Development beyond global integration: Livelihood strategies, small-scale agriculture, and regional value chains in Namibian conservation areas

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Summary

In recent years, African economic policies have increasingly focused on intra-continental, rather than global integration, for instance through the African Continental Free Trade Area (AfCFTA) launched in 2019. These initiatives follow a similar logic as neoliberal global value chain approaches such as those promoted by the World Bank: governments envision integration within the African continent as a driver of industry growth, economic diversification, and global competitiveness. However, the vision of such neoliberal value chain integration and its implementation through top-down regulatory and facilitative policy making has often not resulted in the expected positive outcomes. Therefore, the question remains to what extent and under which conditions the shift of economic networks from a global to a more regional scale can benefit regional development and ultimately local livelihoods. Scholarship on Global Value Chains (GVC) and Global Production Networks (GPN) addresses the 'dark sides' of global integration, tending to exclude peripheral areas, exploit certain actors within value chains, resulting in enclave economies. Moreover, perspectives within this literature criticise an inclusionary bias in research that often focusses on regions and sectors integrated into the global economy, thereby neglecting non-participating actors. Addressing these shortcoming, alternative forms of regional integration are increasingly gaining attention by scholars, which revolve around more localised and bottom up approaches for economic development.

Against this backdrop, this dissertation firstly addresses the empirically discernible pitfalls of global integration and secondly expands the conceptual understanding of economic development in rural areas. It does so by extending the conceptualisation of regional value chains (RVC) as local, regional, or domestic economic systems with a more holistic and inclusive localised approach. Combining aspects from GVG/GPN theory, Evolutionary Economic Geography and livelihoods approaches, the dynamic livelihood strategies connected to value chains, their governance, and the potential of RVCs for inclusive regional development are considered that have received limited attention so far. With the aim to capture the evolution and organisation of RVCs and possibilities for livelihood upgrading, it provides a case study beyond global integration narratives, by the example of a RVC in horticulture in a rural area of northern Namibia. There, RVCs are governed by a myriad of multi-layered institutions, which can be distinguished between local collective action, private sector engagement, or national protectionist and commercial industry policies. Namibian

regional development policies not only envision large-scale production of fresh fruits and vegetables as one central development pillar, but secondly build on international, nature-based tourism through conserving the unique flora and fauna of the Zambezi region. Examining interlinkages between both sectors, this dissertation contributes critical and timely insights into the role of polycentric value chain governance from an evolutionary viewpoint, highlighting its intersection with other sectors. It is based on an exploratory, single case study approach, building on rich mixed-methods data generated during nine months of field research. By showing how the RVC in horticulture contribute to a more inclusive regional economy, the importance of local initiatives as opposed to poorly functioning industrial policies is stressed. Furthermore, agricultural RVCs can, through their capacity to capture value from globalised economies such as the tourism industry, reduce inter- and intra-regional inequalities, depending on certain socio-economic and institutional conditions, which this dissertation unravels. Both the role of nation state policies and local institutions that distribute captured value horizontally, are stressed, adding novel insights to the existing scholarship.

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List of abbreviations

AfCFTA	African Continental Free Trade Area
AMTA	Agro-Marketing and Trade Agency
AVC	Agricultural Value Chain
CBNRM	Community-Based Natural Resource Management
CIA	Central Intelligence Agency
CRC	Collaborative Research Centre
CRRRF	Conservation Relief, Recovery and Resilience Facility
EEG	Evolutionary Economic Geography
FGD	Focus group discussion
GA	Go-along interview
GDP	Gross Domestic Product
GPN	Global Production Network
GVC	Global Value Chain
HWC	Human Wildlife Conflict
IRDNC	Integrated Rural Development and Nature Conservation
KAZA	Kavango-Zambezi Transfrontier Conservation Area
MAWF	Ministry of Agriculture, Water and Forestry
MEFT	Ministry of Environment, Forestry and Tourism
MIT	Ministry of Industry and Trade
MSP	Market Share Promotion
NAB	Namibia Agronomic Board
NAHOP	National Association of Horticulture Producers
ND	Namibian Dollar
NDP1	Namibia's 1st National Development Plan
NDP5	Namibia's 5th National Development Plan
NGO	Non-Governmental Organisation
NSA	Namibia Statistics Agency
RVC	Regional Value Chain
SAGCOT	Southern Agricultural Growth Corridor of Tanzania
SLA	Sustainable Livelihood Approach
UNAM	University of Namibia
UNCTAD	United Nations Conference on Trade and Development
USD	US-Dollar
WBNLDC	Walvis Bay-Ndola-Lubumbashi Development Corridor
WFP	World Food Programme
WWF	World Wide Fund for Nature
ZAHOPA	Zambezi Horticulture Producers Association

1 Introduction

> *"A country without farming is a dead country, but a country with farming is one where people grow just like their crops, they move forward because of farming, farming brings fortune" (Small-scale farmer in Zambezi region, October 2018).*

Small-scale agriculture is the economic backbone of rural economies (McCullough, Pingali, and Stamoulis 2008). The above quote from a farmer in the Zambezi region of Namibia vividly illustrates this immense significance; not only for individual livelihoods, but also for regional economic development. On the one hand, small-scale farmers are characterised by subsistence production. On the other hand, they are integrated into local, regional, or global markets through the sale of surplus produce or by providing farm labour (ibid.). A recent estimate concludes that "farms under 2ha globally produce 28–31% of total crop production and 30–34% of food supply on 24% of gross agricultural area" (Ricciardi et al. 2018, 64). These numbers indicate the relevance of engaging with small-scale farmers' livelihood strategies, given the yet "limited engagement with agricultural production in the Global South and the value capture trajectories of smallholder households" (Vicol et al. 2019, 2).

According to Bernstein (2010), small-scale farmers – as opposed to capitalist firms – entail both social and economic characteristics, and thus reconcile capital *and* labour. It has been stressed that they cannot be considered as outsiders of the dynamics of capitalism; rather, they are actively involved in or shaped by global trade and commodity exchange and contribute to a large extend to value creation (Vicol et al. 2019). The extensive political economy of global capitalism sees its reach manifest even in rural, peripheral locations based on small-scale farming, whether directly or indirectly. In many of these locations, agricultural value chains are rather organised in a regional or local manner in which production and consumption are in close geographical and relational proximity (Barrientos et al. 2016). Their activities and roles in food systems (regional or global) thereby often remain hidden in

research on global value chains or production networks[1] in economic geography and neighbouring disciplines (Neilson 2019).

This relates to criticism towards the well-established Global Value Chain (GVC) and Global Production Network (GPN) scholarship[2] (Gereffi, Humphrey, and Sturgeon 2005; Coe and Yeung 2015). Although providing important approaches to study the global dispersion of economic activities, they have been criticised for a firm- and sector centrism, limits in explaining uneven development outcomes, and an inclusionary bias towards places and sectors that are *integrated* into global value chains or production networks (e.g. Bair and Werner 2011a; Werner 2016; McGrath 2018; Vicol et al. 2019). Given that "its [GPNs] empirical focus has largely remained on industrial, manufacturing and services production networks and their lead firm" (Vicol et al. 2019, 974) the understanding of uneven regional development as a product of our globalised economy (Coe and Yeung 2015) revolves about participants and direct beneficiaries of such a system (McGrath 2018).

Resulting from the inclusionary bias in GVC/GPN scholarship (Bair and Werner 2011a), non-participants – that is to say, actors that are not directly integrated but still shaped by or excluded from global value chains or networks – are seldom accounted for, but are often found in smallholder, agriculture-based, rural localities (Bolwig et al. 2010; Neilson 2019; Vicol et al. 2019). A GVC/GPN perspective alone is limiting when applied to peripheral rural regions. In these, the many economic activities and networks that exist and provide greater prospects are obscured by such a focus on the few activities which are conventionally integrated into GVCs/GPNs. Integrating non-practicing actors and regional or local economic networks, however, can contribute exactly to the proclaimed aim of GVC/GPN scholarship to understand and explain uneven development.

Apart from the conceptual approaches and perspectives necessary to understand uneven economic development, downsides or 'dark sides' of global integration for regional development are increasingly addressed (Coe and Hess 2011; Kelly 2013; Phelps, Atienza, and Arias 2017; Blažek et al. 2020). Studies on small-scale farmers and their links to global value chain and production networks highlight that despite their importance for global food supply,

[1] Based on Coe (2021), the terms 'global value chains and global production networks' in this dissertation are used to refer to the phenomenon of fragmented production-consumption patterns, whereas the acronym 'GVC/GPN' is used for the theoretical or conceptual approaches to study these phenomena.

[2] While acknowledging both approaches show conceptual distinctions but also build on one another and partly overlap, this dissertation uses GPN and GVC as broad equivalents, using conceptual components from both frameworks to explain uneven economic development in fragmented production systems (see Chapter 2).

their value capture opportunities remain limited, and smallholder households often face poverty (Vicol et al. 2019). Applying a livelihoods perspective, Vicol and colleagues (2019) unravel such negative effects due to power imbalances, dependencies within global markets, and value distribution patterns. Similarly, in an attempt to conceptualise horizontal environmental and household dynamics with vertical value chain dynamics, Bolwig et al. (2010) stress the impact on local, extra-network actors. Looking at GPN integration of Indonesian cocoa production, Neilson et al. find that "Indonesia's integration within the dynamic regional food sector of East Asia offers locational advantages for cocoa grinding, with the potential to further upgrade to chocolate production for expanding domestic and regional markets" (2018, 413). This indicates the potential of alternative networks operating more on a regional scale.

To summarise, if the integration into global value chains or production networks does not necessarily improve livelihoods, and if regional and socio-economic inequalities remain or even increase, which alternatives have emerged for these rural locations and their local actors? A more profound understanding of development pathways in addition to neoliberal approaches promoting global value chain integration for regional development (e.g. World Bank 2020) towards resilient socio-economic development is therefore pressing (Rodríguez-Pose 2013; Rodríguez-Pose and Hardy 2015; MacKinnon et al. 2021).

The concept of the Regional Value Chain (RVC) has emerged in recent years as a helpful perspective to complement the strong focus on globally integrated economic activities. It does so by taking into account economic networks that are not directly linked to global value chains or production networks, and thus has a regional rather than a global reach (e.g. Barrientos et al. 2016; Horner and Nadvi 2017; das Nair 2018; Krishnan 2018; Paremoer 2018). It is argued that "[s]tronger intra- regional investment and trade could potentially enhance development through economies of scale and specialization, thus promoting prosperity" (Scholvin et al. 2021, 3), and that a strong regional economy serves as an entry point into global value chains or production networks, contributing to regional competitiveness (Ahmad and Primi 2017).

However, the dynamics within and outcomes of RVCs remain inconclusive and somewhat fuzzy. Since this line of research on RVCs is relatively novel, scholars in this field point to a considerable lack of knowledge in terms of how RVCs emerge and develop over time, as well as their developmental outcomes and their geographical scope (Pasquali and Godfrey 2021; Scholvin et al. 2021):"More conceptual and empirical research is needed to capture different

forms of RVCs, identify the conditions under which they emerge and establish the extent to which they are beneficial to firms and wider regions" (Scholvin et al. 2021, 3).

A growing number of studies have contributed greatly to improving RVC understanding in terms of its definition as regionally bounded towards serving Southern end-markets (Barrientos et al. 2016; Horner and Nadvi 2017; Scholvin et al. 2021), polycentric governance patterns (Pasquali, Godfrey, and Nadvi 2020; Pasquali, Barrientos, and Opondo 2021; Pasquali and Godfrey 2021), and opportunistic or targeted interaction with global value chains (Krishnan 2018; Black et al. 2021). However, there remains an urgent need for conceptual refinements and further empirical examples.

Following the outbreak of the SARS-Cov-2 virus in early 2020, the downsides of the global dispersion of critical commodity production, such as food, became very visible in the form of power imbalances within the governance of such commodities, capturing both economic benefits, and exclusionary effects (Oldekop, J. A. et al. 2020; Anyanwu and Salami 2021). Small-scale farmers are highly exposed to such external influences and shocks. Food and hospitality sectors, in particular, were severely disrupted through the course of the pandemic (Clapp and Moseley 2020; Niewiadomski 2020; Asante-Poku and van Huellen 2021; Singh et al. 2021). This dissertation follows the observation that such contemporary global dynamics strongly manifest in peripheral, rural regions, proving the importance of continued consideration and analyses of food value chains.

Against this backdrop, this dissertation has two primary aims: firstly, to refine our understanding of the evolution and organisation of agriculture-based RVCs; and secondly, to provide empirical insights on potentials of RVCs for livelihood upgrading in rural locations, thus shedding light on development potentials beyond global integration. Addressing these aims, the following analyses will be structured along four overarching research questions:

I. How do agricultural RVCs evolve and are governed in peripheral, rural regions, and how may underlying institutional dynamics explain their evolution?
II. Which socio-economic conditions influence livelihood strategies and upgrading possibilities in agricultural RVCs?
III. To what extent are agricultural RVCs interrelated within broader regional industrial contexts and which development outcomes can be identified from these relations?
IV. How can agricultural RVCs contribute to regional resilience in times of global crisis?

To answer these research questions, an exploratory, in-depth single case study of a newly emerging horticulture regional value chain in the Zambezi region in north-eastern Namibia is used. This dissertation focuses on a region that relies on agricultural activities, as well as linkages to a globalised industry that is shaping their environment and scope of action, namely nature- or wildlife-based tourism. It draws on a case study of a horticulture regional value chain embedded within conservation areas that link farmers to the global tourism industry located within these conservation areas. This allows an assessment of how livelihood strategies are both formed by and form their surroundings. The study builds on a mixed-methods research design combining various qualitative and quantitative data collection methods (focus group discussions, semi-structured and go-along interviews, household survey, business survey) as well as secondary data and grey literature, resulting in a rich database on the sectoral dynamics and livelihood outcomes before and during the COVID-19 pandemic.

The Zambezi region provides a contextual field that facilitates the empirical investigation of RVC evolution, governance, and linkages to other economic sectors for two reasons. First, the described concerns in regard to neoliberal trade policies (World Bank 2020) and dark sides followed by a GVC/GPN integration such as formation of enclave economies, or socio-economic exclusion (Phelps, Atienza, and Arias 2017) are visible in the Zambezi region, where policies on the one hand foster the coupling with the tourism GPN (Kalvelage, Revilla Diez, and Bollig 2020) and on the other hand promote commercial, medium- and large-scale crop production. At the same time that top-down policy making, developed at the nation state level, does not result in the expected broader regional development outcomes, bottom-up economic networks have emerged on the regional scale that show higher potential for upgrading the livelihoods of small-scale farmers and thus reach a large number of the regions' residents (Gargallo 2020).

Second, the region is relatively well suited for agriculture due to the favourable climate and the surrounding large rivers, while simultaneously offering a distinct flora and fauna, attractive for tourism. Given that 54% of the Zambezi region is under nature protection (Kalvelage, Revilla Diez, and Bollig 2021) and concurrently approximately 70% of livelihoods rely on agriculture (Ruppel and Ruppel-Schlichting 2016), the two sectors are inevitably connected with positive as well as negative regional development outcomes. To empower rural communities living with wildlife, community-based natural resource management (CBNRM) aims to conserve and commodify wildlife (Mosimane and Silva 2015; Kalvelage, Revilla Diez, and Bollig 2020). Within demarcated communal conservancies that are

organised by a management board containing of community members, income from wildlife tourism can be used for community benefits (Mosimane and Silva 2015; Lubilo and Hebinck 2019). Roughly 20% of tourism revenue in the Zambezi region is captured locally within these territories (Kalvelage, Revilla Diez, and Bollig 2020).

This case study thereby provides a suitable empirical example for understanding the emerging RVC in horticulture embedded within a territory that is largely shaped by nature conservation and wildlife tourism, and to examine direct and indirect links between local and regional dynamics and global value chains and production networks located within the same, demarcated territory. It allows an investigation into how local institutions and networks are intertwined with policies for regional development and value capture through the tourism GPN. Furthermore, as the RVC in horticulture has only recently emerged, this study presents an ideal moment in time to trace and document its evolution, upgrading possibilities, and regional development outcomes.

The remaining seven chapters of this dissertation are structured as follows: *Chapter 2* elaborates on the conceptual framework surrounding the empirical analysis. It connects the current debate on the explanatory power of GVC/GPN approaches in explaining regional development outcomes in peripheral, agriculture-based locations. Based on some lines of criticism, the need to better understand RVC evolution, governance and regional development outcomes marks the points of departure of this dissertation. It thereby contributes to a refined understanding of agricultural RVCs and their determining factors. In this attempt, I argue for acknowledging three broader research areas that have, to this point, not been sufficiently connected to the RVC approach: first, the potential of RVCs for livelihood upgrading; second, the multi-layered and often contesting institutional framework in RVC governance; and third, the role of cross-sectoral linkages to capture the impact on the broader regional development pathways and on regional resilience during a global crisis.

Chapter 3 first gives an overview on regional development dynamics in the case study region and then lays out the methodological approach, data collection process and analyses. After reflecting on the research design and its limitations, an overview of the empirical chapters is provided, which consist of four individual, published scientific articles.

The findings are presented in Chapter 4, 5, 6, and 7. Empirically, this dissertation sheds light on the role of multiple institutions in RVC evolution and governance, and the benefits of the integration for small-scale farmers (*Chapter 4*). It further examines context-specific determinants in the construction of livelihood strategies for livelihood upgrading of farmers

located in conservation areas (*Chapter 5). Chapter 6* reveals the importance of path-dependencies and relationships between multiple economic sectors in a region for positive and negative regional development outcomes by analysing tourism – agriculture linkages. The recent impacts of the COVID-19 pandemic are analysed in *Chapter 7*, showing a high potential of local institutions for regional resilience through governing the horizontal distribution of value and connecting rural areas to government support schemes and private investments. Through this, light is shed on regional development potentials within the conservation – agriculture – nexus beyond global integration.

