is important to ask what the role of tourism can be in this regard. Three questions seem particularly relevant. Firstly, what are the limits of wildlife tourism growth? Increasing the volume of tourists can have negative effects on ecosystems, while increasing the value of tourism often is accompanied by enclave structures and high entry barriers to the industry. Secondly, is the commodification of nature and, thus, the expansion of the capitalist production system to commodity frontiers the solution to a problem this system itself has created? Thirdly, can continuities from colonial times that result in current inequalities be overcome? These are questions that cannot exhaustively be discussed here but can inform further research and feed into the discussion on conservation policy making. One thought that will be developed below is whether policy makers can capitalise on the positive transformative power that tourism can have to develop more sustainable post-tourism economic systems.

Hunting tourism is subject to a heated debate and this is partly because the public debate lacks differentiation. There are good reasons to oppose hunting tourism and valid points to be in favour of it. Such positions depend largely on varying philosophical, ethical and normative underpinnings (Ghasemi, 2020). Yet, public debates often conflate different production forms of hunting tourism, most importantly so-called canned hunts and free-range hunts (Cohen, 2014). This dissertation has shown that economic geography can contribute to this discussion by analysing the institutional settings under which hunting tourism is beneficial for or detrimental to whom.

The findings show that regulated hunting tourism can provide the financial resources to safeguard and even expand wildlife habitats, drive a process of institutionalisation in peripheral areas and finance rural development initiatives. Thus, hunting tourism can be regarded as a

form of tourism that takes place in the frontiers of tourism development, since it does not require sophisticated infrastructure development and is also visible in places where state governance is limited (Wilkie & Carpenter, 1999). Furthermore, it can be assumed that hunting tourism shows high levels of resilience to external shocks that otherwise threaten tourism destinations. Further research could investigate whether leisure hunters are among the first to return to destinations after violent conflicts, natural hazards or pandemics. It has been stated that hunting tourism enables knowledge and capital transfer to facilitate tourism path creation (Breul et al.). This could contribute to setting the conditions for tourism development in a preformation phase of a tourism destination (Ma & Hassink, 2013). Similarly to Zambezi, the tourism industry in Nunavik, Quebec, for instance, started with hunting and fishing tourism (Lemelin, Johnston, Dawson, Stewart, & Mattina, 2012).

The Namibian government has decided to utilise hunting tourism as a means to achieve its political aims of developing rural areas. Similarly, many voices from Southern Africa state that the question of whether or not wildlife is to be utilised and if, how should be answered by those who live with wildlife and suffer the negative effects of human-wildlife coexistence such as cattle losses or crop raids. However, especially in the southern African context, there are still continuities from colonial times prevalent in the practice of tourism hunting (Gressier, 2014) which excludes local residents from accessing wildlife (Lubilo & Hebinck, 2019). The historical perspective applied in this research revealed these continuities: in Namibia, hunting tourism is dominated by descendants of colonial settlers, owners of the large cattle farms in Central Namibia acquired through dispossession in the early colonial period are among the main beneficiaries of trophy hunting. It is this historical background that needs to be considered when developing policies on each institutional level involved, the local and national level as well as the international level (e.g. Convention on International Trade in Endangered Species of Wild Fauna and Flora, CITES). It is recommended that regional development policies that integrate hunting tourism as a strategy take the structure of the industry into account and install mechanisms that ensure the transformation of the sector from a neo-colonial practice to an economically sustainable and ecologically sensitive activity.

Tourism planning in the Zambezi region

Regarding safari tourism, experience from Botswana shows that the establishment of a luxury tourism sector can be a key revenue earner and, thus, a driver of national economic growth. However, local residents are excluded due to high entry barriers and the formation of enclaves have detrimental effects on livelihoods (Mbaiwa, 2005, 2017). The Zambezi region is currently

at a crossroads with a growing number of lodges in the high-end market but also an increasing number of self-drive tourists, locally-run enterprises and affordable campsites. To achieve a stimulating effect on the regional economy, tourism policy could be guided by the triple aim of diversifying tourism products, increasing knowledge transfer and intensifying embeddedness in the existing economy.

