

Kalvelage, Linus; Revilla Diez, Javier; Bollig, Michael

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Do Tar Roads Bring Tourism? Growth Corridor Policy and Tourism Development in the Zambezi region, Namibia

Linus Kalvelage¹  · Javier Revilla Diez¹ · Michael Bollig²

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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

Résumé

Le développement du tourisme suscite de grandes ambitions afin de favoriser la croissance dans la région du Zambèze, en Namibie. La région du Zambèze est une composante essentielle de la zone de conservation transfrontalière Kavango-Zambèze

✉ Linus Kalvelage
linus.kalvelage@uni-koeln.de

Javier Revilla Diez
j.revilladiez@uni-koeln.de

Michael Bollig
michael.bollig@uni-koeln.de

¹ Geography Department, University of Cologne, Otto-Fischer-Straße 4, 50674 Cologne, Germany

² Department of Social and Cultural Anthropology, University of Cologne, Albertus-Magnus-Platz 1, 50931 Cologne, Germany



(KAZA), une mosaïque de zones aux divers degrés de protection, conçue pour allier conservation de la nature et développement rural. Ces zones de conservation sont une ressource pour le tourisme lié à la faune sauvage, et, via le développement d'infrastructures, la politique de corridor de croissance a pour but d'intégrer la région dans des réseaux de production mondialisés liés au tourisme. Malgré la popularité grandissante des corridors de croissance, l'efficacité de cette stratégie de développement au niveau local demeure méconnue. L'utilisation de méthodes mixtes suggère un lien entre, d'une part, un tandem de développement infrastructurel et de politiques axées sur le tourisme et, d'autre part, une création de valeur accrue grâce au tourisme dans la région. Toutefois, les promesses d'un développement basé sur le tourisme n'atteignent qu'un nombre très limité de résidents ruraux.

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.

Theoretical Background

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 et al. 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 (Irrázaval and Bustos-Gallardo 2018) and acoustic guitar woods (Gibson and 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.

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 2001). Transport infrastructure is a strong determinant of a destination's attractiveness and thus also of tourism-led development (Khadaroo and 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.

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 et al. 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 3 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. Fig. 2). 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 et al. 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).

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.

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, p. 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, p. 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, p. 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 1960 s and 1970 s (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 (Lenggenhager 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 1 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



Table 1 Number of accommodation establishments in the Zambezi region

Year	1989 ^a	1994 ^a	2005 ^a	2018 ^b
Accommodation establishments in the Zambezi region	4	9	24	47

^aSuich et al. (2005)

^bKalvelage et al. (2020)

fully exploited until the region was connected to the rest of the country and nature conservation policies were introduced.

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 1). 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-1990 s 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. Fig. 1, 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>).