Finally, *Chapter 8* draws conclusions based on all four empirical chapters by answering the research questions, linking the conceptual contributions to the literature and providing ideas for future research. Based on the findings, some practical implications for policy makers in rural regions depending on agricultural activities can be derived, regarding the potential to distribute value captured from global industries and adjusting their development strategies to local conditions and needs.

2 Conceptual Framework

For the last three decades, the processes of economic globalisation and their interlinkages with the growing fragmentation in the production of commodities have attracted attention in academia and policy making (Coe 2021). The importance of global trade and production, often orchestrated by global lead firms or transnational corporations, is immense: in 2013, the *World Development Report* by UNCTAD estimated that 80% of global trade is linked to these networks (UNCTAD 2013). While globally fragmented production systems are in the spotlight of international organisations and policy makers, the clear focus on global value chains or production networks poses the risk that local or regional economic networks or locations at the side stages of economic globalisation are overlooked. This imbalance, accelerated through the disruptions in global trade flows caused by the COVID-19 pandemic since early 2020, has increasingly shifted attention to the processes of regionalisation and their potential for resilient regional development (Scholvin et al. 2021).

The following section outlines the theoretical background of GPN and GVC research addressing the phenomenon of global value chains or production networks, the limits of these concepts, and elaborates on the conceptual extensions that can address the growing regionalisation trend, namely regional value chains.

2.1 Conceptual starting points: GVC/GPN research

In an attempt to explain the constitution, dynamics, and outcomes of global trade and fragmented production, Global Value Chain (GVC) and Global Production Network (GPN) analyses have developed into important meso-level concepts. They capture the organisational and geographical dispersion of production systems in a globalised world from various conceptual angles (Gereffi, Humphrey, and Sturgeon 2005; Dicken 2011; Yeung and Coe 2015; Yeung 2019). Although both research strands, GVC and GPN, focus on the same object of research, and developed in parallel, they are characterised by some differences in their conceptualisations. In a nutshell, while GVC applies a chain metaphor, focusing on its vertical organisation (Gereffi, Humphrey, and Sturgeon 2005), GPN furthered this understanding by

applying a network heuristic that includes horizontal linkages to actors outside the chain or network (Henderson et al. 2002).

The GVC framework is widely applied in research and in policy frameworks. Especially the clear distinction between value-adding steps of production, distribution, consumption and dispersal, as well as the distinct focus on governance patterns as "the set of concrete practices and organizational forms through which a specific division of labour between lead firms and other actors arise and is managed" (Ponte, Gereffi, and Raj-Reichert 2019, 1), provides a helpful toolbox for academia and practitioners. The GVC framework has, however, been criticised for exactly this linearity which applies a hierarchical understanding focused on the organisation *within* the chain (Henderson et al. 2002; Coe et al. 2004).

To overcome these shortcomings, the GPN framework offers analytical categories of power (institutional, collective, and corporate), embeddedness (societal, network, and territorial) and value (creation, enhancement, and capture). In particular, through the embeddedness category, the GPN framework creates a connection to the horizontal dynamics in the wider context and vertical inter-chain structures (Yeung and Coe 2015). In addition, with the aim of integrating regional development outcomes into the analysis of globally fragmented production, GPN scholars have developed the strategic coupling concept which describes the dynamic processes of the integration of global lead firms in a region, based on its assets and institutional framework (Coe et al. 2004; Yeung 2009).

In studies on the food sector and agricultural commodities, combinations of the GVC and the GPN frameworks, as well as the inclusion of more household-focused concepts, have proven useful (Dannenberg and Kulke 2014; Fold 2014; Vicol et al. 2019). Although acknowledging the differences between the two concepts, GPN and GVC in this dissertation are used as a broad equivalent and condensed to certain conceptual components from both frameworks with the aim of explaining uneven economic development in fragmented production systems[3].

A large body of literature provides valuable insights into the power of lead firms to govern globalised production and how firms strategically couple with or decouple from regions that provide assets and regulatory frameworks suitable for their needs (Coe and Yeung 2015). One crucial motivation in GPN/GVC studies is the need to understand uneven economic

[3] For a comprehensive summary of the evolution of Global Commodity Chains, Global Value Chains, and Global Production Networks, see, for instance, Coe 2021 or Kano, Tsang, and Yeung 2020.

development outcomes caused by integration into global production networks (or, in other words, why some regions benefit from it, while others do not) through commonly applying a firm-perspective as the main level of analysis. Such uneven development outcomes often manifest in buyer-driven chains (Gereffi 1994) governed by powerful private actors originating from Global North countries, sourcing their raw material or labour in countries of the Global South[4] (e.g. Henson and Humphrey 2010; Krishnan 2018).

Besides understanding prospects resulting from GPN/GVC integration, more recently, attention has been drawn to possible 'dark sides' of GPN/GVC integration (Coe and Hess 2011; Phelps, Atienza, and Arias 2017). GPN/GVC integration, albeit creating value for some in the region, could also result in the exclusion of certain actors, social or environmental downgrading, or the creation of enclave economies and, thus, is not always desirable as a strategy for regional development. As a possibly more inclusive and resilient regional development strategy, the role of regional networks is gaining momentum in research and policy advice (e.g. UNCTAD 2021). Production and trade are increasingly organised in a regional manner, decoupled from powerful global lead firms (mostly from Global North countries) either within a country, continent, or on a supra-regional level. This phenomenon has been studied, for instance, under the frame of South-South trade (Horner 2015; Horner and Hulme 2017; Tessmann 2018), or regional value chains (Barrientos et al. 2016; Bosiu et al. 2017; Krishnan 2018; Pasquali, Godfrey, and Nadvi 2020; Pasquali 2021; Scholvin et al. 2021).

RVCs can be researched both empirically as a phenomenon of economic regionalisation opposed to global integration and conceptually, as an extension of GVCs/GPNs where core explanatory components need to be revisited within new social, economic, and institutional dynamics. To this end, this dissertation examines the evolution and governance of RVCs to shed light on regional development pathways *beyond* integration into globalised networks. The role of RVCs as an addition or counterpart to GVCs/GPNs is examined from various conceptual angles in order to understand their link to livelihoods and broader regional development.

But why is it relevant to move beyond perspectives on the organisation of a global economy (Dicken 2011) by including dynamics relatively peripheral of globalised nodes, both

[4] Although this Global North/Global South dichotomy in contemporary uneven development dynamics is not always as simple, there is a large number of studies, e.g. in the sectors of oil and gas or garments where this separation is quite clear. Debates have recently shifted towards distinguishing between peripheral and core areas which can be spread globally.

geographically and relational? In summary, scholars address three main points of critique of many GPN/GVC analyses. First, the insufficient conceptualisation of *regional development*, which results in disregarding holistic development outcomes in many studies; second, the *inclusionary bias* resulting from studies that only consider case studies integrated into a GPN/GVC; and third, the *firm- and sector-centrism* that often neglects the impact of GPN/GVCs on livelihoods, other economic sectors, and thus the broader regional economy. All these aspects are closely intertwined and are elaborated on in the following section.

First, in line with such critical voices on the understanding of *development* in GPNs (e.g. Kelly 2013; Werner 2016; Phelps, Atienza, and Arias 2017; McGrath 2018), the initial question asked when dealing with development should be: *what kind of development and for whom?* (Pike, Rodríguez-Pose, and Tomaney 2007). As stated by McGrath,

> *"[The GPN approach] represents a steadfast refusal to acknowledge the contested nature of development and myriad debates within development geography, development studies and development policy – in spite of the fact that the purported raison d'etre of GPN analysis is to bring about development." (2018, 8).*

Even though GPN approaches seek to analyse globalised production explicitly regarding unequal 'developmental consequences' (Henderson et al. 2002; Coe and Hess 2013), some authors raise concerns about the normativity of 'regional development' by questioning their status as a panacea for development (McGrath 2018; Ibert et al. 2019).

Moreover, the notion of development in itself naturally includes a strong dynamic component, as it is subject to constant change (Müller-Mahn and Verne 2010; Ziai 2010). Although the GPN approach specifically points to *dynamics* in global production, e.g. in the form of coupling, decoupling, or recoupling (MacKinnon 2012; Horner 2014; Gong, Hassink, and Wang 2021; Yeung 2021), these studies tend to overlook development processes alongside the chain or network for the broader regional economy, including households as affected actors (Vicol et al. 2019; Vicol 2019). Crucial critique is expressed through the disarticulation perspective (Bair and Werner 2011b; Bair et al. 2013; Murphy 2019) which turns the analytical focus towards actors and places disarticulated from the material dimension in GVCs/GPNs:

> *"Disarticulation scholars call for more attention to be paid to how links in the chain are forged, not only in material terms, but also ideologically and*

> *in relation to the creation of subjectivities. They focus on the set of social relations that secure commodity production and related processes of exclusion" (Ponte, Gereffi, and Raj-Reichert 2019, 10).*

Second, the *inclusionary bias* in GVC/GPN studies addresses the myriad of analyses regarding those actors and places globally integrated (McGrath 2018). The disregard of actors and places which are *not* part of any segment of a GVC/GPN results from several weaknesses in GVC/GPN approaches, such as the focus on lead firms, inter-firm relations, and capital flows (Bair and Werner 2011a; Bair et al. 2013). GVC/GPN analyses have been useful for studying regions and economic sectors that are spread across borders and are governed elsewhere to where their outcomes manifest (e.g. Breul, Revilla Diez, and Sambodo 2019). In areas and economies where no clear connection to a GVC/GPN exists and where actors are excluded or not able to participate and reap benefits from (inter-sectoral) economic development, it gets fuzzier. The notion of non-participants, introduced in a seminal paper by Bolwig and colleagues (2010), specifically integrates actors who are not part of any global economic activities but might be indirectly affected by them to overcome the inclusionary bias (Bair and Werner 2011a, 2011b; McGrath 2018).

Third, a focus on *inter-firm dynamics* and lead firm governance within the GVC/GPN of one commodity (Gibbon, Bair, and Ponte 2008) (predominantly in manufacturing) narrows our understanding of actual regional, often uneven, economic development outcomes (Neilson and Pritchard 2009; Kelly 2013; Vicol et al. 2019). In order to capture regional development pathways more holistically and dynamically in places where a GVC/GPN segment touches down, impacting livelihoods, other economic sectors, or the environment in general, an Evolutionary Economic Geography (EEG) perspective is useful. The combination of GPN/GVC approaches and EEG has recently been identified as a potentially fruitful merger, given that both strands address questions of uneven economic development, albeit applying different units of analysis (Yeung 2021).

> *"[The] GPN and strategic coupling research seems to overemphasize the role of globalization and extra-regional processes. Such an emphasis overlooks those development processes arising in and through alternative forms of market internationalization and in places where lead firms are absent" (Gong, Hassink, and Wang 2021, 5).*

This narrow focus can be overcome by explicitly taking into account cross-sectoral linkages and how these have evolved over time (Frangenheim, Trippl, and Chlebna 2019), helping to

understand more comprehensively regional development processes coupled to GPNs, either directly or indirectly (see Chapter 6).

2.2 Regional value chains: Evolution, governance, and regional development outcomes

An emerging body of scientific literature on RVCs has tried to convert GVC/GPN approaches to study regionalised economic systems (see Introduction). Why is it relevant to engage with RVCs and how does its conceptualisation relate to and differ from GVC/GPN approaches? And how can RVCs address the points of criticism of GVC/GPN approaches? To answer these questions, in the following section, current understandings, the concept's analytical potential, and central insights from case studies on RVCs are summarised.

The observation that the coupling of regions with GVC/GPN segments changes local or regional dynamics is not new:

> *"Global production networks not only integrate firms (and parts of firms) into structures which blur traditional organizational boundaries (…) but also integrate national and local economies (or parts of such economies) in ways which have enormous implications for their economic development and wellbeing. At the same time, the specific characteristics of national and local economies influence and 'refract' the operation and form of larger-scale processes" (Dicken 2011, 72).*

These multi-causal interactions indicate that GVCs/GPNs can, on the one hand, shape regional economies, thus networks that are not integrated into GVCs/GPNs, and, on the other hand, are shaped by the specific conditions of the regional economy they are plugged into. Research on GVCs/GPNs shows the many difficulties in actually benefiting from them when engaging with non-participants, livelihoods, a more nuanced understanding of regional development (Kelly 2013; Vicol et al. 2019). Recent research suggests that RVCs at least partially circumvent these difficulties, revealing the importance to better understand RVCs as a phenomenon and enhance the conceptual foundations of RVCs as opposed to GVCs/GPNs (Scholvin et al. 2021).

In a recent research note, Scholvin et al (2021) call for systematic engagement with RVCs as the 'backbone' of regional economies which is, according to the authors, at this point still fragmented and fuzzy. They criticise the fact that despite growing interest in regionalisation

dynamics within economic systems, the concept of RVCs lacks clear delimitation or categorisation. A common understanding by Horner and Nadvi defines RVCs as chains in "which lead firms supply markets in neighbouring and regional economies, and that source from and subcontract to regional suppliers" (2017, 16). It, thus, emphasises regional networks between lead firms and suppliers, similar to GPN structures but on a regional scale. This is in line with Barrientos and colleagues' definition of RVCs "where the lead buyers are primarily companies operating only within one world region" (2016, 1280).

In an attempt to clearly distinguish RVCs from regional sub-networks that specifically feed into GVCs (e.g. Black et al. 2021) Scholvin et al. describe RVCs as "regionally bounded" (2021, 3), imposing a clear territorial connectedness of chain actors and activities within a demarcated space. At this point in time, such a clear distinction of the territorial span of RVCs is rarely found in RVC studies. Given the progress made in network approaches such as the GPN, imposing a container-like thinking on RVC analyses would, however, seem like a step backwards. Therefore, it is important to acknowledge the existence of linkages to actors outside the direct realm of a regionally bounded RVC, for example, multi-scalar institutions that shape RVC evolution such as international trade agreements or global conventions as well as GVC/GPN connections (the latter aspect has been addressed for instance in Krishnan 2018).

The criticised fuzziness (Scholvin et al. 2021) and the resulting attempt to clearly separate RVCs from GVCs/GPNs has two important implications this thesis aims to address. First, when engaging with RVCs as regionally bounded, the notion of 'regional' must be carefully defined, as understanding of the term differs greatly. Are RVCs applicable to networks that operate within a wider world region defined by certain common characteristics or trade agreements (such as AfCFTA or the European Union), in actual administrative boundaries (such as a region or district within one country), or even in more vague areas that share common socio-cultural or historical characteristics (such as East Germany)?

Second, even within regionally bounded RVCs, links to GVCs/GPNs can exist, making a clear distinction from regional sub-networks difficult. Krishnan (2018), for instance, shows in a case study on horticulture farmers in Kenya how links to GVCs can be both targeted and opportunistic. Targeted value chains specifically evolved to serve the regional market, whereas the latter evolved as spillovers from firms that aimed to integrate into GVCs but failed to meet global standards. Such spillovers from sectors and regional firms that served global markets but then shift to regional integration can be caused by the decoupling from

GPNs, which is highlighted by Horner (2014). Hence, even when engaging with RVCs as regionally bounded networks, indirect or direct links to GVCs/GPNs need consideration.

Notwithstanding the multiple, sometimes contradictory possible dynamics and outcomes of the emerging phenomenon of RVCs, empirical studies on RVC dynamics are still limited but need further attention to conceptualise RVCs as an emerging extension to GVCs/GPNs (Krishnan 2018; Pasquali, Godfrey, and Nadvi 2020) or domestic value chains (Pasquali, Barrientos, and Opondo 2021). Besides these challenges of delimiting the understanding of RVCs, so far empirical evidence on regional development outcomes caused by regional rather than global integration and the role of various institutions in their governance is limited and somewhat inconclusive:

> *"Are there different governance structures within RVCs? Do regional suppliers vary in terms of economic and social upgrading prospects, and if so, why? (…) Furthermore, few studies have explored how private and public governance interact to shape suppliers' economic and social upgrading (or downgrading) in response to exogenous shocks" (Pasquali and Godfrey 2021, 7).*

Looking at RVCs located in a peripheral, rural region can shed light on regional development pathways 'from below', as links to GPNs/GVCs might not be as pronounced as in economic core areas. Such a change in perspective takes up the above-mentioned critiques on GVC research in addressing the inclusionary bias (Bair and Werner 2011a).

Based on these initial considerations of the limits of GVCs/GPNs and the recently emerging RVC research, this dissertation elaborates on four thematic areas to capture the evolution, organisation, and regional development outcomes of agriculture-based RVCs: the impact of RVCs on livelihoods, multi-scalar governance forms and interactions that shape RVCs, linkages of an RVC to other sectors or GVCs/GPNs, and their impact on regional resilience in peripheral areas. In the following section, the current state-of-the-art addressing these topics are detailed, starting with the impact of agricultural RVCs on livelihoods; secondly, the role of multi-scalar institutions in the evolution of RVCs are addressed; thirdly, moving beyond a single path analysis, cross-sectoral linkages shaping RVCs are elaborated on and, finally, driven by the latest economic disruptions caused by a global pandemic, the importance of regional resilience and the potential of RVCs in their configuration are examined.