Interviews have indicated that one limiting factor for value creation from tourism is the duration of stay in the region. Therefore, increasing the variety and quantity of excursions and activities in the region could potentially lead to a prolonged stay and, hence, increasing tourism expenditure. Potential lies in the development of activities that go beyond the wildlife experience: one area is cultural tourism (Saarinen, Moswete, & Monare, 2014), for instance, historic or culinary tours in Katima Mulilo or an introduction to local craftsmanship, music and dances. Another area is adventure tourism (Rogerson, 2004), such as canoe rides, mountain biking or off-road driving. A third potential lies in agri-tourism, since this would create linkages between the two most visible sectors in the Zambezi region (Phillip, Hunter, & Blackstock, 2010). Diversification of tourism also refers to the market: attracting backpackers and low-budget travellers could increase the number of local actors and contribute to the greater resilience of the destination to external shocks. The adjacent towns of Livingstone and Victoria Falls are an established destination for backpackers in Southern Africa. Efforts can be made to attract these tourists to the Zambezi region. The lower end of the price segment offers opportunities for local entrepreneurs to enter the tourism sector, via bed & breakfasts or the selling of a "local" tourism experience in traditional houses, for instance.

A second opportunity is national industrial policy that enforces knowledge transfer and local ownership. While conservancies as local institutions have a strong position in the network, the national government has the means to induce knowledge transfer from lead firms to local actors via labour legislation. Mandatory training of local employees for management positions, for instance, can accelerate the absorption of entrepreneurial knowledge in the region. This knowledge, however, needs to be bound and cultivated in institutions to have a lasting effect on the regional economy. Therefore, the current efforts to amplify tourism-related vocational and academic education through the establishment of a vocational training centre and an ecotourism department at the regional University campus are assumed to have a positive long-term effect. However, a closer integration of actors from research institutions, industry and policy is desirable and, to this end, the recently initiated regional tourism forums can provide an adequate platform.

Thirdly, increasing local linkages to achieving multiplier effects is an ongoing task. Local linkages include the provision of building material such as poles and reeds, linking self-employed tour guides to lodges and the procurement of meat, eggs and dairy products; but the horticulture-tourism linkage is of particular interest (Anderson, 2018). Interviews have shown that reliability of supply in terms of quality and quantity is a challenge as is unstable demand of the lodges and the types of vegetables required. Therefore, platforms such as regular farmers' markets are needed that link horticulture producers and lodge owners to induce information exchange and establish a market place. In this regard, communication technology can facilitate trade.

7.5 Conclusion

To conclude, the combination of growth corridor policy with wildlife tourism development policies holds the promise to foster growth in peripheral, ecologically sensitive regions through the valorisation of nature. The growth corridor approach has the potential to bundle policy making on the regional, national and transnational level and, thus, formulate an integrated vision of the future. However, this research reveals the need to integrate more carefully the perspective of local actors to ensure the embeddedness of new paths in the economic structure of the region. Moreover, tourism development is not to be regarded as an end in itself, but as a catalyst in frontier contexts as it can establish new global-local linkages, enable knowledge transfer and foster institutionalisation. Under suitable conditions, tourism can prepare the ground for a more diversified future economy.

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Appendix A: Supplementary material

Category	Location	Date
Accommodation establishment	Zambezi rural	22.10.2018
Accommodation establishment	Zambezi rural	11.10.2018
Accommodation establishment	Zambezi rural	05.10.2018
Accommodation establishment	Zambezi rural	19.09.2018
Accommodation establishment	Zambezi rural	08.10.2018
Accommodation establishment	Zambezi rural	05.10.2018
Accommodation establishment	Zambezi rural	24.09.2018
Accommodation establishment	Zambezi rural	25.10.2018
Accommodation establishment	Zambezi rural	25.09.2018
Accommodation establishment	Katima Mulilo	24.10.2018
Accommodation establishment	Katima Mulilo	14.09.2018
Accommodation establishment	Katima Mulilo	12.09.2018
Accommodation establishment	Katima Mulilo	29.09.2018
Accommodation establishment	Katima Mulilo	13.10.2018
Accommodation establishment	Katima Mulilo	28.09.2018
Accommodation establishment	Katima Mulilo	17.09.2018
Accommodation establishment	Katima Mulilo	22.09.2018
Accommodation establishment	Zambezi rural	03.10.2018
Accommodation establishment	Zambezi rural	01.10.2018
Accommodation establishment	Zambezi rural	19.09.2018
Accommodation establishment	Katima Mulilo	17.09.2018
Accommodation establishment	Zambezi rural	06.10.2018
Business association	Katima Mulilo	23.10.2018
Business association	Windhoek	21.08.2019
Business association	Windhoek	08.11.2018
Business association	Windhoek	15.08.2019
Business association	Windhoek	12.11.2018
Business Association	Dortmund	29.01.2019
Business association	Windhoek	22.08.2019
Business association	Windhoek	13.09.2019
Business association	Windhoek	13.09.2019