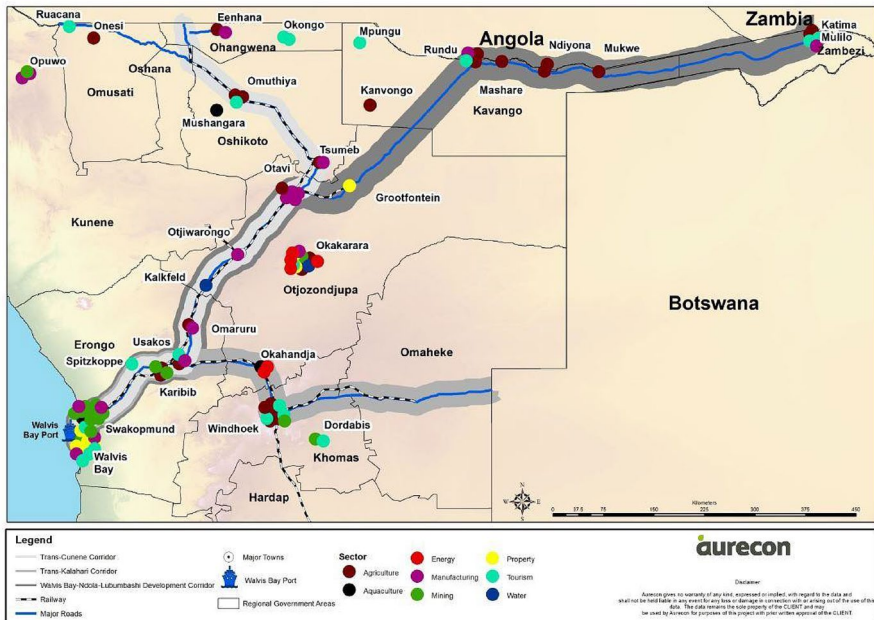


Fig. 1 The WBNLDC corridor vision. *Source* AURECON 2014

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 et al. 2020). 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 Transfrontier Conservation area (KAZA), which integrates the Zambezi region into a wider network of nature conservation attempts in the neighbouring countries (cf. Fig. 3). 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://tfcportal.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 1), 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 2). 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

Table 2 Visitor counts in 2017

	Tourist arrivals in Namibia ^a	Tourism arrivals at north-eastern border posts ^b	Visitors in Zambezi accommodation facilities ^c	Visitors of Bwabwata National Park, eastern gate ^d
Total no. of visitors	830,468	127,851	60,125	10,900
Namibian	29%	<i>No records</i>	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%

^aHAN data

^bOwn calculation, based on MET 2019

^cEstimate based on business survey

^dSuswe Gate, Bwabwata National park, from June 2018- June 2019



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 2).

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.

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.

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 *“before 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 2 shows the traffic flows on 3 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

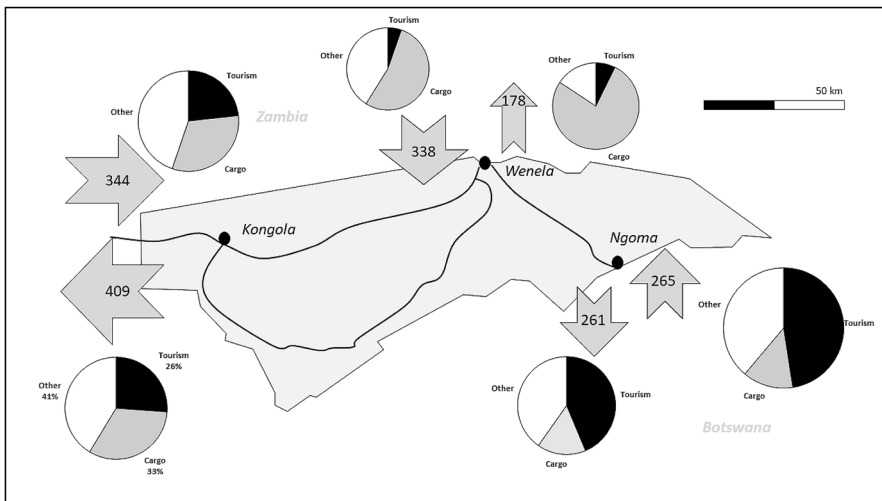


Fig. 2 Results of the traffic census, number in arrows shows total N



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 2). 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?

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 3). 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).

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 1614 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,



Table 3 Direct and indirect tourism-related benefits, Zambezi region

Benefit	Indirect benefits via conservancies				Total	
	Direct benefits	Employment at conservancies	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)	Employment at tourism enterprise	2.83% (41)	1.04% (15)	18.3% (64)	3.15% (11)	12.89% (45)
Average amount (per month)	1614 N\$	1196 N\$	1168 N\$1	1326 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)

Household survey data



the rural population of Zambezi earns roughly 15,105,023 N\$ in annual wages from the tourism sector (Table 3).

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 1196 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 1100 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.



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 and 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 paved 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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Declarations

Conflict of interest On behalf of all authors, the corresponding author states that there is no conflict of interest.

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