2.2.1 The impact of agricultural RVCs on livelihoods

Research on RVCs in the food sector is gaining momentum in economic geography (e.g. Barrientos et al. 2016; das Nair 2018; Krishnan 2018; Paremoer 2018). The commodity that is produced for a RVC (or GVC/GPN) greatly shapes its organisation, territorial embeddedness, and regional development outcomes (Coe 2021). This dimension of *materiality* is especially relevant for nature-based commodities, which tend to be spatially bounded and depend on the ecological environment (Campling and Havice 2019). Comparable to the mining industry or other forms of natural resource extraction, agriculture and related food processing commodify natural resources for value creation and capture (Coe 2021).

There is a growing number of studies on agricultural commodities, such as cocoa (Knudsen and Fold 2011; Neilson et al. 2018), coffee or tea (Neilson and Pritchard 2009; Neilson et al. 2018; Behuria 2020), horticulture (Barrientos and Visser 2013; Dannenberg and Nduru 2013; Krishnan 2018; Tessmann 2018; Pasquali, Barrientos, and Opondo 2021; Pasquali, Krishnan, and Alford 2021), or flowers (Riisgaard 2009; Hughes, McEwan, and Bek 2015), to name but a few examples. Most case studies provide a clear connection to GVCs/GPNs, which results in an underrepresentation of actors not participating directly in a GVC/GPN and, thus, contributing to an inclusionary bias. Small-scale agricultural households have so far been under-represented as a group in value chain studies but would provide important insight into the dynamics of uneven regional development: "Value capture trajectories at the household scale can (…) help to link the dynamics of GPNs with uneven development outcomes in smallholder-dominated regions" (Vicol et al. 2019, 982).

Moreover, as said, most value chain analyses focus on value chain activities and value capture from one commodity, but the reality of rural agriculture-based livelihoods is often more economically diversified (Bolwig et al. 2010):

> *"(…) a fundamental tension between the tendency of value chain studies of rural livelihoods to focus on incomes associated with a particular commodity, while the livelihoods literature emphasizes the multiple activities and income sources that are frequently pursued by rural households" (Neilson 2019, 300).*

The differences in value capture trajectories within smallholder-based value chains reflect the variegated outcomes for livelihoods directly or indirectly connected to value chain activities through the possibilities of upgrading. According to a linear understanding of economic

upgrading, the higher the position of a firm or farm in value-adding activities within a chain, the more rents are accumulated, resulting in higher value capture that can potentially be translated into broader regional development (e.g. Neilson 2019; Ponte 2019). This positivistic and linear notion is challenged by empirical evidence suggesting that firms do not automatically translate their rents into, for instance, labour improvements or environmental protection; instead, economic upgrading can cause social or environmental downgrading through the exploitation of labour or resources (Barrientos, Gereffi, and Rossi 2011; Selwyn 2013; Blažek 2016). Hence, in rural regions which are dominated by small-scale agriculture, not only linear economic upgrading but rather the complex constitution of livelihood strategies based on upgrading and downgrading must be considered (Neilson 2019).

The research gap resulting from the insufficient integration of the livelihood dimension in firm-centric value chain research is well summarised in the following quote:

> *"Clearly, upgrading of exporters (or even producer organizations or local elites) does not necessarily lead to livelihood upgrading for smallholders, and the mechanisms and conditions under which potential upgrading may occur require further examination. Furthermore, participation in a value creation process does not necessarily result in subsequent regional value capture, and supporting value creation activities in a way that simply serves the priorities of lead firms can be problematic – especially when assessed from a livelihood perspective" (Neilson 2019, 306).*

Capturing dynamic impacts on livelihood strategies and livelihood upgrading (Neilson 2019) accounts for a bottom-up perspective regarding changes caused by new paths entering a region. The notion of livelihood upgrading[5] provides one meaningful extension to complex upgrading or downgrading dynamics that was developed through linking it to the Sustainable Livelihoods Framework (Scoones 1998, 2009), assessing:

> *"how pre-existing asset endowments are often key determinants of the poverty impacts of value chain engagement, and how the benefits of market governance interventions (e.g., certification schemes) will be limited where livelihoods are highly diversified." (Neilson 2019, 299).*

[5] For a comprehensive summary on livelihood upgrading in GVCs/GPNs, see Neilson 2019

This highlights the importance of considering the livelihood asset endowment to understand upgrading possibilities in value chains. Having outlined how smallholder livelihoods depend on a more complex set of economic and social activities and at the same time struggle with weak asset endowments, there is a clear need to rethink two aspects concerning upgrading. First, how livelihoods are affected by GVCs/GPNs touching down in a region and changing the economic setting and asset endowment or access (Kelly 2013); and second, what implications integration into RVCs has for the possibility of choosing livelihood strategies (Dorward 2009). This agency and control over one's livelihoods hence results from what is referred to as relational proximity (Murphy 2012), the relative improvement of the positionality in networks:

> *"It is also derived from an individual's positionality in the relevant economic system. This positionality stems relationally from experiences of social interactions and responses to structural conditions that create power imbalances amongst actors linked in networks" (Krishnan 2017, 62).*

The substitution of economic upgrading with a more holistic (and maybe even subjective) understanding of livelihood upgrading as the empowerment and relative improvement of positions within value chains and production networks can be a promising, albeit underdeveloped approach (Neilson 2019) (see Chapter 5).

The recent inclusion of 'value distribution' as a fourth value dimension in GVC/GPN research addresses this gap: "Despite significant scholarly attention to the issue of value in a GVC, the question of how lead firms should coordinate value creation, capture and distribution is as of yet unresolved" (Kano, Tsang, and Yeung 2020, 613). In order to understand broader effects on regional development with the aim of reducing inequalities, value distribution adds two important contributions. Firstly, it focuses on equalisation *throughout* the chain, including value distribution among less powerful chain actors such as suppliers (e.g. Azmeh and Nadvi 2014; Kano, Tsang, and Yeung 2020). Secondly, it reflects a livelihoods perspective *beyond* the value chain through the distribution of value among residents in the regions that are indirectly affected by regional integration into globalised networks (Fold 2014).

Despite the potential benefits of RVC integration, such as specialisation, regional diversification, and, thus, stronger competitiveness (Ahmad and Primi 2017; Scholvin et al. 2021) there are also downsides to RVCs. Non-participation or the exclusion of local actors from regional economic networks can be a risk in RVCs, especially when these are based on close social networks. Entry barriers may exclude small enterprises or farms if regional private

standards of production are too high. One example is the expansion of regional or international supermarket chains into the Global South, which have introduced private quality standards that contradict original production practices and knowledge (Lee, Gereffi, and Beauvais 2012; das Nair 2018).

In sum, in order to investigate the effects agricultural RVCs can have on the broader regional development, a shift in perspective is necessary from the value created and captured within value chains to the processes of value distribution across the region. In RVCs, processes that translate captured value into broader regional development, e.g. through enabling livelihood upgrading, have not yet been empirically analysed. The crucial role of local or regional institutions in distributing value horizontally (Fold 2014) needs further attention. To achieve this aim, a more comprehensive, inclusive perspective on agricultural livelihoods, their socio-economic environment, and their resulting strategies is required (see Chapter 5).

2.2.2 Institutions in the evolution of RVCs

As outlined in section 2.2, in order to understand the evolution, governance, and outcomes of RVCs, it is crucial to examine the institutional framework they are embedded in. To this point, only a few studies have addressed the role of multiple or 'polycentric' governance forms in an RVC constitution but did not explicitly unravel the multi-layered institutional framework underlying them (Bartley 2011; Alford 2016; Pasquali, Godfrey, and Nadvi 2020; Pasquali 2021; Pasquali, Barrientos, and Opondo 2021).

The explanatory power of institutions in the governance of value chains or production networks is not new. Early work on GVCs, for instance by Sturgeon, highlights "the impacts that local and national institutions have on the process of economic development [as value chains] do not exist in a vacuum but within a complex matrix of institutions and supporting industries" (2001, 10,11). Institutions are commonly defined as laws, regulations, and policies as well as local norms and values, ranging from more formal arrangements to more informal ones (e.g. Rodríguez-Pose 2013, 2020). In order to explore the influence of institutions on the evolution of RVCs, different simultaneously operating/existing and partly contradicting institutions have to be taken into account; this is especially the case for RVCs because they are characterised by top-down state influences layered on top of bottom-up initiatives or local networks (Torfing 2020).

Integrating the institutional framework surrounding RVCs means to specifically examine the socio-political context where a value chain is embedded: "The interaction between regional institutional settings and value chain structures is paramount for shaping livelihood

outcomes and upgrading possibilities" (Neilson 2019, 297ff). Closely linked to the institutional dimension is the organisation of value chains. Value chain governance (Gereffi 1994) commonly refers to "the issues of how chains are coordinated and who does the coordinating" (Neilson and Pritchard 2009, 7). The relationship between both notions – governance and institutions – is well summarised in the following quote:

> *"Considered in conjunction with 'governance', the category of 'institutions' provides a useful framing device for the examination of how product/commodity systems intersect with space and place. Issues relating to 'governance' encapsulate the coordinating structures which connect economic actors across space; those relating to 'institutions' represent the multi-scalar contexts that explain how economic actors are embedded within particular geographies" (Neilson and Pritchard 2009, 8).*

Accordingly, the organisation and coordination of a chain is intertwined with the multi-scalar institutional framework. Integrating the two allows the examination of, on the one hand, which institutions lie behind the governance of a chain and, on the other hand, how economic actors create institutions to actively shape the constitution of a value chain (see Chapter 4).

In an attempt to bring together the myriad of institutional arrangements that form the governance in and of value chains, recent studies distinguish between public (governmental, state-driven), private (firm- or buyer-driven), and social (civil-society-driven) governance (Gereffi and Lee 2016; Pasquali, Godfrey, and Nadvi 2020; Torfing 2020) or regulation as framed in GPN studies (Coe, 2021). This has brought about the notion that "rather than governance being administered in a unipolar form, chains/networks are actually governed through bipolar or multipolar forms of governance" (Behuria 2020, 352) – hence their organisation is a complex outcome of interactions between actors on various geographical and administrative scales (Ponte and Sturgeon 2014; Mayer and Phillips 2017).

After an extensive phase of studies on private governance in GVCs on hierarchical, captive, relational, modular, and market governance (Gereffi, Humphrey, and Sturgeon 2005), a need to include the role of the domestic political economy and the roles of the state has been increasingly articulated (Alford 2016; Horner 2017; Horner and Alford 2019; Behuria 2020). Such perspectives allow the capture of how politics (international, domestic, regional) shape economic outcomes and, thus, determine value chain evolution, organisation, and ultimately regional development. Acknowledging that the state can fulfil various roles of facilitator, regulator, producer, and buyer (Horner 2017), sometimes even simultaneously, allows the

domestic political economy that has recently developed in many countries of the Global South where the state becomes a powerful influencer in formerly rather neoliberal economies to be accounted for (Horner and Nadvi 2017).

Put bluntly, 'institutions matter' (Rodríguez-Pose 2013); this is an established notion in GPN/GVC research (Coe 2021). However, how and by whom they are created, how various institutions interact, and how the emergence of RVCs is intertwined with institutional change has not been unpacked:

> *"the different landscapes of regulation (…) intersect in a contingent manner across different territories and industries. Delimiting the resultant outcomes on (…) network structures and operation requires empirical investigation" (Coe, 2021, 104).*

The differences in the institutional framework in RVCs from GVCs/GPNs lie in their societal and territorial embeddedness, based on stronger socio-cultural or spatial proximity (Torfing 2020). Such layering of multiple institutions (van der Heijden 2011) can result in a mixture of intended and unintended regional development outcomes (Rodríguez-Pose 2013). This stems from the fact that "limited attention [has] been paid to the exact transmission mechanisms through which institutions affect economic outcomes" (Rodríguez-Pose 2020, 5).

In sum, noticing the most recent advancement of the governance concept which distinguishes between public, private, and social governance, the interactions between them, based on their underlying institutions, are less accounted for. Based on these considerations, there is a need to include the institutional framework (Coe 2021) a RVC is embedded in with its governance dynamics, consisting of multiple actors functioning on various scales. Hence, despite the fact that value chain studies do acknowledge the influence of institutions, the processes of institutional change within the governance and development outcomes of RVCs have not been, up until this point, sufficiently accounted for in empirical studies (see Chapter 4).

2.2.3 The influence of broader regional industrial dynamics on the evolution of RVCs

Regional economic development rarely builds on one separated single sector. Instead, it is based on sectoral linkages and parallel path dynamics. An evolutionary, cross-sectoral perspective helps to address these linkages and the way they shape the evolution and organisation of RVCs in a broader regional context. This perspective allows the consideration

of both established and politically enforced as well as alternative, rudimental paths causing unevenness in a region. Substantial work has been done to examine such dynamics from an evolutionary perspective, seeing uneven development as not only an outcome of power asymmetries in the global economy through dominating lead firms in global production networks (Coe and Yeung 2015) but also looking at the issue in a wider context (Yeung 2019). Recent contributions from EEG on new path creation (Binz, Truffer, and Coenen 2015) and interpath relationships (Frangenheim, Trippl, and Chlebna 2019) provide helpful approaches to study the linkages of an agricultural RVC with other sectors embedded in the region.

It has been a major concern in EEG to understand where and under which conditions new industries or paths emerge in a region and why path development can be successful in one region but not in another. Given that new paths intersect with the regional economy that has already been established, sectoral development in a region is often characterised by strong interdependencies between the old and the new path (Frangenheim, Trippl, and Chlebna 2019). Causing competitive relationships with other sectors in a region, new paths can also foster intra-regional inequalities (Hassink, Isaksen, and Trippl 2019; MacKinnon et al. 2019). This is similar to the concerns raised by Coe and Hess on how coupling with a GPN does not only generate value but can cause the withdrawal of resources and value from other regional actors:

> *"although the articulation of regions in global production networks can produce significant economic gains on an aggregate level, in many cases it also causes intra-regional disarticulations, for instance, through uneven resource allocation and the breakup of existing cultural, social and economic networks and systems" (Coe and Hess 2011, 134).*

Derived from these seminal studies and conceptualisations in EEG, striving to understand (uneven) development outcomes in and between regions can benefit from an evolutionary perspective that considers path interdependencies and interactions between various sectors (Frangenheim et al., 2019).

A growing number of conceptual contributions in both EEG and GPN scholarship outlines pathways combining both concepts (Boschma 2021; Gong, Hassink, and Wang 2021; Rodríguez-Pose 2021; Yeung 2021). The authors identify various intersections for new research avenues, ranging from institutions, regional diversification, related and unrelated variety, strategic coupling or decoupling, intra-regional capabilities, and inter-regional and sectoral linkages:

> *"the GPN focuses almost entirely on single GPNs, and less so on the relationships with other GPNs. There is little attention for possible interactions with other GPNs, and what GPNs can mean to each other in terms of (positive and negative) externalities and spillovers. The EEG approach has a lot to offer here, as one of their core competences is to identify proximities and complementarities across activities in regions both within and between GPNs, and how that affect regional development and innovation. The theoretical and methodological toolbox of EEG could be useful to analyze GPNs not in isolation, but in relation to each other" (Boschma 2021, 8).*

Given that agricultural RVCs are based on natural resource endowment, such as land, water, or soil, how they interact with other sectors that require similar assets or serve similar markets is of crucial concern (see Section 2.2). Cross-sectoral linkages can, hence, result in synergetic or competitive relationships, thus causing positive or negative regional development outcomes. Despite recognition of these causalities, empirical evidence on these linkages and regional development outcomes is scarce and has not yet been integrated into value chain or production network research (see Chapter 6).

2.2.4 Regional resilience through value chains

The most recent global crisis has drawn scholarly attention to the downsides and pitfalls of our globalised economy. Since the outbreak of the Sars-Cov-2 virus at the end of 2019, the dependencies and vulnerabilities of fragmented production or supply networks, especially in the food sector as one of the most essential and critical infrastructures, have been revealed (Oldekop, et al. 2020). How regions can be resilient to these kinds of shocks that affect the globalised economy and local development outcomes have become of crucial concern. At the same time, empirical studies on value chains have rarely engaged with the impact of and response to external shocks by integrating regional resilience conceptualisations (Gong, Hassink, and Wang 2021).

However, in other research strands, the concept of regional resilience has been intensively discussed in the last decades (Christopherson, Michie, and Tyler 2010; Hassink 2010; Boschma 2015; Martin and Sunley 2015). Regional resilience refers to the capacity of regional economies to, on the one hand, recover from shocks, thus bouncing back to the status quo and, on the other hand, transform and adjust their economies to become more sustainable in the face of potential future risks (Hassink 2010; Boschma 2015). These two components of

short-term adaptation and long-term transformation (Hu and Hassink 2019) have replaced the former 'equilibrium-based' understanding of a system to simply return to a prior status of development (Martin and Sunley 2015).

In addition to the fact that the effects of external shocks on GPNs/GVCs have not been integrated into regional resilience studies, it remains unclear how the presence and interaction of different economic sectors within one region affect how the external shock unfolds in the regional economy (Morris, Plank, and Staritz 2016). Cross-sectoral linkages can help build a resilient regional economy through simultaneously providing secure employment and income structures in one sector or industry while remaining innovative for transformation processes linked to future changes in another sector or industry. Such diversification is not only desirable in terms of sectoral diversification but also in terms of organisational diversification within both GVCs/GPNs and RVCs: "high resilience to external shocks appears to result from diversification, not from replacing GVCs by RVCs" (Scholvin et al. 2021, 6). Hence, in light of the variegated impacts of the pandemic on regional economies, engaging with potentials and limits of economic regionalisation not only in food production but also other critical infrastructures, such as medical supplies (Dallas, Horner, and Li 2021), will necessarily gain much more scholarly attention.