Conservancy management	Chobe	05.08.2019
Conservancy management	Lusese	22.07.2019
Conservancy management	Balyerwa	10.10.2018
Conservancy management	Bamunu	10.10.2018
Conservancy management	Dzoti	26.09.2018
Conservancy management	Impalila	05.10.2018
Conservancy management	Kabulabula	22.10.2018
Conservancy management	Kwandu	10.10.2018
Conservancy management	Mashi	10.10.2018
Conservancy management	Mayuni	12.10.2018
Conservancy management	Salambala	09.10.2018
Conservancy management	Sikunga	16.10.2018
Conservancy management	Sobbe	12.10.2018
Conservancy management	Wuparo	24.09.2018
NGO	Windhoek	08.11.2018
NGO	Kasane	04.10.2018
NGO	Windhoek	08.11.2018
Professional hunter	Dortmund	29.01.2019
Professional hunter	Dortmund	29.01.2019
Professional hunter	Windhoek	22.08.2019
Professional hunter	Windhoek	27.08.2019
Professional hunter	Zambezi rural	30.07.2019
Professional hunter	Windhoek	27.08.2019
Professional hunter	Windhoek	26.08.2019
Professional hunter	Zambezi rural	19.07.2019
State agency	Windhoek	11.09.2019
State agency	Katima Mulilo	23.10.2018
State agency	Windhoek	07.11.2018
State agency	Windhoek	10.11.2018
State agency	Katima Mulilo	12.11.2018
Tour operator	Berlin	08.03.2019
Tour operator	Berlin	08.03.2019
Tour operator	Berlin	08.03.2019

Tour operator	Katima Mulilo	31.10.2018
Tour operator	Windhoek	28.08.2019
Tour operator	Windhoek	13.08.2019
Tour operator	Windhoek	29.08.2019

Interview guideline: Corporate interview

1. **Please describe your position in the enterprise.**
   a) Educational background/ Professional career: Where did you obtain the skills for the business?
   b) Is tourism your main source of income?
   c) Why did you choose to enter the tourism sector?

2. **How did the tourism sector in KAZA/ Zambezi/ Kavango in general develop since 2004?**
   a) Impact of KAZA, Corridor, economic crisis on tourism
   b) What are major constraints for your business?
   c) What is the effect of KAZA/ WBNLDC/ 4 rivers route for your business?

3. **How would you describe the overall business environment? What could be improved? What works well?**
   a) Market conditions: competitiveness, fluctuations, development
   b) Access to capital
   c) Labour market
   d) Place infrastructure
   e) How does the internet change the business environment?

4. **Where do you procure your inputs and why?**
   a) Do you make use of local suppliers?
   b) Are there differences among the seasons?
   c) Why is the share of local inputs high/ low?
   d) Why do/ don't you procure the inputs locally?
   e) If you are not satisfied with the service of your suppliers, what do you do?

5. **Who are important institutions/ stakeholders/ players for your business (government agencies, NGOs, business associations, lead firms, agents, intermediaries, traditional authorities, conservancy management)?**
   a) How would you describe the collaboration with respective stakeholders? Why?
   b) Regarding your business partners, how often do you usually renegotiate the conditions of collaboration (booking fees, prices, contract terms, etc.)?
   c) If you are not satisfied with the collaboration, how do you react?
   d) Would you wish more or less governmental engagement in your sector?
   e) Do you attend exhibitions/ workshops?

6. **What are your plans for the future?**
   a) Do you plan to expand, specialise, invest, move?
   b) How will this affect your relationship with business partners? Do you expect any support, constraints from their side?

c) In order to realise your plans, where can you get support? What are the main challenges you will face?
d) How will your business have developed in 5 years?
e) What are positive and negative effects caused by tourism in your region?
f) How do you assess the development of tourism in general in the next 10 years?

7. Please describe, how do you wish the Zambezi region to look like in 10 years?

Interview guideline: Conservancy management

1. **What is your function in the conservancy? Since when are you engaged in this position?**

2. **Is there a lodge/ campsite/ professional hunter active in your conservancy?**
   a) If yes, when was it established?
   b) How did you start the collaboration?
   c) How do you assess the collaboration?
   d) If no, do you plan to start a business? Why do you not run a tourism business?