3 Research Design

This dissertation conceptually aims to understand the evolution, governance, and regional development outcomes of regional agricultural value chains and, thereby, expands the conceptual understanding of RVCs and their links to GVCs. The applicability and empirical necessity to engage with the listed aspects are addressed by the case study of the emerging RVC in horticulture in the Zambezi region in north-eastern Namibia. This region is highly influenced, economically and politically, by nature conservation and nature-based tourism.
This chapter outlines the overarching research design the dissertation bases on. As the empirical chapters (4, 5, 6, 7) contain of individual research papers, each of the chapters includes a detailed section on the methodology and the data used. To avoid repetition, this section is condensed to the broader design of the study, the case study selection, and methodological approach that combines each papers individual methods. In what follows, the Zambezi region will be introduced as a suitable case study to examine regional development at the intersection of agriculture-based livelihoods and nature conservation. After that, the single case study and mixed-methods approach, its implications for data collection and analyses as well as its suitability for the study are sketched out. It is followed by a critical reflection on the limitations of the research. Finally, based on the theoretical outline and context specifics, the four overarching research questions this dissertation aims to address are connected to the four research papers that follow.

3.1 Setting the scene: Agriculture and nature conservation in the Zambezi region

The Agenda 2063 designed by the African Union formulates aspirations for a "prosperous Africa based on inclusive growth and sustainable development", incorporating "[m]odern agriculture for increased proactivity and production" through "radically transforming African agriculture to enable the continent to feed itself and be a major player as a net food exporter" (African Union, 2022). In line with these overarching goals, many African countries focus on export-oriented food production and thus integration into global food value chains. Kenya is among the most prominent examples of becoming a successful global

horticulture producer (e.g. Dannenberg and Nduru, 2013; Krishnan, 2017; Pasquali et al., 2021). Through product and process upgrading and large investments in the food sector, agricultural commodities contributed to 23% of the country's gross domestic product (GDP) in 2020 (World Bank, 2022a). Despite seemingly successful industrial growth, many African countries are marked by high intra-regional inequalities, indicating that industrial growth is not necessarily connected to broader regional development (Christian, 2016; Rodríguez-Pose, 2013). The World Food Programme (WFP) proclaims that:

> *"Southern Africa has historically high inequality levels exemplified in historical land imbalances. As such, inequality has a distinct spatial dimension. As a result, it is primarily rural areas that have been "left behind" with higher levels of malnutrition and hunger, labour market exclusion to an increasing rural-urban migration with the urban informal sector an insufficient buffer for poor households." (WFP, 2021, 12)*

In Namibia, selected commodities produced in southern regions— such as meat, grapes, and beer—are integrated into global agri-food networks, altogether contributing 9% of the Namibian GDP in 2020 (World Bank, 2022b). Simultaneously, the country shows immense inequalities socially and economically, especially in remote regions of the north, where agricultural systems are based on small-scale, subsistence farming (Mendelsohn, 2006). As a result of German colonial legacies, these Northern Communal Areas are historically disconnected from commercial agriculture in southern regions, where private land title deeds were allocated among white settlers who remained within the apartheid society under South African rule (Melber, 2019). After independence from South Africa in 1990, the Agricultural (Commercial) Land Reform Act of 1995 reallocated land to previously disadvantaged people, simplified access to loans, and re-established communal land rights based on common land use and traditional leadership (Republic of Namibia, 1995).

Another highly controversial political instrument to protect commercial, export-oriented agriculture in the southern regions is a cordon veterinary fence. During German colonial rule, this fence was established with the aim to protect cattle from pest outbreaks in the north. With the legitimisation of several outbreaks of foot-and-mouth disease, the fence still remains until today, while also contested as a driver of the country's inequalities (The Namibian, 2021). Even after a second national land conference in 2018 to reassess and combat the skewed land allocation, disadvantages in the northern regions and thus post-colonial structures remain:

> *"Privately owned freehold land, amounting to 48 per cent of the territory, remained in the hands of less than 5,000 mainly white farmers, while over 70 per cent of the population remained directly or indirectly dependent upon the 35 per cent of the available communal land (the remaining 17 per cent is state-owned and largely nature reserves)" (Melber, 2019, 75)*

Against this background, the Zambezi region presents a suitable case study to examine the potential and limits of small-scale agriculture for regional development for three reasons. First, the region is relatively peripheral and mostly rural, characterised by limited infrastructure (roads, electricity, water access, etc.) and intra-regional inequalities. Second, the majority of livelihoods in the region depends on small-scale agriculture to remain food secure and as an income-generating activity. Third, even though agricultural value chains remain — to the point of this thesis — predominantly local or regional, the region is coupled to global value chains or production networks through international hunting and safari tourism. Therefore, an analysis of non-participation, dissociations, and indirect effects on regional development through global integration through explicitly examining sectoral linkages, is appropriate. In setting the scene of the empirical case study and providing some introductory figures on inequalities in the Zambezi region, each point will be addressed separately. This is followed by a short outline of the recent developments by the COVID-19 pandemic, which were not accounted for at the beginning of the study but have extensive impact on regional development trajectories and therefore need to be included.

The Zambezi Region is located in the north-eastern part of the country, bordering Angola, Botswana, Zambia and Zimbabwe. With a population of almost 100,000 people in 2016, of which about 70% live in rural areas (NSA 2017), it has a population density of 5 inhabitants per km^2 (country average 2.8). Historically, the Northern Communal Areas, which include the Zambezi region, differ from the southern regions of the country in terms of inequality measures such as poverty rate, unemployment, primary sector employment and government expenditure (Table 3-1). Compared to the southern regions where land can be privatised, the Northern Communal Areas are under customary land right, implying that all land is categorised as communal (Republic of Namibia 2013). 39% of the population in Zambezi is living below the upper poverty rate, 23% below the lower poverty rate (in 2011), positioning the Zambezi region above the national average of 27% and 15%, respectively. Moreover, in 2018, almost 37% of the working population and as much as half of the population aged 15-34 are unemployed (Table 3-1).

Table 3-1. Selected inequality indicators by region.

	Employed population by sector in 2013 (%)			Poverty rate (%) in 2011*		Unemployment rate (%) in 2018	
	Agriculture	Industry	Service	Upper poverty line**	Lower poverty line**	Total	Youth***
Namibia	35.1	13.9	51	26.9	15.0	33.4	41.1
!Karas	42.2	20.3	37.7	14.5	6.7	32.2	44.7
Erongo	10,2	28.7	61.1	6.3	2.4	29.7	36.8
Hardap	40.2	18	41.8	17.2	7.8	34.5	41.9
Kavango east	55.6	5.1	39.3	53.2	34.4	48.2	62.5
Kavango west	55.6	5.1	39.3	53.2	34.4	33	46.8
Khomas	3.3	21	75.7	4.6	1.6	31.5	43.0
Kunene	47.8	11.1	41.1	38.9	24.8	41.6	53
Ohangwena	61.7	4.9	33.4	35.3	18.6	33.3	51.4
Omaheke	44.4	11.1	44.5	26.2	13.5	38.7	46.6
Omusati	69.3	4.5	26.2	28.6	14.1	24	39.7
Oshana	17.7	12.9	69.4	21.2	10.1	32.5	47.2
Oshikoto	44.2	10	45.8	42.6	26.5	36.2	50.2
Otjozondjupa	39.9	13.3	46.8	27.5	14.9	36.1	47.4
Zambezi	45	9.2	45.8	39.3	22.8	37.7	49.7

Sources: (Central Bureau of Statistics 2008; NSA 2015; Republic of Namibia 2016; NSA 2019b)
* More current data not available (changes in administrative boundaries from 2013: Zambezi as former Caprivi, Kavango west/east as former Kavango)
** Consumption expenditures per household below the upper bound poverty line classified as "poor" (2004: 262.45 N$/day); consumption expenditures below the lower bound poverty line classified as "severely poor" (2004: 184.56 N$/day).
*** Unemployment rate for youth defined as ages 15 to 34.

3.1.1 The scope of agriculture-based livelihoods

As outlined above, post-colonial and post-apartheid Namibia has historically been marked by the marginalisation of most members of society and thus by socio-economic inequalities that are still visible today (Lenggenhager 2018; Melber 2019). The Namibian government is working towards the economic development of rural areas through top-down initiatives that aim at reducing inequalities, empower, and modernise rural communities. One of these

initiatives is the commercialisation and diversification of agriculture by supporting smallholder farmers as one central development pillar (NAB 2019).

Due to the country's topography and arid climate, agriculture overall is taking a comparably minor role in regard to the national economy. It accounts for only 6.6% of the overall GDP in 2017 (compared to 25.8% in the industry sector and 67.6% in the service sector) (CIA 2019). Nonetheless, as roughly two-thirds of the Namibian population live in rural areas and two-thirds of those livelihoods rely on subsistence agriculture and herding, the importance of the agricultural sector for the population is immense (Mendelsohn 2006). One third of the Namibian labour force is occupied in the agricultural sector, compared to only 14% in the industry and 54% in the service sector, although the share has slightly declined since 1991 (Table 3-1).

The Zambezi region provides an ideal example to study agriculture-based rural development in a relatively peripheral area. It is mainly characterised by small-scale cereal production, herding of cattle and goats and natural resource production mainly for local consumption or tourism (Mendelsohn 2006; Bollig and Vehrs 2020). In national comparison, it has relatively favourable natural conditions for agriculture such as above average rainfalls during the rainy season, large rivers, and relatively fertile soils. For these reasons, the government envisions agricultural intensification and promotes the Zambezi region as Namibia's 'food basket' (Kooper 2019). This narrative, however, collides with actual sectoral developments in agriculture in the Zambezi region: the majority of livelihoods are based on agricultural production for food security and income surplus generation (Nyambe and Belete 2018). On communal land, intensive agriculture is only being carried out by the state-assigned organisation *Agribusdev* in the form of large-scale irrigation schemes with overall minor contributions in staple crop production. The implementation of such intensive, large-scale green schemes is still lacking and did not materialise in the desired form (Republic of Namibia 2017; Namibia Press Agency 2020).

3.1.2 Nature conservation through CBNRM

Despite agricultural intensification as the first central development pillar for the Zambezi region, nature conservation and nature-based tourism, mark the second central development pillar the government is pursuing. Table 3-2 summarises the most important policies developed by the state to support both agricultural development and nature conservation since Namibia's independence from apartheid South Africa in 1990.

Because of its animal diversity, the region is gaining attention by tourists. Community-Based Natural Resource Management (CBNRM) is closely linked to nature-based tourism and nature conservation. Through CBNRM as an environmental conservation initiative by the government, the case study region has plugged into the tourism sector as a touristic destination, with internationally renowned national parks and large populations of wildlife (Kalvelage, Revilla Diez, and Bollig 2020). The government sets high hopes into the development of nature-based tourism: "By investing in the ecosystem, Namibia is also investing in its future as an ecotourism destination which will produce economic returns that repay the investment manifold" (Republic of Namibia 2017, 3). The government's strategy on tourism development implies investments in nature conservation to "ensure conservation as a key policy priority for tourism, and promote communal conservancies and cultural tourism" (ibid, 31). This special land-use form on communal land is facilitated by the Ministry of Environment, Forestry and Tourism (MEFT) and transfers responsibilities of environmental management to an organised committee within the conservancy but also offers the community to make use of benefits from natural resources, mainly through tourism income (Dongier et al. 2002; Indongo et al. 2010; Kalvelage 2021). Responsibilities of environmental management are transferred to an organised committee and offers the community opportunities to generate benefits from natural resources, mainly through tourism revenues (e.g. Bandyopadhyay et al. 2009; Lubilo and Hebinck 2019). Tourism income is either generated through payments of lodges to the conservancy or hunting concessions (Naidoo et al. 2019; Kalvelage, Revilla Diez, and Bollig 2020).

In the Zambezi region, roughly 54% of the area consists of national parks or conservancies (NSA 2019a), demonstrating the importance attached to conservation. Several studies identified inequalities in distributing land and economic benefits among the communities living in conservancies, especially those dependent on crop farming (Silva and Mosimane 2014; Schnegg and Kiaka 2018; Gargallo 2020). Differences between livelihoods in conservancies and non-conservancy areas have been underemphasised but are relevant, as roughly 42% of the Zambezi region is communal land without a status of conservation.

Table 3-2. Relevant sector-specific regulations and policies in agriculture and CBNRM on communal land.

	Agricultural sector	**Conservation sector**	**Content**
1995	NDP1, Namibia's 1st National Development Plan (Govt. Namibia)		Five-year development strategy with the focus on economic diversification
		Community-based tourism policy (MEFT)	Use potential of tourism to generate social and economic benefits in conservation areas; central aims are environmental sustainability and community participation
1995	Agricultural (Commercial) Land Reform Act		Resettlement of commercial farms to previously disadvantaged people; access to loans; re-establishment of communal land rights
1996		Nature Conservation Amendment Act 5 (MEFT)	Defines mechanisms to implement the Conservancy Ordinance through providing conditional rights to communities to manage wildlife and its benefit
2002	Communal Land Reform Act (MEFT)		Establishment of Communal Land Boards; provide power to Chiefs and Traditional Authorities to manage communal land
2003	The Green Scheme Policy (MAWF)		To develop 'irrigation based agronomic production' to increase food production
2004	Namibia Vision 2030 (Govt. Namibia)		Vision to develop into an industrial nation focussing on education, science & technology, health & development, sustainable agriculture, peace, and gender equality
2005	Market share promotion (NAB)		Market regulation to support domestic production; buyers are obliged to source certain quotas from domestic producers, accompanied by import stops of certain horticulture products
2011		KAZA Treaty (Govts. of Angola, Botswana,	Long-term protection and sustainable use of natural resources across national

		Namibia, Zambia, Zimbabwe)	borders and to develop a growing, sustainable tourism industry
2013	Communal Land Reform Amendment Act (Govt. Namibia)		Restriction of foreign nationals from acquiring customary land rights on communal land, land allocated as customary may not exceed 50 hectares
2014	Growth at home program (MIT)		Long-term plan with three intervention areas: value addition, upgrading and diversification for sustained growth; Gain domestic and international market access
2015	AMTA, Agro-Marketing and Trade Agency (MAWF)		Manage marketing and trading of agricultural produce by AMTA and the NAB; Management of Fresh Produce Business Hubs and National Strategic Food Reserve facilities for food security
2017	NDP5, Namibia's 5th National Development Plan (Govt. Namibia)		To achieve inclusive, sustainable economic growth, guarantee sustainable environment, endorse effective institutions
Source: own compilation, based on Ruppel and Ruppel-Schlichting (2016), Parliament of the Republic of Namibia (2019).			

Data on agriculture- and tourism-related development or baseline household data on a regional level are very scarce for Namibia. Therefore, in order to reflect on the scope of agricultural activities in the Zambezi region besides formal national statistical indicators such as the GDP, primary data generated through the household survey from 2019 within the collaborative research centre (CRC) "Future Rural Africa: Future-making and social-ecological transformation" in regard to crop farming will be descriptively summarised (Meyer et al. 2021).

Of the 633 households surveyed, 54% are located in a conservancy. 37% of the households are engaged in horticulture, with a mean income of 235 ND (15 USD). Those who do not engage in horticulture have a lower crop income of 132 ND (9 USD), albeit not significantly different with a p-value of 0.4170 (Wilcoxon rank-sum test). Those who engage in horticulture have an estimated average crop value of 1800 ND (120 USD), those who do not have an average of 404 ND (27 USD). The potential value of horticulture produce is thus much higher compared to dry crops and differs significantly (p=0.000, Wilcoxon rank-sum test). Only 7% of the sample (n=45) state that their most important livelihood source is in tourism, opposed to 29% (n=183) stating their most important livelihood source is in agriculture, showing the

immense importance of agricultural activities compared to tourism as an income generating activity.

Concerning land allocation, 80% of the sampled households own cropland based on customary land rights (both as formal and informal status). The average total cropland owned by the sampled households is nine hectare (ha), but it must be noted that commonly only a small share of this land is cultivated (2-5 ha, information from focus group discussions). 12% of the sampled households (n=78) have access to rivers for irrigation. The small share can be explained through the land allocation within conservancies: 78% of the area along rivers is allocated to tourism/hunting or wildlife use, compared to 22% for settlements, cropping, and livestock use. These numbers indicate that crop farming is of high relevance as a livelihood source, partly conflicting with nature conservation initiatives. The fact that one-third of the sampled households engage in horticulture, and that income and potential value added from horticulture are higher compared to dry crops, indicates the potential of integrating into RVCs in horticulture compared to the historically dominating traditional rain fed agriculture.

3.1.3 The COVID-19 pandemic in Namibia

The COVID-19 pandemic marks a historical challenge for our globalised economy. Severe and sudden disruptions in global supply chains, supply bottlenecks, external dependencies and social exclusion are already clearly visible around the globe. As the data collection phase of this dissertation was disrupted by the outbreak of the COVID-19 pandemic, the methodological approach had to be adjusted accordingly. In order to capture the impact of this external crisis on regional development in both agriculture and tourism, COVID-19-related changes needed consideration (see Chapter 7). The following section therefore provides a snapshot into the cause and consequences of the pandemic in the Zambezi region.