3. **How many people in this conservancy are engaged in tourism?**
   a) What kinds of jobs are they doing?
   b) Do they receive any training?

4. **Where do tourists mainly come from?**
   a) Why do they choose to come to you?
   b) Did the composition change over the years?

5. **What benefits do you receive from these activities?**
   a) How is tourism perceived among the community members?
   b) Who takes the decision on the distribution of benefits?
   c) What are the main bodies of management?

6. **What is the share of revenue generated from accommodation, tour operating, hunting, sales, transportation?**
   a) How is the money distributed within the conservancy?
   b) What share do you pay to governmental authorities?
   c) Do you have to pay additional fees/ taxes?

7. **What are your plans for the future?**
   a) What are major constraints for starting a tourism business?
   b) Do you receive any support from the government, NGOs, other institutions?
   c) What kind of support would you need? Do you wish for more or less intervention by the government?

8. **Please describe, how do you wish the Zambezi region to look like in 10 years?**

Interview guideline: Professional hunter

1. **Please describe your position in the enterprise.**
   d) Educational background/ Professional career: Where did you obtain the skills for the business?
   e) Is tourism your main source of income?
   f) Why did you choose to enter the tourism sector?

2. **Please describe your business activities.**
   d) Where do you operate?
   e) Who are important business partners (in Zambezi, Namibia, globally)?
   f) Where do your customers come from?
   g) How do you acquire new customers? Do you attend exhibitions/ workshops?
   h) Imagine you have a customer who booked an elephant hunt. How would that typically work?

3. **How would you describe the overall business environment? What could be improved? What works well?**
   f) Market conditions: competitiveness, fluctuations, development
   g) Access to capital
   h) Labour market
   i) Place infrastructure
   j) How does the internet change the business environment?
   k) What are major constraints for your business?

4. **How would you describe the collaboration with respective stakeholders (government agencies, NGOs, business associations, lead firms, agents, intermediaries, traditional authorities, conservancy management)?**
   f) Why?
   g) Regarding your business partners, how often do you usually renegotiate the conditions of collaboration (booking fees, prices, contract terms, etc.)?
   h) If you are not satisfied with the collaboration, how do you react?
   i) Would you wish more or less governmental engagement in your sector?
   j) What is the effect of KAZA/ WBNLDC for your business?

5. **Where do you procure your inputs and why?**
   f) Do you make use of local suppliers?
   g) Are there differences among the seasons?
   h) Why is the share of local inputs high/ low?
   i) Why do/ don't you procure the inputs locally?
   j) If you are not satisfied with the service of your suppliers, what do you do?

6. **Who are your employees?**
    a) Where do they come from?
    b) What kind of jobs do they do?
    c) Do you train them?

7. **What are your plans for the future?**
    g) Do you plan to expand, specialise, invest, move?
    h) How will this affect your relationship with business partners? Do you expect any support, constraints from their side?
    i) In order to realise your plans, where can you get support? What are the main challenges you will face?
    j) How will your business have developed in 5 years?
    k) What are positive and negative effects caused by hunting tourism in your region?
    l) How do you assess the development of hunting tourism in general in the next 10 years?

8. **Please describe, how do you wish the Zambezi region to look like in 10 years?**

Interview guideline: Tour operator

1. **Please describe your position in the enterprise.**
   g) Educational background/ Professional career: Where did you obtain the skills for the business?
   h) Is tourism your main source of income?
   i) Why did you choose to enter the tourism sector?

2. **Please describe your business activities.**
   i) Where do you operate?
   j) Who are important business partners (in Zambezi, Namibia, globally)?
   k) How do you acquire new customers? Do you attend exhibitions/ workshops?
   k) What is the effect of KAZA/ WBNLDC for your business?
   l) What is the role of infrastructure for your business?

3. **How would you describe the overall business environment? What could be improved? What works well?**
   l) Market conditions: competitiveness, fluctuations, development
   m) Access to capital
   n) Labour market
   o) Infrastructure
   p) How does the internet change the business environment?
   q) What are major constraints for your business?

4. **How would you describe the collaboration with your business partners (global tour operators, travel agents, booking intermediaries, suppliers)?**
   l) Where are they located?
   m) Why do you choose to work with them?
   n) Regarding your business partners, how often do you usually renegotiate the conditions of collaboration (booking fees, prices, contract terms, etc.)?
   o) If you are not satisfied with the collaboration, how do you react?