Ever since the first cases of COVID-19 occurred in Namibia in early March 2020, the country was severely affected by the spread of the virus. The government reacted with the declaration of a state of emergency and a national lockdown. Travel was restricted for international tourists as borders closed completely, gatherings were prohibited and the hospitality industry did not operate in April and May 2020 (Lendelvo, Pinto, and Sullivan 2020). Borders to neighbouring countries partly closed for food imports. First alleviation in tourism and leisure started in July 2020, leading to a slight increase of domestic tourism activities and international tourism. The severe increase of COVID-19 cases in May to August 2021, however, induced a new lockdown. Figure 3-1 provides an overview on the most important governmental measures and developments of the pandemic in Namibia.

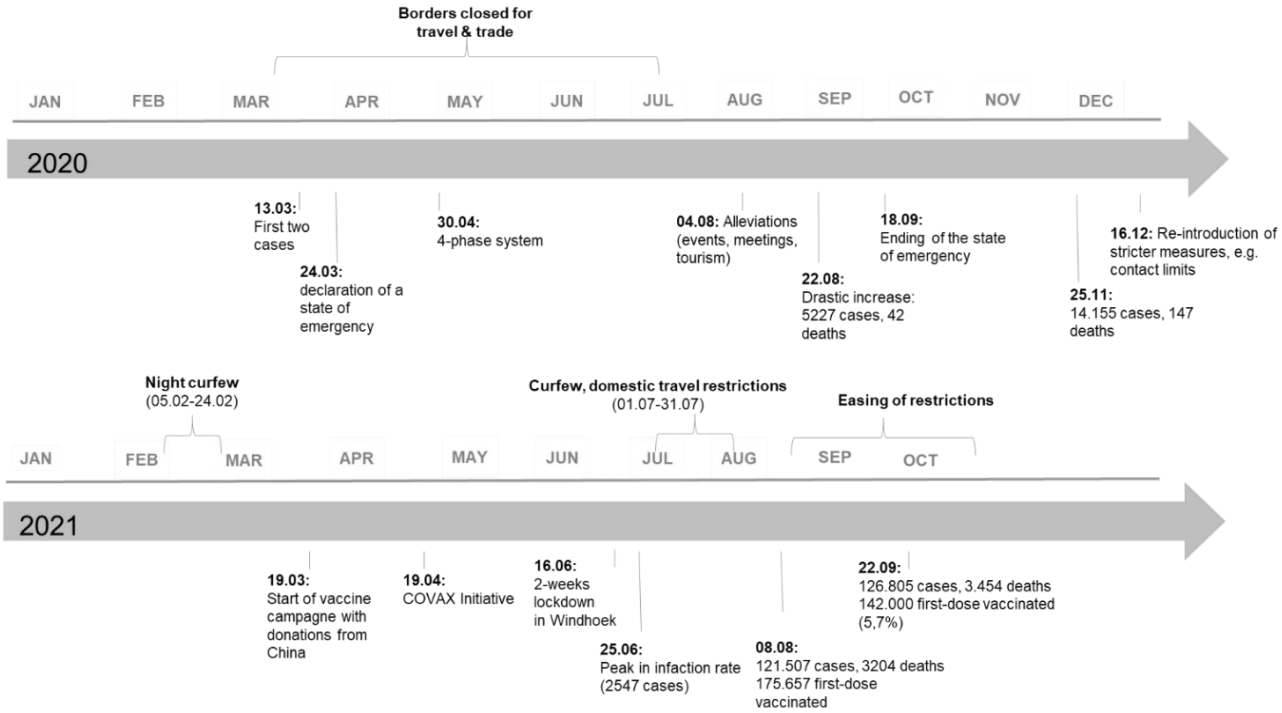

Figure 3-1. Timeline of the important development and measures of the COVID-19 pandemic in Namibia, own figure.

The pandemic and the associated economic ruptures are a decisive test for the resilience of the Namibian conservancy model and challenges their established local networks:

> *"The COVID-19 pandemic is perhaps the greatest test to date of the resilience of Namibia's CBNRM model. It is certainly a key moment for research to assist with documenting how conservancy staff and members understand and respond to the challenges they now face." (Lendelvo, Pinto, and Sullivan 2020, 14).*

For the case of CBNRM in Namibia, Lendelvo et al. state that "losses of tourism-related jobs and future opportunities in areas where tourism is one of few employers, may impact negatively on peoples' perceptions towards tourism and its links with conservation" (Lendelvo, Pinto, and Sullivan 2020, 3). How the pandemic has affected tourism-related development and specifically the links of the conservation-tourism sector to other economies in the Zambezi region, such as agriculture as the region's most important livelihood base, is therefore of concern. Through examining how the various measures taken to prevent the spread of COVID-19 have not only disrupted the tourism GPN, but also affected broader regional development dependent on tourism, the topic of this dissertation expands to consider the impact of the recent global crisis (Chapter 7).

3.2 Methodological approach and database

The case study and methodological approach of this dissertation, although developed by the author, relate to a larger research project whose objectives and links I briefly like to outline. This research was embedded in a multi-disciplinary collaborative research centre (CRC) called "Future Rural Africa" (https://www.crc228.de/), specifically within the sub-project "Future in Chains" (C01). The overarching aim of the CRC is to investigate socio-ecological transformation along various African growth corridors that are envisioned to induce land-use change and thus affect regional economies, livelihoods, natural environments, and political structures. In relation to economic changes, sub-project C01 focusses on agricultural and tourism value chain dynamics along the Southern Agricultural Growth Corridor of Tanzania (SAGCOT) and the Namibian transport and logistics corridor Walvis Bay-Ndola-Lubumbashi Development Corridor (WBNLDC) (Dannenberg and Revilla Diez 2016). The project's research objectives are to detect (1) structures, characteristics and actors shaping regional development in corridor regions, (2) the visions and governance of corridor policies, and (3) the participation and integration of local businesses and its effects on livelihoods (https://www.crc228.de/projects/project-c01-future-in-chains/).

Against this background and as derived in the previous chapter (3.1), this dissertation aims at providing explorative empirical insights into agricultural development on communal land in one case study region in Namibia and its impact on livelihood strategies. Conceptually, it proposes an understanding and explanation of regional development as dynamically constructed in the midst of global economy, state interventions and local livelihoods from a bottom-up and top-down perspective. This is based on the assumption that determining

factors, contextual conditions and human-environmental interactions are intertwined and need case study specific, context-sensitive research approaches in order to understand and evaluate sustainable rural development pathways. To this aim, this study applies a mixed-methods, single case study approach building on several extensive field phases.

3.2.1 Mixed-methods, case study research

To gain an understanding of the evolution of a RVC, underlying multi-layered and multi-actor governance forms and impacts on livelihood strategies, a mixed-methods approach is most appropriate. Whereas a livelihoods approach would traditionally apply quantitative methods to detect measurable indicators on various asset endowments on the household level (Scoones 1998, 2009; Scoones et al. 2020), EEG related analyses that address economic development and institutional change from a dynamic macro perspective commonly apply qualitative methods to detect causal relations, historical continuities, and the domestic and international political economy (Boschma and Frenken 2006). Inspired by both research strands, a combination of qualitative and quantitative methods was most appropriate. The following section will first outline the suitability of case study research and a mixed-methods approach and then explain this study's methodology in terms of data collection and analyses.

> *"[F]or geographers (…) space is relative and variable and this makes context king. The multiplicity of interactions occurring at diverse geographical scales and the variegated spatial forms they generate mean that (…) "one-size-fits-all" approaches are anathema" (Rodríguez-Pose 2011, 352).*

Many contemporary mid-range theories or conceptual approaches, such as included in GVC/GPN studies or EEG, are strongly empirically driven, emphasising the role of space and context (Hassink 2019; Yeung 2019). For questions addressing regional or local development outcomes based on linkages to the global economy, a 'fragmented pluralism' (e.g. Barnes and Sheppard 2010; Hassink 2019) is a necessary compromise to explain context-specific dynamics and historical continuities. A single case study design was chosen to address this research aim and above mentioned mid-ranged theories that apply a mostly "qualitative case-study research in economic geography, based on thick descriptions and deep contextualization" (Hassink 2019, 279).

As summarised by Baxter and Jack, a case study approach is appropriate when a

> *"the focus of the study is to answer "how" and "why" questions; (b) you cannot manipulate the behaviour of those involved in the study; (c) you want to cover contextual conditions because you believe they are relevant to the phenomenon under study; or (d) the boundaries are not clear between the phenomenon and context" (Baxter and Jack 2015, 545).*

According to these criteria, case study approaches fit to studies that are designed to uncover complex causalities, links, and structures of a phenomenon within a certain context in a detailed, place-sensitive manner. Such an approach is suitable for exploratory research designs where the researcher can build on few or no contextual background knowledge or prior studies and therefore inductively approaches a phenomenon (Yin 2014). Case study approaches require a careful definition of the unit of analysis or the phenomenon to be researched (Baxter and Jack 2015) which is important to avoid too broad objectives without clear boundaries.

It can further be distinguished between a multiple and a single case study design. Multiple case studies are used for comparative research that tries to subtract similarities or differences across various contexts. While this is worthwhile to the aim of decontextualising empirical findings and thus theory building, case-specific findings, rare phenomena, or abnormalities might be less accounted for. To this aim, a single case study is more appropriate, allowing for very detailed analyses of one or several units of analysis within a demarcated context. This allows investigating complex processes of sectoral development in agriculture and tourism looking at local path formation as well as the wider, multi-layered institutional context. Through this, explanations and causal relations for certain industry formation processes and their outcomes on the local level can be provided (Yin 2014).

As outlined above (Chapter 3.1), this dissertations' *case* can be broadly defined as regional horticulture value chain in a demarcated space, namely the Zambezi region. As large parts of the Zambezi region are protected territories for nature conservation, and horticulture is an emerging phenomenon in the region, the objective fits to the chosen case and provides relevant, albeit case-specific insights into regional development outcomes. Keeping the mentioned pitfalls of case study research in mind, such as insufficient focus on a clear objective, the exploratory nature of the study demanded openness for new phenomena, linkages to other sectors and actors and thus the consideration of rather broad dynamics. I consider this an advantage rather than a constraint of this study, as it is not limited to case-specific developments, such as focussing solely on agricultural actors. By this, the

inclusionary bias in GVC/GPN studies is purposefully addressed, providing a study that exemplifies a research design suitable to overcome this bias (Bair and Werner 2011a; Bair et al. 2013).

Mixed-methods approaches usually combine quantitative and qualitative data. Whereas empirical social research has long followed a tradition of engaging either with qualitative or with quantitative data, often even by conflicting debates on the aims and limits of both (Kelle 2014), recently the combination of both data types is gaining attention. These formerly opposing approaches can be mixed during data collection either within one approach or as separated methods that will later be combined in the analysis and interpretation to achieve a more robust database. A mixed-methods database can result from two data collection types. First, the integration of both types within one methodological approach, such as a structured questionnaire that contains open questions or a structured interview guideline. Second, a separation of qualitative and quantitative approaches where the first data collection is used as a basis to generate data that builds on the previously generated data (Kelle 2014).

An exploratory research design was necessary as little knowledge or secondary data on livelihood strategies of farmers within conservation areas in the case study area existed prior to the dissertation. To explore this, insights from the meso-level (nation state, regional governments, non-governmental organisations (NGOs) etc.) were as relevant as the micro-level (households, individual businesses, conservancy management etc.). A mixed-methods approach not only allows generating quantitative data as overview statistics on the economic development of a certain sector or region (answering questions such as “what” or “how many”). It triangulates this with in-depth qualitative data on causalities and structures (answering questions such as “why” and “how”) (Yin 2014).

3.2.2 Data collection and analyses

The following section first elaborates on the four research phases chronologically and then gives a short overview on the data collection tools used to address the research topic. Figure 3-2 summarises the activities and analytical steps during the making of this dissertation, which can be vaguely categorised into four phases.

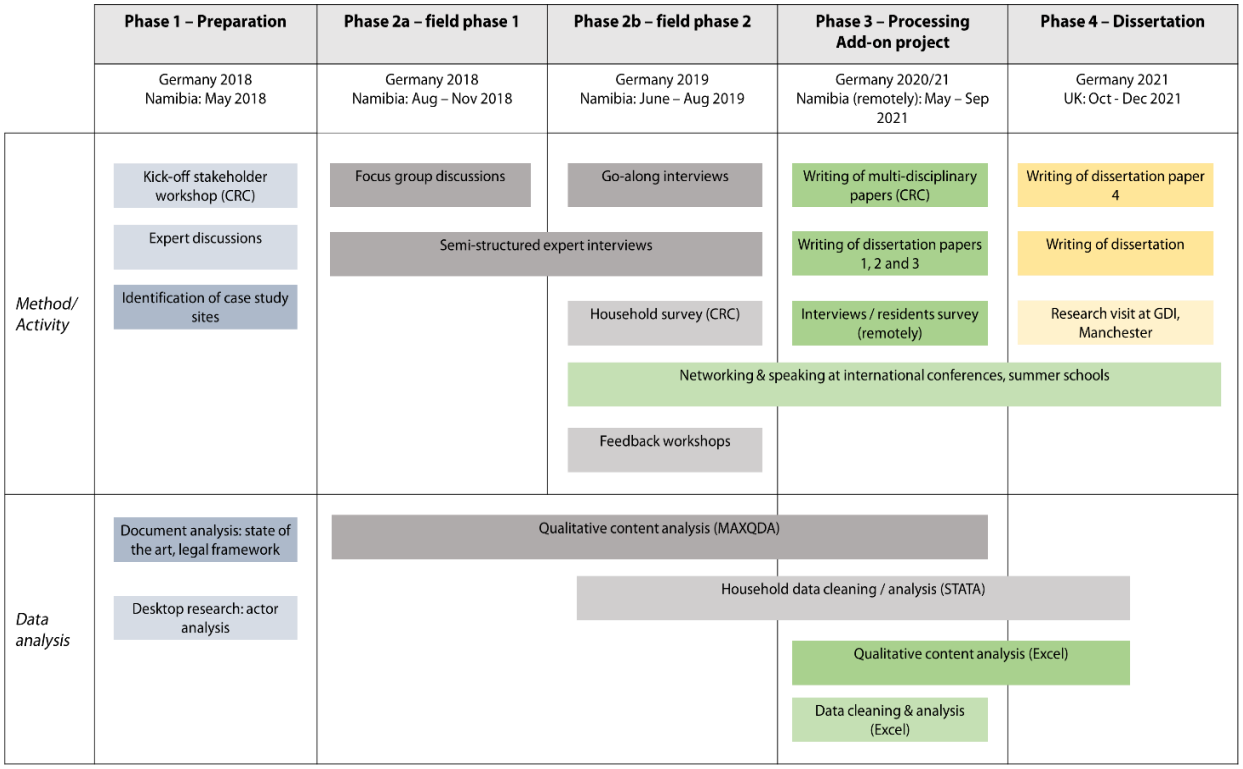

Figure 3-2. Overview of research phases, Methods, activities and data analyses, own figure.

Research phases

In the first phase, an exploratory research trip to Windhoek and the Zambezi region in May 2018 functioned to identify the case study and potential study sites and to establish partnerships with Namibian organisations, especially the University of Namibia (Figure 3-2). This trip was accompanied by intensive desktop research and analysis of relevant reports, policy documents and scientific papers. Exploratory interviews were conducted with a broad variety of regional actors (within the Zambezi region), as well as beyond (international and national). During a kick-off project workshop (within the CRC "Future Rural Africa"), project objectives could be reflected on with relevant actors both in the agriculture and nature conservation sector. These insights were supplemented by a large number of unofficial conversations with residents from the Zambezi region as well as observations in the field.

The second phase is marked by two field trips of three and four months in 2018 and 2019, respectively. From August to November 2018 (Figure 3-2, 2a), qualitative methods were applied. Focus group discussions with farmers in and outside of conservation areas, in-depth go-along interviews with horticulture farmers and stakeholder interviews were conducted simultaneously. In the following phase from May to September 2019 (Figure 3-2, 2b), building on the extensive insights from the qualitative database, additional stakeholder interviews, a quantitative business survey with traders, as well as a large household survey with households within and outside of conservation areas were conducted (Meyer et al. 2021). The data collection phases were finalised by feedback workshops at all case study sites, to present results of the research and reflect on them with the research participants.

In phase 3 and 4, the data was analysed and processed in form of publications (both as main author and as co-author in multi-disciplinary teams), several presentations at international conferences and, finally, this dissertation (Figure 3-2). Due to the changes caused by the COVID-19 pandemic, from May to July 2021 additional interviews and a resident survey were developed remotely and conducted together with a team at the University of Namibia. This phase builds on the combination of mixed methods, namely a structured interview with open and closed questions, as well as a quantitative conservancy resident survey. I used the following methods and sample strategies in the data collection process, resulting in a rich mixed-methods database (see Table 3-3 & 3-4).

Table 3-3. Overview of mixed-methods database.

	Sampling	Actor/group	Level	Phase	No
Qualitative methods					
Go-along interview	Snowball sampling	Horticulture farmers in conservancies Horticulture farmers outside conservancies	Micro-level	2b (2019)	25
Semi-structured interview	Purposive sampling, Snowball sampling	Lobby groups/associations Retail Input suppliers NGOs Local authorities Government/parastatal agencies	Meso-level (regional, national, supra-regional)	2a/b (2018/2019)	44
Focus group discussion	Random stratified sampling	Farmers in and outside conservancies	Micro-level Meso-level (regional)	2a (2018)	22

Structured interviews*	Purposive sampling	Farmers Retailers Tourism entrepreneurs Conservancy management NGOs Government	Micro-level Meso-level (regional)	3 (2021)	81
					Total: 172
Quantitative methods					
Household survey	Random stratified sampling	Rural households	Micro-level	2b (2019)	633
Conservancy resident survey*	Random sampling	Conservancy residents	Micro-level	3 (2021)	137
Business survey	Random sampling	Horticulture traders/vendors	Micro-level	2b (2019)	17
					Total: 787
* Data conducted remotely due to COVID-19 restrictions (see Chapter 7 for more details).					

Table 3-4. Overview of qualitative database of phase 2a & 2b.

Method	Sector	Number	Actor group	Main research topic
Focus group discussion	Agriculture	22	Crop farmers In conservancies: 10 Outside conservancies: 8 Conservancy management: 4	Bottom-up perspective on RVC scope, institutional environment, collective action, livelihood strategies, interaction with conservation
Go-along interviews	Agriculture	25	Horticulture farmers In conservancies: 14 Outside conservancies: 11	Bottom-up perspective on agricultural practices, livelihood strategies, RVC integration, upgrading
	Agriculture	7	Government	Top-down perspective on RVC scope, institutional environment, governance

Semi-structured interview	Agriculture	10	Lobby, associations	Top-down perspective on RVC scope, institutional environment, governance
	Agriculture	3	NGOs	Agricultural practices, upgrading
	Agriculture	12	Retail firms	RVC scope, supplier linkages, institutional environment, governance
	Tourism/ Conservation	3	Conservancy management	Interaction with conservation, livelihood strategies
	Tourism/ Conservation	2	Government	Top-down perspective on tourism and conservation interactions with farmers
	Tourism/ Conservation	7	Business associations, NGOs	Supplier linkages, interaction with conservation
				Total: 91

Quantitative data

As described in Chapter 3.1.1, in the case study region, basic household data or trade data on the regional level were not available. In order to position the role of sectoral developments in both agriculture and nature-based tourism and nature conservation within a wider Namibian context, mapping of the value chain structure and economic impact was a necessary step in the exploratory analysis. This is especially relevant as small-scale agricultural activities and RVC dynamics are linked to informal structures and thus do not occur in official national statistics. The quantitative approach hence allows answering descriptive questions on the basic structure and scope of the RVC and connected livelihood strategies, based on measurable indicators such as income, assets, land sizes, etc. To this aim, two quantitative data collection approaches were chosen: first a structured questionnaire on value creation and capture and the scope and organisation of regional traders (business survey, Table 3-3), and second a household baseline survey on assets and livelihood strategies (Meyer et al. 2021).

The business survey covers 17 of the estimated roughly 40 horticulture street vendors in Katima Mulilo. The vendors were randomly selected at different locations throughout the town. In a structured questionnaire they were asked about their income, value adding activities, supply sources and channels, challenges and impacts on their livelihoods. Through

this business survey, one important retail form and RVC segment besides supermarkets was integrated into the study.

The household baseline survey was conducted within the CRC "Future Rural Africa", covering 633 households in rural areas of the Zambezi region. It addresses a broad range of topics on socio-economic development and social ecological relations such as income sources, assets, expenditures, social networks, aspirations, links to nature conservation, farming activities, and business activities. In addition, secondary databases and grey literature were gathered, such as the financial report on Namibian conservancies (NACSO 2017), crop monitoring data (AMTA 2019), horticulture production data (Namibia Agronomic Board 2018a, 2018b), general national inequality statistics, and several government or NGO repots.

The quantitative business survey was digitalised and analysed descriptively with the use of Excel due to the small sample size. The household baseline survey was used to provide a descriptive overview on sectoral developments in agriculture and tourism by extracting specific indicators and analyse those with the use of the software STATA.

Qualitative data

This research aims to provide not only an understanding of the evolution and regional development outcomes of a new RVC but also seeks for explanatory factors as to why RVCs evolve, shape and are shaped by regional actors. Therefore, the core data this dissertation is grounded upon is based on qualitative methods, namely semi-structured interviews, focus group discussions and go-along interviews, which operationalise questions for explanations and causal relations of a particular phenomenon, going beyond describing, mapping, or quantifying.

Semi-structured stakeholder interviews function as basis to understand the multi-layered institutional environment value chains are embedded in and to be able to explain institutional influences on regional development (Rodríguez-Pose 2013; Coe 2021). They reflect the top-down perspectives of decision makers as well as governance structures by public and private actors. Semi-structured interviews allow for a discussion of the issues relevant to the research and discuss related questions that arise in the course of the field research (Yin 2014). A semi-structured guideline usually contains questions according to the position and knowledge of the interview partner, while remaining open for new aspects and topics that come up during the interview (Mattissek, Pfaffenbach, and Reuber 2013). This approach is suitable to gain specific knowledges from experts in the respective field:

> *"The focus is on the interviewee providing the researcher with systematic information about events, processes and situations. As such, this requires an approach rooted in critical realism, by which we mean the belief that there is a reality that the researcher can gain knowledge of (rather than have direct access to)" (Richardson, Godfrey, and Walklate 2021, 4).*

I conducted 44 semi-structured interviews with stakeholders in the conservation and agriculture sector in the Zambezi region and the capital Windhoek. The interviews covered the perspectives of lobbyists, government agencies, NGOs, and private firms such as lodges or supermarkets, thus including all relevant actor groups that are included in or actively or indirectly shape the value chain in horticulture. Government agencies, lobbyists, and NGOs could be identified through desk research, followed by a 'snowball' approach in the field. Of the six supermarkets in Katima Mulilo (in 2019), four branches could be interviewed. In addition, the conservancy management boards of all conservancies included in the study were interviewed. The interview guidelines were adjusted to address specifics of each stakeholder group or expert.

Focus group discussions (FGD) are commonly used to gain insights into complex topics that are constituted by social relations or collective actions. In gathering a specific, targeted group of people, certain topics and questions are discussed and discursively addressed within these groups (Flick 2009). Hence, due to their interactive, participatory character, FGDs generate reflective and multi-layered insights into research topics compared to individual interviews. Moreover, social control mechanisms within a group setting and the possibility to cover a broad range of opinions and information contribute to a solid database (Onwuegbuzie et al. 2009). For the purpose of this study, the conduction of FGDs in an early stage of the research allowed to gain broad insight into farming practices, the scope of agricultural activities in the Zambezi region, the institutional environment forming possibilities of value chain integration and upgrading, the development of livelihood strategies and the impact of conservation measures on agricultural development. The FGDs thereby function as main database to cover the bottom-up perspective on RVC integration, its possibilities and constraints. They were furthermore used to adjust semi-structured interview guidelines for various stakeholders and identify individual farmers for go-along interviews. In total, with the help of two research assistants, I conducted 22 FGDs in four conservancies and two non-conservancy settlements as control group. The selection FGDs was done through local gatekeepers such as extension officers or village elders according to the criteria of balanced number of male and female farmers, age range, crops grown, and field sizes. The total number

of participants was 155 (F = 73, M= 82), the group sizes ranged from 5 to 20. The discussion guideline was structured according to: livelihood well-being; value chain history/farm activities; constraints; potentials; stakeholders involved (associations, private companies, government actors, NGOs, conservation area); future plans and aspirations.

Accompanying in-depth one-on-one interviews with horticulture farmers identified in the FGDs functioned as micro case studies. As a qualitative approach, the go-along interview uses elements of ethnography through the combination of interviews and participant observation in peoples' everyday practices. Through joint activities, such as farm visits, the classical question-answer setting is avoided and an open atmosphere is created that better reflects the reality of the participants (Kusenbach 2003). I conducted 25 go-along interviews in and outside of various conservancies of the Zambezi region that covered the broader topics of changing agricultural practices, livelihood strategies, RVC integration, and upgrading from a bottom-up perspective.

The qualitative material was analysed by means of qualitative content analysis according to Mayring (2000), using a structured deductive and inductive categorisation with the coding software MaxQDA. In a first step, the codes were deducted from the interview guideline and its underlying conceptual components based on the existing literature and conceptual framework (e.g. livelihood strategies, upgrading, value chain governance, institutional layers). In a second step, new codes were constantly and iteratively derived from the material during the analysis process allowing to be open to new topics and reveal structures that have not been accounted for prior to the field research (e.g. conservation interactions, challenges, livelihood diversification, collective action).

The go-along interviews and observations gathered during field visits supplement the stakeholder interviews, focus group discussions and survey data by providing detailed micro-case studies into the realities, challenges, social network, and personal histories of individual farmers following a Sustainable Livelihoods Approach (SLA) and thus methodological individualism approach (e.g. Scoones 2009). According to this research paradigm, boarder structures on the meso- or macro level are directly constructed and formed by individuals on the micro level, their behaviours, local conditions, and assets. The narratives, anecdotes and insights gained in the go-along interviews can be triangulated and put in relation to the broader social structures and challenges discussed in focus groups and the multi-scalar institutional context revealed in the stakeholder interviews – thus following methodological collectivism or more structural, political economy approaches.

Through this triangulation, the weaknesses ascribed to the methodological individualism approach are minimised as the contextual conditions on the meso- and macro level, such as policies, government regulations or GPN/GVC dynamics in tourism are used as explanatory factors for the activities of farmers and their scope of action. In sum, this interlocking of two complementary explanatory approaches – methodological individualism and collectivism – provides a suitable approach to contrast bottom-up and top-down structures and thus account for both individual livelihood strategies as well as the broader institutional framework and linkages to the global economy in understanding and explaining the evolution of a RVC.

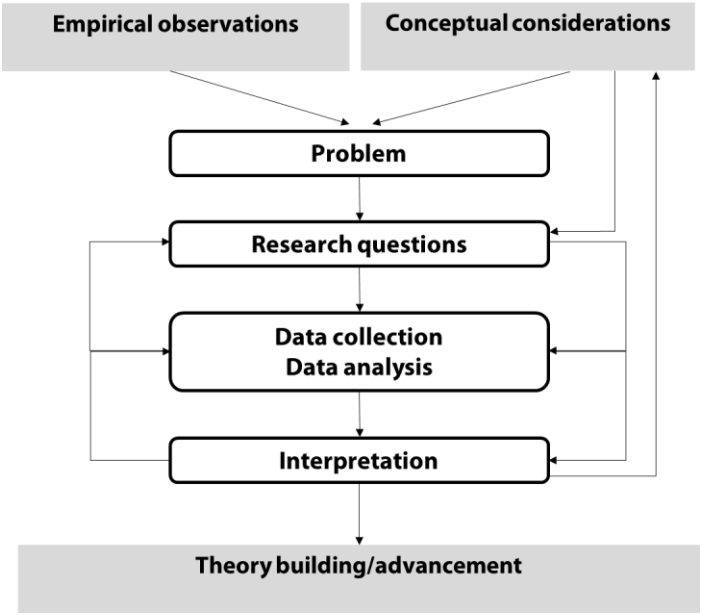

Figure 3-3. Inductive-deductive, empirical-analytical research process. Own figure, based on Mattissek et al. (2013), 46.

Figure 3-3 visualises the simplified structure of the chosen research process, based on an empirical case study and analytical research questions. The steps within such a process are based on an inductive-deductive approach that builds on existing conceptual considerations, mid-ranged theories, case studies from other contexts as well as empirical observations and field research. Both feed into the development of the research questions. During the process of data collection, analysis and interpretation, various feedback loops and reconsiderations or adjustments of the research questions result in a more grounded approach towards theory building or advancement.

Add-on project on COVID-19 (Phase 3)

The final data collection phase took place within the add-on project on the impact of COVID-19 on tourism and agricultural development in the Zambezi region (see Chapter 3.1.3). Due

to travel restrictions and safety requirements in light of the pandemic, this project was developed and conducted remotely, meaning the author of this dissertation was not involved in actual data collection 'on the ground'. Such remote research requires the organisation of data collection from the distance and thus relies on strong cooperation to local partnerships, which this project can provide based on four years of close cooperation. The objectives of the study as well as survey and interview guidelines were developed jointly with partners from the University of Namibia via several online workshops. Two data collection methods were applied: a quantitative conservancy resident survey and structured interview guidelines for public and private actors in horticulture and tourism and nature conservation. Data was collected in seven selected conservancies (Impalila, Salambala, Sikunga, Mayuni, Kwandu, Dzoti, Mashi) and the regional capital Katima Mulilo. We chose the conservancies to ensure a geographical spread throughout the entire region and create an overlap with both the CRC household survey from 2019 and the case study conservancies from the qualitative data collection in order to compare the results of both project phases.

3.3 Critical reflection of the research design

A critical self-reflection of the research design is necessary to provide transparent insights into the suitability and limits of the research. The following section first outlines limits of the database, and second reflects on ethical implications during data collection and interpretation. Although the research design is appropriate and has proven suitable for the study purpose, there are some limits of the data that can be summarised along three aspects. First, in relation to the strong local, case study specific perspective; second, because of the focus on domestic actors within the RVC; and third, in regard to the disruptions caused by the COVID-19 pandemic that blur the clear trends in sectoral developments both in agriculture and tourism.

Regarding the first point, data limitation stems from the single case study design that naturally comes with concerns on the generalisability of the research and theory building followed by the empirical analysis (see Chapter 3.2.1). As the objective of this study is to explain the governance of RVCs within conservation-shaped areas as well as livelihood outcomes, a single case study approach that focusses on the local dynamics rather than macro-dynamics was called for. A common feature in such place-specific studies is the focus on unusual dynamics in often atypical phenomena that reveal new structures, causalities and thus contribute to theory building in an inductive way. Triangulating the local bottom-up

perspective with regional and national top-down perspectives largely reduced the 'local bias' and allowed the case to be viewed within a wider Namibian context .

Context is a crucial research phenomenon as well as explanatory dimension in economic geography:

> *"First, the object of economic geographical empirical research is embedded in context. Second, theories are embedded in (institutional and academic) contexts and therefore to some extent constructed." (Gong and Hassink 2020, 476).*

Nonetheless, the concerns on decontextualisation as raised e.g. by Hassink (2019) or Gong and Hassink (2020) are relevant for this study as it is deeply embedded in regional dynamics and specifics within one single case. Although the findings must be regarded within their historical, socio-political, and environmental context, they can still inform theory building within regions with similar contextual conditions, such as rural, peripheral areas in African countries that rely to a large extend on nature conservation and tourism (see for instance Kalvelage et al. 2021 for a Kenyan comparison case study). It must be mentioned that this dissertation does not aim at advancing mid-ranged theories per se; it is rather empirically motivated and can provide grounded explanations on regional economic dynamics and linkages to multi-scalar institutions. Its conceptual and methodological approach has proven suitable to study such phenomena and could hence be applied to various case studies that could, in their variety, inform mid-ranged theories such as value chain governance or new path creation more holistically.

Secondly, this study clearly focusses on the RVC links and dynamics within Namibia, specifically the Zambezi region from a local or domestic perspective. It has been emphasised that case study research needs to define clear boundaries for the studied phenomenon to remain focus and ensure feasibility (Chapter 3.2.1). In this attempt, linkages to the broader Southern African region (e.g. to Zambia or South Africa) have been considered from the perspective of Namibian actors, but the study did not cover these international linkages directly. Production and trade outside of Namibia was hence not included, as the focus lied on the regional development outcomes and RVC emergence within the Zambezi region.

Thirdly, the first three papers (Chapters 4, 5, 6) of this dissertation address pre-COVID-19 developments. The temporal continuities and outlook of the findings might not apply in a post-COVID-19 world and can therefore only partly be used for policy implications. The consolidation of RVCs in agriculture and the global tourism sector faced major disruptions

during the pandemic and will most likely develop under other dynamics in the future. To react to this limitation and to capture changes in this moment of crisis, the add-on project that resulted in the fourth paper of this dissertation captured the impact of COVID-19 (Chapter 7). With this, the dissertation can contribute to the rapidly growing empirical literature on the impact of the pandemic on food systems and tourism-driven development in Africa (e.g. Clapp and Moseley 2020; Rogerson and Baum 2020; Giddy and Rogerson 2021).

Apart from reflections on the data collection and database itself, a study like this comes along with ethical implications and considerations regarding the research practice and own positionality in the research process: "A researcher's theoretical position, interests, and political perspective will affect, if not determine, the research question and the methodological approach" (Pyett 2003, 1172).

Especially when engaging with the broad field of 'development', one ultimately should reflect on power and hierarchy (Bilgen, Nasir, and Schöneberg 2021). These structures can be addressed by asking questions such as: How can we overcome the 'white colonial gaze' and thus the myths of an objective production of knowledge about 'development', or how can development researchers contribute to such a transformation, addressing the often conveyed "idea that the push for change has to come exogenously persists, cementing a binary worldview that locates problems in one half the world, and solutions in the other" (Bilgen, Nasir, and Schöneberg 2021, 4), as the authors argue. When rethinking the construction of knowledge in these processes, one must take into account how the researcher actively chooses which field data to process and how, based on their values, beliefs and privileges. A close collaboration with scholars, civil society and policy makers in the research area can contribute to coming closer to co-constructing knowledge. Through this, persisting dichotomies such as 'developed' or 'underdeveloped' are avoided and potentially replaced by more nuanced-place sensitive descriptions and explanations on the researched phenomenon (Bilgen, Nasir, and Schöneberg 2021).