5. **How would you describe your linkages with government agencies, NGOs, business associations, traditional authorities, conservancy management?**
   a) Would you wish more or less governmental engagement in your sector?
   b) Are you engaged in a business association?

6. **Who are your employees?**
   d) Where do they come from?
   e) What kind of jobs do they do?
   f) Do you train them?

7. **What are your plans for the future?**

m) Do you plan to expand, specialise, invest, move?
n) How will this affect your relationship with business partners? Do you expect any support, constraints from their side?
o) In order to realise your plans, where can you get support? What are the main challenges you will face?
p) How will your business have developed in 5 years?
q) What are positive and negative effects caused by tourism in your region?
r) How do you assess the development of tourism in general in the next 10 years?

8. Please describe, how do you wish the Zambezi region to look like in 10 years?

Questionnaire: Business Survey

I. Enterprise

All amounts in N$

1	In what year was this establishment opened?	year:	
2	How many beds did the establishment have at the time of opening?	number:	
3	How many beds has the establishment now?	number:	
4	What is the average duration of stay at your establishment?	days:	
5	What is the average price for an overnight stay in a double room?	amount:	
6	Which label suits best for describing your establishment?	□ camping	□ self-catering
		□ lodge	□ guesthouse
		□ hotel	□ other:
7	What describes best the ownership of this enterprise?	□ private	□ joint venture
		□ communal	□ other:
		□ state	
8	Where is the company headquartered or listed?	city:	

II. Employees

9	What is the owners' educational background?	□ vocational	□ tertiary
		□ primary	□ other:
		□ secondary	
10	What is the owners' nationality?	please name:	
11	In order to track the long-term transformation of the industry, please describe whether the owner considers him-/ herself to be:	□ black	□ other:
		□ white	
12	Does the owner have any ethnical affiliation?	please specify:	
13	What is the total number of employees, including management staff?	number:	

14 Out of these employees, how many are…

	Number		*number*
□ locals (<200 km)		□ Zimbabwean	
□ other Namibians		□ Botswanan	
□ Zambian		□ South African	
□ Angolan		□ other:	

15 What is the ethnicity of your employees?:

ethnicity	*Number*	*ethnicity*	*number*
□		□	
□		□	

16 What are the jobs the different ethnic groups do in your enterprise?

ethnicity	*Job*
□	□ management □ housekeeping/ gardening □ security □ receptionist □ other:
□	□ management □ housekeeping/ gardening □ security □ receptionist □ other:
□	□ management □ housekeeping/ gardening □ security □ receptionist □ other:

17 Are you taking measures to improve the skills of your workforce?

□ in-house training	□ other:
□ external training	

III. Guests

18	What is the proportion of guests of each of the following types:			
		Percentage		*percentage*
	□ self-drive travellers □ package tourists □ organised group (school, church)		□ non-tourist (business, conference) □ other:	
19	What proportion of your clients come from each of the following sources?			
		Percentage		*percentage*
	□ walk in □ internet □ phone		□ local operators, hotels □ foreign operators, hotels □ other:	
20	What is the proportion of guests by origin?			
		Percentage		*percentage*
	□ domestic □ KAZA (ZWE, ZMB, BWA, AGO) □ South African □ other African		□ European □ American □ Asian □ other:	

IV. Collaborations/Institutional linkages

21	Do you collaborate with global tour operators/ travel agents/online booking agents?	please name: • • •	
a	What is the contract term with these business partners?	□ month: □ no contractual arrangement	
b	What form of financial agreement do you have with these business partners?		
		percentage/ amount	
	□ fixed booking fee □ profit share □ fixed contingent □ other:		
22	Do you collaborate with local tour operators/travel agents/service providers?	please name: • • •	
a	What is the contract term with these business partners?	□ month: □ no contractual arrangement	
b	What form of financial agreement do you have with these business partners?	□ fixed booking fee □ profit share □ fixed contingent □ other:	*percentage/ amount*

23	Please name relevant partners you work with/ you are affected by (government agencies, traditional authorities, conservancy management committees, traditional authorities, NGOs, business associations)?	• • • •
24	Are you familiar with the term Walvis Bay Ndola Lubumbashi Development Corridor and/or Trans-Caprivi-Corridor?	□ yes □ no