Changing data collection methods during an ongoing research projects comes with certain considerations regarding research ethics and consistency (Richardson, Godfrey, and Walklate 2021). Especially in a setting where the main researcher has established trustful partnerships, strong collaborations and plans on sharing and reflecting findings with the research participants (stakeholders and farmers alike), the shift towards remote research during the pandemic has major pitfalls. Questions arise such as: Which risks occur for the research

partners and participants, which opportunities might arise? Which conditions are in place for a remote collaboration? How is the research process and data quality monitored? How can methodological accuracy be assured? Who has ownership over the data, its analysis, interpretation, and output? These questions cannot be answered conclusively, they shall rather be self-critically reflected upon. Table 3-5 summarises the possible risks and problems that can occur in remote research designs and how the project reacted to these in order to keep biases and imbalances to a minimum.

Table 3-5. Remote research considerations and strategies.

Step in the research project	**Possible risks and problems**	**Mitigation strategy**
Development of research aim, questions & methodology	Unfitting research questions; Discontent with the research focus; Conflict of interest between local researchers and research participants	Joint construction of the research proposal; Regular video calls to refine research questions; Rely on findings from prior research partnership
Data collection & digitalisation	Low quality of data; Bias in selection process; Decreased consistency due to large group of researchers engaged in field work	Use structured guidelines and closed questionnaires to increase accuracy and comparability: Training of interviewees; Pretesting; Instant availability and troubleshooting via direct messaging; Monitoring of raw data and digitalised data on a cloud platform
Data analysis	Misinterpretation of data; Exclusion of local partners	Joint workshop on key findings; Adjustment of the research proposal & paper draft; Joint analysis of interview data and survey data

Research output	Exclusion of local partners; limiting visibility of cooperation	Joint paper writing
Sources: Bilgen, Nasir, and Schöneberg 2021; Dunkley et al. 2021; Richardson, Godfrey, and Walklate 2021.		

Through a collaborative methodology based on strong partnerships during research preparation, field research, data analysis and the writing of scientific papers, long periods in the field, and own reflections and confrontation with issues of power and hierarchy, the author aimed to keep imbalances within remote research in the broad field of 'development' as small as possible. Activities that addressed this attempt are for instance the conduction of a joint field school with German and Namibian scholars and students, joint paper writing, or the constant sharing and reflection with the findings with the research participants (e.g. through workshops and reflective focus group discussions in the case study areas). Hence, a remote research project, if conducted in a sensitive and collaborative way, can depict an opportunity for reducing hierarchies, increase collaboration during every step of a research project and engage in co-construction of knowledge rather than extracting knowledge from Global South countries to the benefit of advancing Global North concepts and debates (Bilgen, Nasir, and Schöneberg 2021).

3.4 Overview of empirical papers

The inductive, exploratory methodology resulted in a large variety of different conceptual perspectives and empirical building blocks to address the main research aim. In the following, I briefly sketch out the contributions of each of the four academic, peer-reviewed papers as chapters of this dissertation towards the broader research questions (visualised in Figure 3-4). Following, the four papers are included as individual chapters where theory, methods, findings, and a discussion is included in detail.

The first paper entitled **"Understanding regional value chain evolution in peripheral areas through governance interactions – an institutional layering approach"**, published

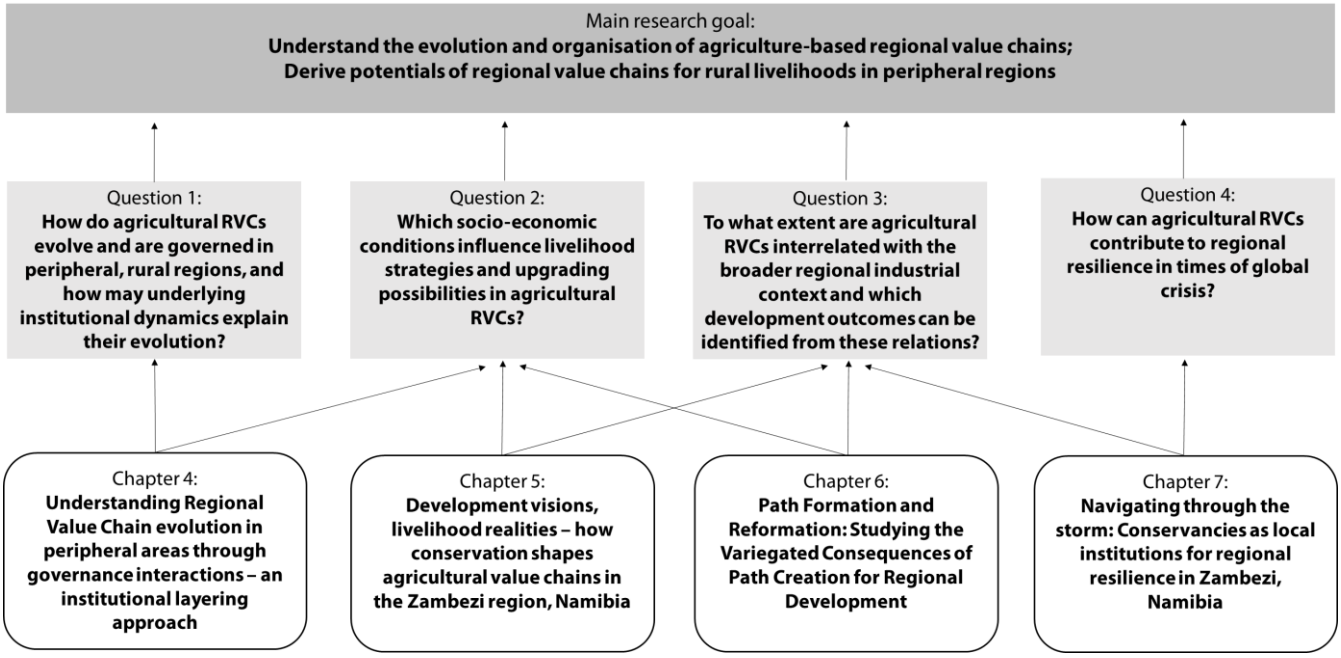

Figure 3-4. Overview of the objective and research questions and the contribution of individual papers. Own figure.

in *Applied Geography*, lays the ground for understanding the emergence and constitution of a regional value chain in horticulture in the Zambezi region. It conceptually argues for the crucial role of multi-actor, multi-scalar institutions and their interactions in shaping a regional value chain. Understanding such institutional change helps detect forms of value chain governance and how a chain can be organised to the benefit of its upstream actors – small-scale farmers. With this focus, it contributes to the research questions 1 and 2.

The second paper, **"Development visions, livelihood realities – how conservation shapes agricultural value chains in the Zambezi region, Namibia"**, published in *Development Southern Africa,* addresses the linkages between nature conservation and agriculture, the two central development strategies for the Zambezi region imposed by the government. It reveals the conflicting top-down visions of commercial, intensified agriculture and nature conservation in the same territory and outlines how livelihood strategies are developed under these pressures. This broadly addresses research questions 2 and 3.

The third paper entitled **"Path Formation and Reformation: Studying the Variegated Consequences of Path Creation for Regional Development"**, which is published in *Economic Geography*, develops a conceptual framework to study the interactions between a new emerging path in tourism and the original regional path in agriculture. From an Evolutionary Economic Geography perspective, the reformation of the existing path is caused by the changing asset and market basis through the emergence of a new industry. This paper

hence further sheds light on complex interlinkages between agricultural value chains and the wildlife tourism sector, which is closely connected to nature conservation. Through this, research questions 2 and 3 are addressed.

In the fourth paper, **"Navigating through the storm: Conservancies as local institutions for regional resilience in Zambezi, Namibia"**, published in the *Cambridge Journal of Regions, Economy and Society*, the inevitable changing context due to the COVID-19 pandemic is addressed. Through the combination of regional resilience and the role of value distribution in value chains or production networks, it sheds light on the myriad of impacts the pandemic has on sectoral linkages between agricultural livelihoods and the tourism GPN. This paper contributes to answering research question 3 and 4.

4 Understanding Regional Value Chain evolution in peripheral areas through governance interactions – an institutional layering approach

Hulke, C.; Revilla Diez, J. (2022): Understanding regional value chain evolution in peripheral areas through governance interactions – An institutional layering approach, *Applied Geography* 139. DOI: 10.1016/j.apgeog.2022.102640.

Abstract

Due to 'dark sides' of global value chain integration, a growing body of literature engages with regional value chains (RVC) as alternative strategy for inclusive regional development. To date, we know little about the conditions and actors under which RVCs evolve. Research dominantly highlights the role of regional lead firms, such as supermarket chains in food RVC, and state interventions. However, the role of other stakeholders such as public organisations and civil society at the local remains unclear. Therefore, the embeddedness of RVCs in multiple institutional layers and their exposure to institutional change needs consideration to understand how they evolve. The analysis of an emerging horticulture RVC in Namibia allows disentangling the interactions of state-driven market protection, firm-driven standardisation, and civil-society-driven collective action by analysing the processes of institutional layering underlying value chain governance. This study asks (1) how public, private and civil society governance forms hamper or foster the expansion of RVCs, and (2) how the layering of various institutions can create synergies rather than frictions. The case study helps to develop a grounded understanding of multi-layered governance, which is a crucial step to understand how RVCs can contribute to inclusive economic development in peripheral, rural areas.

Keywords

Regional value chains, Rural development, Institutional layering, Governance, Namibia, Horticulture

4.1 Introduction

Global value chains (GVC) have garnered much attention as a development policy tool to trigger regional growth through the integration into the global economy (e.g. World Bank, 2020). Such policies, however, do not always reach poorer, rural areas or agriculture-based livelihoods and thus do not automatically result in functioning regional development strategies (Rodríguez-Pose, 2013; Rodríguez-Pose & Hardy, 2015). Therefore, strengthening local and regional economic networks instead of GVCs presents an alternative development paradigm that may be promising to help overcome North-South power asymmetries and uneven development resulting from it (Horner & Nadvi, 2017).

Addressing this regionalisation trend, a growing body of literature engages with regional value chains (RVC), a concept that depicts production and consumption systems that are not organised globally but within a single world region or administrative boundaries (Krishnan, 2018; Pasquali et al., 2020). The current understanding of RVCs bases on relatively few studies that cover a broad range of empirical cases from local or domestic foci to, for instance, South-South trade (Black et al., 2019; Bosiu et al., 2017; Horner, 2015; Horner & Nadvi, 2017; Krishnan, 2018; Pasquali, 2019; Pasquali et al., 2020). Analyses mainly focus on economic linkages between regional lead firms, their suppliers, and markets within regions of the Global South (Barrientos et al., 2016; Krishnan, 2018). On the one hand, there is a positive development potential ascribed to the phenomenon of RVCs: stronger territorial and institutional embeddedness based on social networks of actors originating from the same region in which they operate contributes to more direct value creation and capture within these regions. Through this, economic networks functioning within one region can create income, work opportunities, thus reduce poverty, and decrease uneven development and intra-regional inequalities (Coe, 2021; Rao & Qaim, 2011). On the other hand, non-participation of local actors, a common problem in GVCs is also relevant for RVCs. Entry barriers can exclude small firms or farms when regional private standards in production are too high, causing limited value creation and capture on the local level. In agro-food systems, the expansion of international supermarket chains to the Global South has partly introduced global standards that are difficult to fulfil or contradict the original production practices and knowledge (Horner, 2015; Lee et al., 2012).

Despite this large variety of possible forms, causalities and structures of the emerging phenomenon of RVCs, empirical studies on RVC evolution, their dynamics and ultimately

development outcomes are still limited (Pasquali et al., 2020) but necessary to further conceptualise RVCs as a rising counterpart towards GVCs. As Pasquali et al. (2020) argue by the example of the apparel industry in southern Africa, complex linkages between private and public governance patterns that shape RVCs are insufficiently empirically understood and conceptually grounded. We address this gap in knowledge by shedding light on the institutional processes behind private and public governance, as well as adding a third crucial governance form – civil society governance. In doing so, this paper provides two crucial contributions. First, it provides an empirical case study of multiple governance forms for understanding value chain based regional development in a rural, peripheral agrarian setting. Second, it brings forward an empirically grounded analytical approach to disentangle RVC governance by looking at the institutional processes that cause change in various governance forms.

Because of the recent formation of a RVC in horticulture in the rural Zambezi region, this case presents a suitable example to examine how various institutions on multiple geographical scales RVC emergence, which prior studies analysing rather established sectors could not address (e.g. Barrientos et al., 2016; Bosiu et al., 2017; das Nair, 2018; Pasquali et al., 2020). Institutions are one core factor in shaping rural development, defined as rules of the game, norms and values within a society. These range from laws, policies or regulations (formal institutions), to traditions, relationships and social networks within smaller, closer networks (informal institutions) (Rodríguez-Pose, 2013). In order to understand how value chains are governed on multiple scales (local, national, regional) and by multiple actors, the processes of and interactions between various institutions need to be regarded.

Three decades after independence from South Africa in 1990, post-colonial and post-apartheid Namibia is historically marked by marginalising certain ethnic groups from its society (Lenggenhager, 2018), resulting socio-economic inequalities are still visible today in rural regions north of the country – the Northern Communal Areas. The political regional development strategy is based on crop production and nature-based tourism and has been identified to contradict livelihood strategies and land-use patterns on the ground, thus colliding with local institutions (e.g. Gargallo, 2020; Hulke et al., 2020). To facilitate regional economic development in such rural areas, various agrarian policies target the commercialisation and intensification of agriculture, including smallholder farming, through intensified crop production. The state initiative of so-called green schemes, out-grower schemes for intensified production of maize, rice or vegetables, is a crucial tool to achieve

intensification. Moreover, a Market Share Promotion (MSP) policy regulates imports of fresh produce and strengthens the competitiveness of Namibian farmers. Through this, the state pursues a protectionist strategy that aims to increase the domestic production.

The joint analysis of institutions on various scales shaped by various actors (private, public, civil society), sheds light on how the RVC in horticulture has emerged and is currently shaped. We combine the framework of institutional layering (van der Heijden, 2011) with RVC literature to study new governance forms in RVCs that emerge through the interaction of private, public and civil society actors. In doing so, we first describe how the RVC in horticulture is currently structured. Second, we analyse how public, private and civil society/social governance forms hamper or foster the expansion of RVCs by disentangling the multiple institutional processes behind value chain governance. Finally, we address how the layering of various institutions can be streamlined to create synergies in the governance of value chains rather than frictions for regional development that is inclusive and beneficial for the regional actors.

For the purpose of this case study, we apply an understanding of a RVC that is more defined than what is usually applied (see second paragraph). It includes production and consumption systems within one administrative region, albeit including linkages to the domestic market as well as neighbouring countries.

4.1.1 Case study

The Zambezi region (Fig. 4-1) is an ideal case study to investigate the role of RVCs for regional development in a peripheral area. Zambezi has a population of nearly 100,000 inhabitants (in 2016), of which roughly 70% live in rural areas (NSA, 2017,). In national comparison, inequality measures such as poverty rates, unemployment, employment in the primary sector, and government expenditures are much higher in Namibia's Northern Communal Areas than regions in the south of the country. With 39% of the population living below the upper poverty headcount rate, and 23% below the lower rate in 2011, Zambezi is substantially above the country's average of 27 and 15%, respectively (Republic of Namibia, 2016). This tendency becomes even more evident when looking at unemployment rates: in 2018, almost 37% of the working population and even half of the population between 15 and 34 years of age were unemployed (NSA, 2019,). Due to these socio-economic uncertainties, the majority of the rural livelihoods rely on subsistence agricultural for food security and surplus income (Hulke et al., 2020; Nyambe & Belete, 2018).

Ecological conditions for agriculture, especially crop farming are in comparison to the rest of Namibia rather favourable: relatively steady rainfalls in the rainy season, as well as large rivers, and decent soil quality create a common narrative of the Zambezi region as the country's 'food basket' (Kooper, 2019). Besides agricultural intensification through green schemes projects solely funded by the government, the region's economy relies on nature conservation and tourism (Kalvelage et al., 2020). The Namibian government promotes nature conservation for regional development through community-based natural resource management. As prior studies have shown, the allocation of farmland to tourism purposes and the growing numbers of large wildlife threaten agricultural production and impede a stronger integration of farmers into value chains (Gargallo, 2020; Hulke et al., 2020). These constraints in socio-economic development characterise the region as relatively peripheral in national comparison. Albeit acknowledging other constraints of agricultural expansion in the region, this contribution focusses on the role of various institutions for the evolution of a RVC.

4.1.2 Methodology

To grasp complex multi-layered institutions and understand how they constitute public, private and civil society governance patterns we apply a multi-actor, multi-scalar perspective, and an exploratory research design. The study uses qualitative data from two phases of field research, from August to November 2018 and then from June to September 2019, in the national capital Windhoek, the regional capital and urban centre Katima Mulilo and several villages geographically spread in the Zambezi region.[6] We conducted focus group discussions and go-along interviews with horticulture farmers, and semi-structured interviews with stakeholders and key informants from various actor groups. As secondary data and direct empirical evidence on connections between various actors are both scarce, and a horticulture value chain in the region is just emerging, we followed an inductive, case-study based approach (Yin, 2014).

We conducted 25 go-along interviews with horticulture farmers (GA_NonCon; GA_Con) operating either individually or with the Zambezi Horticulture Association (ZAHOPA). The farmers were either identified in focus group discussions, by chairpersons of local

[6] Most locations in the constituency Kabbe South were not regarded in the study, as these are regular flood plains where conditions for agricultural production and access to markets is significantly different from the other constituencies in Zambezi region.

horticulture cooperatives, or by extension officers. This qualitative ethnographic approach combines interviewing with participant observation to capture everyday practices. A static question-answer settings is thus broken up, better reflecting the interviewee's reality (Kusenbach, 2003). We further conducted 44 semi-structured interviews with stakeholders. The interviews covered perspectives from lobbyists in agriculture (I_Lobby), various government bodies (I_Gov), non-governmental organisations (I_NGO), and the private sector (I_Priv), mainly supermarkets and two of three Namibian input suppliers. As the stakeholder landscape, both in the private and public sector, is rather small, we aimed for a full census. We identified government bodies, lobbyists, and NGOs via desk research followed by a 'snowball' approach. From the six supermarkets in Katima Mulilo, we were able to interview four branches. The one lodge that was mentioned to systematically integrate local farmers for their food supply was also interviewed.