V. Supply/ Inputs

	To assess potential local supply chains, please name the following suppliers:	
25	Where do you procure fresh vegetables (tomatoes, salad, corn etc.)?	*town, region, supplier:*
a	Where do you procure meat?	*town, region, supplier:*
b	Where do you procure eggs and dairy?	*town, region, supplier:*
c	Where do you procure fruits?	*town, region, supplier:*
26	Where do you procure beverages?	*town, region, supplier:*
27	Where do you procure services (marketing, booking, finances?	*town, region, supplier:*
28	Where do you procure furniture and equipment?	*town, region, supplier:*
29	Where do you procure handicrafts, souvenirs?	*town, region, supplier:*

VI. Expenditure

30	What was the annual turnover in 2017?		*amount*	
31	Given the total turnover, what was the share derived from:			
		Percentage		*percentage*
	□ accommodation		□ rental	
	□ touring		□ other:	
	□ restaurant/ bar			
32	What was the total wage bill in 2017?			
	For:	*Amount*		
	□ local staff			
	□ foreign staff			
33	How much was spent on operating costs (food, maintenance, marketing, energy, etc.) in 2017?		*amount*	
34	What is the share of locally spent operating costs?		*percentage*	
35	How much was spent on taxes/ fees to the government/ institutions/ organisations?			
	To:	*amount*	To:	*amount*
	□ local government		□ conservancy	
	□ national government		□ traditional authority	

Questionnaire: Traffic census

TRAFFIC CENSUS

What is your position?	SINGLE-SELECT `position` 01 ○ Kongola 02 ○ Sesheke border 03 ○ Ngoma border 04 ○ Mpacha airport
How many passengers are in the car?	NUMERIC INTEGER `Passengers` _
What is the number plate of the car?	SINGLE-SELECT `Number_plate` 01 ○ Namibian 02 ○ Zambian 03 ○ Botswanan 04 ○ Zimbabwean 05 ○ RSA 06 ○ other 07 ○ not identifiable
please specify: E `Number_plate==6`	TEXT `specify_number_plate_other` ----------
Can you please specify the number plate? E `Number_plate==1`	SINGLE-SELECT `specify_number_plate` 01 ○ government (green) 02 ○ personalised 03 ○ AR 04 ○ B 05 ○ EN 06 ○ G 07 ○ GO 08 ○ K 09 ○ KA 10 ○ KH 11 ○ KM 12 ○ KR 13 ○ L 14 ○ M 15 ○ MA 16 ○ ND And 19 other symbols [1]
What is the type of the car?	SINGLE-SELECT `Car_type` 01 ○ Bakkie (4x4) 02 ○ passenger car 03 ○ truck 04 ○ caravan 05 ○ minibus 06 ○ motorbike 07 ○ bus 08 ○ public bus 09 ○ other
please specify E `Car_type==9`	TEXT `specify_type` ----------

Has the car a rooftop tent? E `Car_type==1`	SINGLE-SELECT `rooftop_tent` 01 ○ Yes 02 ○ No 03 ○ I don´t know/ refuse to answer
Is the truck loaded? E `Car_type==3`	SINGLE-SELECT `specify_truck` 01 ○ Yes 02 ○ No
What is the cargo? E `specify_truck==1`	SINGLE-SELECT `specify_load` 01 ○ timber 02 ○ processed timber products 03 ○ fuel 04 ○ container 05 ○ copper 06 ○ other metals 07 ○ other 08 ○ not identifiable
Is the car branded?	SINGLE-SELECT `Branded_car` 01 ○ Yes 02 ○ No
Can you please specify the branding? E `Branded_car==1`	SINGLE-SELECT `specify_brand` 01 ○ tourism company 02 ○ other company 03 ○ Car hire 04 ○ NGO 05 ○ public authority 06 ○ other 07 ○ not identifiable
please specify: E `specify_brand==6`	TEXT `specify_brand_other` .....
Where is the company based? E `specify_brand==1`	SINGLE-SELECT `company_base` 01 ○ Lusaka 02 ○ Kasane 03 ○ Victoria Falls 04 ○ Livingstone 05 ○ Walvis Bay 06 ○ Ndola 07 ○ Swakopmund 08 ○ Windhoek 09 ○ Rundu 10 ○ other
Where is the company based? E `specify_brand==2`	SINGLE-SELECT `company_base2` 01 ○ Lusaka 02 ○ Kasane 03 ○ Victoria Falls 04 ○ Livingstone 05 ○ Walvis Bay 06 ○ Ndola 07 ○ Swakopmund 08 ○ Windhoek 09 ○ Rundu 10 ○ other

please specify E company_base==10	TEXT	specify_base
From your point of view, are the passengers likely to be tourists?	SINGLE-SELECT 01 ○ very likely 02 ○ assumably 03 ○ unlikely 04 ○ highly unlikely	likely_tourist
In which direction is it going?	SINGLE-SELECT 01 ○ West 02 ○ East 03 ○ North 04 ○ South	direction

APPENDIX A — CATEGORIES

[1] specify_number_plate: Can you please specify the number plate?
Categories: 1:government (green), 2:personalised, 3:AR, 4:B, 5:EN, 6:G, 7:GO, 8:K, 9:KA, 10:KH, 11:KM, 12:KR, 13:L, 14:M, 15:MA, 16:ND, 17:OH, 18:OJ, 19:OK, 20:OM, 21:ON, 22:OP, 23:OR, 24:OT, 25:OV, 26:R, 27:RC, 28:RU, 29:S, 30:SH, 31:T, 32:U, 33:UP, 34:W, 35:WB

Appendix B: Own contribution

All three manuscripts (cf. Chapter 4, 5 and 6) were co-authored by the supervisors of this dissertation, Prof. Dr. Javier Revilla Diez and Prof. Dr. Michael Bollig (both University of Cologne).

I have contributed to these three articles in the following way:

- Review of relevant literature
- Development of the conceptual frameworks in all three articles
- Development of the research design
- Selection of research methods
- Design of interview guidelines, sampling of interviewees, conduction of interviews
- Transcriptions of the voice-recorded interviews and cross-checking of transcriptions which have been transcribed by student assistance
- Conduction of archival research
- Design of questionnaires, sampling of enterprises, conduction of interviews
- Design of the traffic census, enumerator training, organisation and supervision
- Cleaning and cross-checking of all transcripts, protocols, and survey data
- Conduction of qualitative content analysis
- Analysis of quantative data using *Excel* and *R*
- Independent writing of all manuscripts
- Revision of all manuscripts under the guidance of Prof. Dr. Javier Revilla Diez and Prof. Dr. Michael Bollig (all articles).

The data used for this dissertation are stored on central database of the collaborative research centre 228 “Future Rural Africa”: https://www.trr228db.uni-koeln.de/site/index.php. Due to confidential agreements, the primary research data is not publicly accessible, but can be requested at any time.

Referencing styles in chapter 4,5 and 6 follow the publisher guidelines.

Appendix C: Erklärung zur Dissertation

Erklärung zur Dissertation

gemäß der Promotionsordnung vom 12. März 2020

„Hiermit versichere ich an Eides statt, dass ich die vorliegende Dissertation selbstständig und ohne die Benutzung anderer als der angegebenen Hilfsmittel und Literatur angefertigt habe. Alle Stellen, die wörtlich oder sinngemäß aus veröffentlichten und nicht veröffentlichten Werken dem Wortlaut oder dem Sinn nach entnommen wurden, sind als solche kenntlich gemacht. Ich versichere an Eides statt, dass diese Dissertation noch keiner anderen Fakultät oder Universität zur Prüfung vorgelegen hat; dass sie - abgesehen von unten angegebenen Teilpublikationen und eingebundenen Artikeln und Manuskripten - noch nicht veröffentlicht worden ist sowie, dass ich eine Veröffentlichung der Dissertation vor Abschluss der Promotion nicht ohne Genehmigung des Promotionsausschusses vornehmen werde. Die Bestimmungen dieser Ordnung sind mir bekannt. Darüber hinaus erkläre ich hiermit, dass ich die Ordnung zur Sicherung guter wissenschaftlicher Praxis und zum Umgang mit wissenschaftlichem Fehlverhalten der Universität zu Köln gelesen und sie bei der Durchführung der Dissertation zugrundeliegenden Arbeiten und der schriftlich verfassten Dissertation beachtet habe und verpflichte mich hiermit, die dort genannten Vorgaben bei allen wissenschaftlichen Tätigkeiten zu beachten und umzusetzen. Ich versichere, dass die eingereichte elektronische Fassung der eingereichten Druckfassung vollständig entspricht."

Teilpublikationen:

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