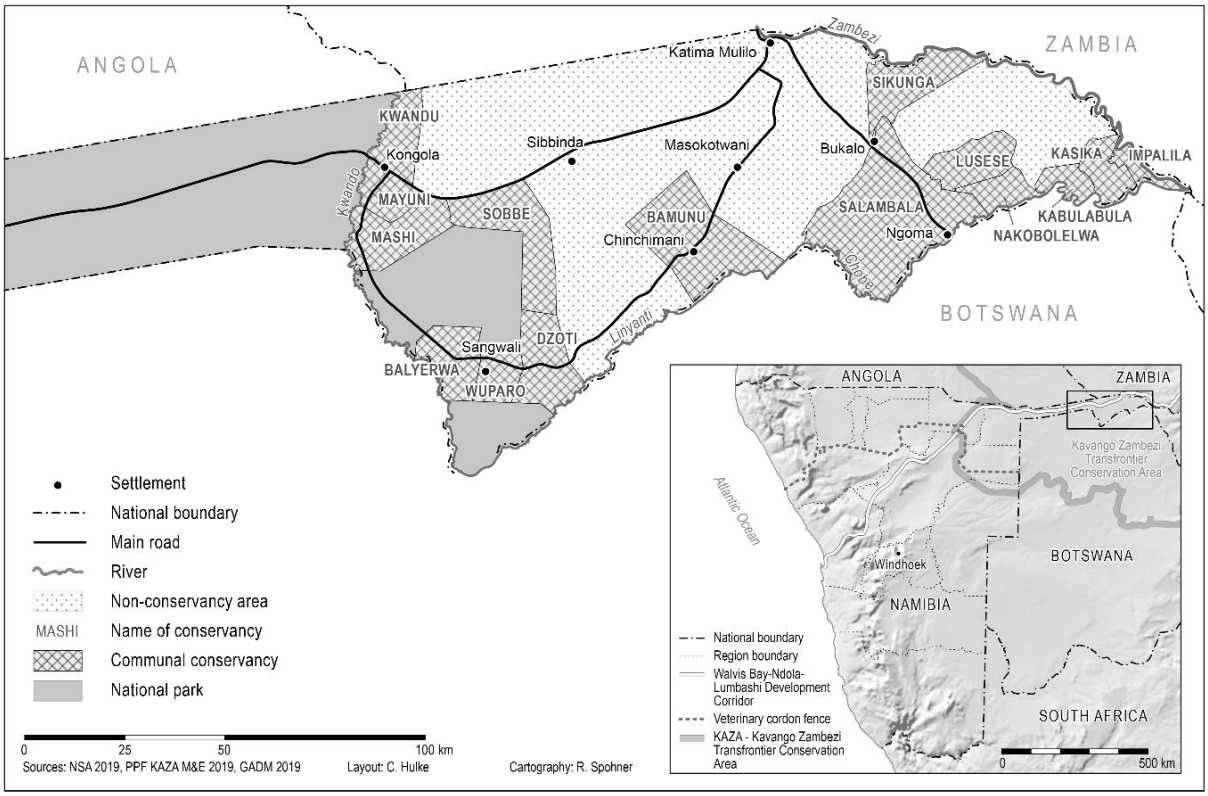

Figure 4-1. Map of the Zambezi region.

The material was recorded, translated from the local languages if necessary, and transcribed either by the first author or by one of her field assistants. We coded the material in an inductive-deductive way according to a structured qualitative content analysis (Mayring, 2000). Policy reports, strategic plans and other grey literature as well as secondary data sets

on government expenditures, production forecasts, imports and exports in the horticulture sector were additionally analysed, especially for key background information.

4.2 The role of institutions in governing RVCs

How various institutions govern RVCs and how this contributes to inclusive regional development is the major concern of this study. Governance shapes the configuration (spatial and organizational structure) of RVCs, which ultimately also influences the economic outcomes for the region as well as for the various participants along the chain. Systematically unravelling the institutional framework that constitutes RVC governance on various scales is necessary to contribute to RVC conceptualisation (Pasquali et al., 2020; Ponte, 2019).

Lots of work has been done on governance in GVCs from a firm-centric perspective (Gereffi, 1994), characterised as private governance. Recent studies have broadened this by including the role of the state to shape value chains (Alford & Phillips, 2018; Horner & Alford, 2019) as public governance. According to Pasquali et al. (2020: 4), "analysing the interaction between private and public governance of RVCs" remains thin. To conceptualise governance in RVCs, we distinguish not only public (state-driven) and private (firm-driven) governance (Pasquali et al., 2020), but also civil society governance – or social governance (Gereffi & Lee, 2016) – on the local level (Mahoney & Thelen, 2009; Torfing, 2020), which is a considerably influential third counterpart especially in RVCs. Besides vertical power to govern value chains, the role of local actors to govern value chains horizontally has so far gained less attention. Novel governance structures can best be understood when a RVC starts to form, as "institutions coevolve with organizational routines, particularly in emerging industries" (Boschma & Frenken, 2009, p. 151). A more holistic conceptualisation of governance in value chains thus applies multi-scalar, multi-actor and temporal dimensions (see Coe, 2021).

Public governance highlights interactions with and modifications of state institutions vis-`a-vis economic actors, such as firms or lobby groups (Coe, 2021; Mayer & Phillips, 2017; Pasquali et al., 2020). The state can be producer and buyer as well as regulator and facilitator (Behuria, 2020; Horner & Alford, 2019). Public governance thereby accounts for the influence of state institutions on value chain organisation and participation opposed to lead firm-driven governance (Mayer & Phillips, 2017; Pasquali et al., 2020).

Private governance bases on private sector engagement and firm strategies to form a value chain according to their requirements. This includes, for instance, setting private regional standards or contracts with suppliers and producers (das Nair, 2018; Kuzliwa et al., 2017). In the agro-food sector, regional or domestic supermarket chains or other buyers and distributors usually function as regional lead firms (das Nair, 2018; Krishnan, 2018). Agricultural RVCs are hence mostly buyer-rather than supplier-driven. Power imbalances between producers with little negotiation power and distributors have substantial implications for value capture and upgrading possibilities on the local level. On the one hand, value capture for small-scale farmers is lower, as regional lead firm buyers decide prices and rely on a broader supply network beyond just one region. On the other hand, upgrading in the down- and midstream segment of a RVC, including production and processing for value addition, is in the interest of regional lead firms that often foster them through training, knowledge sharing, and investment (Bosiu et al., 2017). Moreover, actors within RVCs are in relative spatial and cultural proximity and the chain structure is often simpler, aligning RVCs more closely with chain-actors' actual needs and assets (Rodríguez-Pose, 2013).

Civil society or social governance (Gereffi & Lee, 2016), located at the local level, is based on closer social proximity between actors and with the aim to capture value for the region (Torfing, 2020). "[C]ivil society is depicted as the non-market segment of the private sphere, which is populated by private organizations, collective associations, social movements, voluntary organizations, religious societies, professional groups, clans, and families." (Torfing, 2020, p. 4). The crucial role of civil society governance based on collective actions on the local level has been highlighted in prior studies. For instance, "collective actions can lower compliance costs, promote the local ownership of social codes, improve the effectiveness of compliance-monitoring, and embed social goals in cluster norms and practices." (Gereffi & Lee, 2016, p. 33). Mdee et al. (2020, p. 14) show with a comparative study on agricultural policies in Malawi, Tanzania and Zambia that practices and local conditions need to be included in policy-making "as they are, and not as they are wished to be".

However, the various governance influences do not just exist separately but they are interacting simultaneously on the RVC configuration. Similar to the regulatory dynamics identified in GVCs, governance is rather "'co-produced' by global and local, public, social and private actors" (Lund-Thomsen & Nadvi, 2010, cited in; Gereffi & Lee, 2016, p. 34). The institutions that underlie governance forms can either harmonize or be conflicting (Coe,

2021) and thus can facilitate or hinder a RVCs evolution. Despite their importance for understanding the evolution of RVCs, we know little about the interactions between the various forms of governance. As Coe (2021) postulates, the regional development outcomes are ultimately determined by these interactions between private, public and civil society entities. To analyse the evolution of RVCs, we hence not only assess intra-chain actors, but rather disentangle the interplay of the entire institutional landscape on the local and regional level as well as the nation state (Coe, 2021; Mdee et al., 2020) which, in their entirety, shape regional development outcomes.

In order to take into account these interactions, we examine the underlying processes of institutional change by the concept of institutional layering (e.g. Campbell, 2010; Streeck & Thelen, 2005; van der Heijden, 2011) to the debate on RVC governance. Although value chain literature acknowledges the importance and complexity of institutions in value chain configurations, it does not place this at the centre of analysis and thus do not allow analysing actual institutional processes behind the governance of value chains.

Despite the fact that institutions matter (Rodríguez-Pose, 2013), which the recent scholarly attention shows, there is insufficient knowledge on how and why they function in certain ways and ultimately shape regional development outcomes: "[…] limited attention [that] been paid to the exact transmission mechanisms through which institutions affect economic outcomes." (Rodríguez-Pose, 2020, p. 5). Institutions, as rules of the game, usually do not rapidly assimilate to newly set goals or political agendas. "They are sticky, resistant to change, and generally only change in 'path dependent' ways" (Campbell, 2010, p. 90). By economic outcomes, we refer to the evolution of a RVC that is inclusive and to the broader benefit of local/regional economy.

Institutional layering categorizes three processes to depict institutional change, in terms of ruptures and frictions, and opportunities emerging from the layering of various institutions over time (van der Heijden, 2011). *Displacement* means the vanishing of previous institutions by adding new, which occurs when institutions on various scales are contradictory, such as public governance that layers on already existing private governance (Gereffi & Lee, 2016). *Conversion* refers to the restructuring of existing institutions toward new objectives. For instance, civil society actors can modify various institutions according to the regional requirements. *Bricolage* is a recombination of components of existing institutions, a process that occurs when governance types are synergetic (Gereffi & Lee, 2016). Institutions thus occasion opportunities to creatively form something new rather than hindering the

development of new institutional niches (Campbell, 2010; van der Heijden, 2011). Uncoordinated institutional layering that does not transform the institutional setting but simply adds new regulations, policies or value systems is usually neither intended nor desirable, as "it is the quality of institutions more than their density that matters." (Rodríguez-Pose, 2013, p. 1041). Informal institutions, such as cultural tradition, are potentially "resistant to long-term transformation, generating strong path dependencies" (Rodríguez-Pose, 2013, p. 1041). Formal, top-down policy-making therefore often fails to achieve the expected impacts as it is frequently opposed by persistent local institutional settings (ibid.). By paying special attention to these processes behind institutional change, nuances between and the *interplay* of formal and informal institutions on various geographical scales can be analysed jointly (Chhetri et al., 2012; Rodima-Taylor, 2012).

In examining the evolution of a RVC, our analytical framework first sketches out the various governance patterns and interactions between them (public, private and civil society). Secondly, it disentangles institutional layering processes that caused the various governance patterns (convergence, bricolage, displacement). Thirdly, based on our empirical case, it inductively derives regional economic development outcomes for chain participation on the local level (market knowledge creation, market protection, contract establishment, private standardisation).

4.3 The regional horticulture value chain in Zambezi region

4.3.1 Mapping the regional horticulture value chain

Before analysing the governance of the RVC, we first descriptively sketch out its current (pre-Covid-19) structure. Horticulture is gaining popularity among farmers in the Zambezi region as a form of on-farm upgrading since droughts have increased within the last few years (GA_NonCon10). Venturing into horticulture provides a safety net compared to rain fed crops: "So it is where horticulture comes in to bail you out from such uncertainty, and after few months you will have something that can sustain long-term efficiency" (GA_Cons11). Based on the interview material, we mapped the various steps of the horticulture value chain with special regard to their geographical reach. Fig. 4-2 represents the rather simple and short structure of the current RVC in horticulture, with few linkages to the domestic and international market concerning accessing inputs such as improved seeds from Zambia and selling to the government agencies that distribute fresh produce to other Namibian regions.

Hence, most of the value chain activities are within the administrative boundaries of the Zambezi region. Outbound linkages on the up- and downstream side of the value chain barely exist (I_Priv2). On the distribution and marketing side, the main buyer is a public sector entity, the Agro-Marketing and Trade Agency (AMTA), and other public bodies such as schools, hospitals, prisons, or ministry canteens, which are obliged by law to purchase fresh produce from Namibian farms (I_Gov9): "They must consider local first before they resort to anywhere else. That will actually direct funds from the government directly to the community" (I_Gov9). Other buyers from within the region are regional supermarket branches, three lodges from a Namibian tourism enterprise, street vendors, and open market vendors in Katima Mulilo (I_Lobby7; I_Priv1).

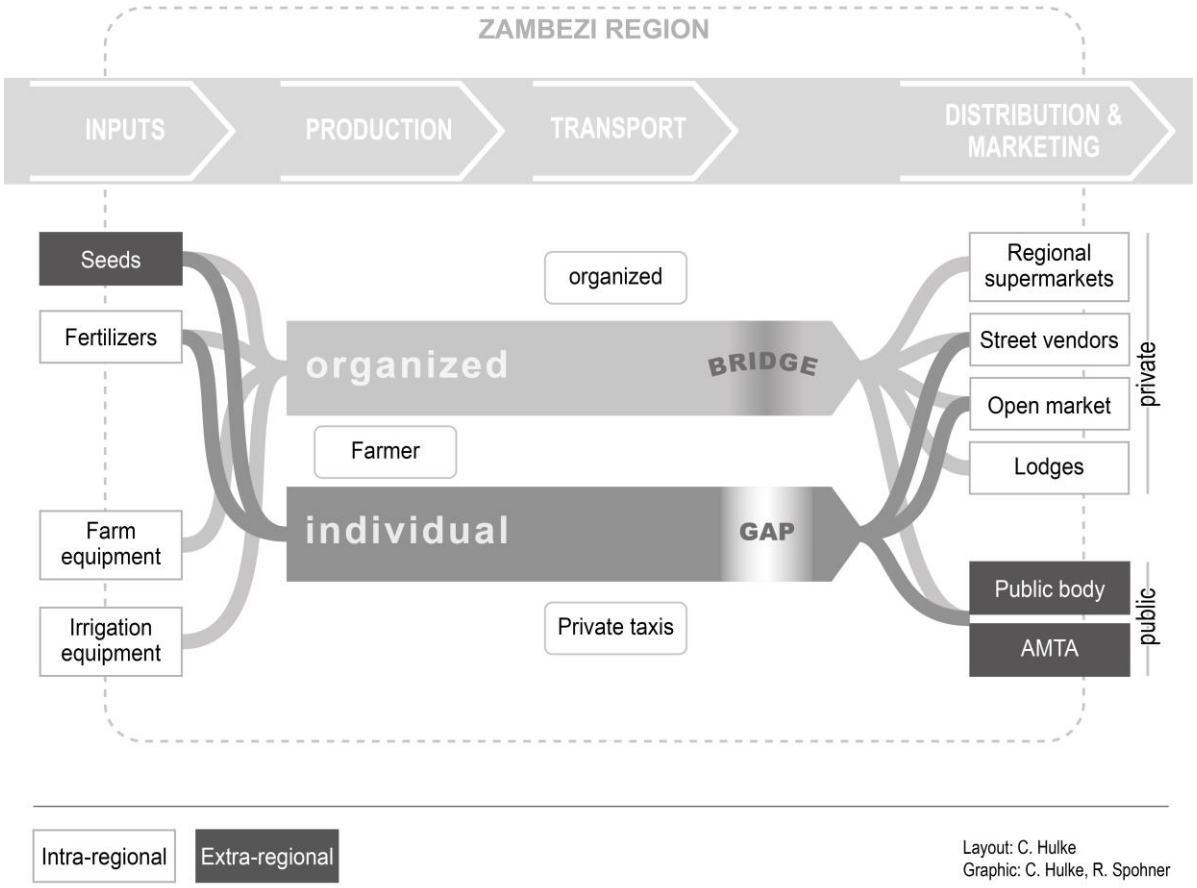

Figure 4-2. Structure of the regional horticulture value chain.

We identify two types of farming that have different degrees of integration in the RVC: firstly, individual farming with distribution directly to buyers and secondly, organised farming where different steps of the chain are organised through a local farming association ZAHOPA. Individual farming, compared to organised group farming, has few linkages to distributors and deficits in the midstream segment of the RVC. Transport is organised

privately through taxis and is described by most of the farmers as a crucial factor hindering access to regional markets (I_Lobby7). This gap, visualised in Fig. 4-2, aggravates access to markets especially for remote, rural farmers. Moreover, brokers or middlepersons are not common – only one person is active in the region in promoting marketing and input access, who is hired by the National Association of Horticultural Producers (NAHOP). Collective marketing, in contrast to individual farming, hence connects producers to markets and reduces the gap in the midstream segment. Farmers that are connected to NAHOP show more linkages to the private sector: they connect to distributors via organised communication channels and are thus better able to promote their produce (Fig. 4-2). The images in Fig. 4-3 exemplify forms of production and distribution in the Zambezi region.

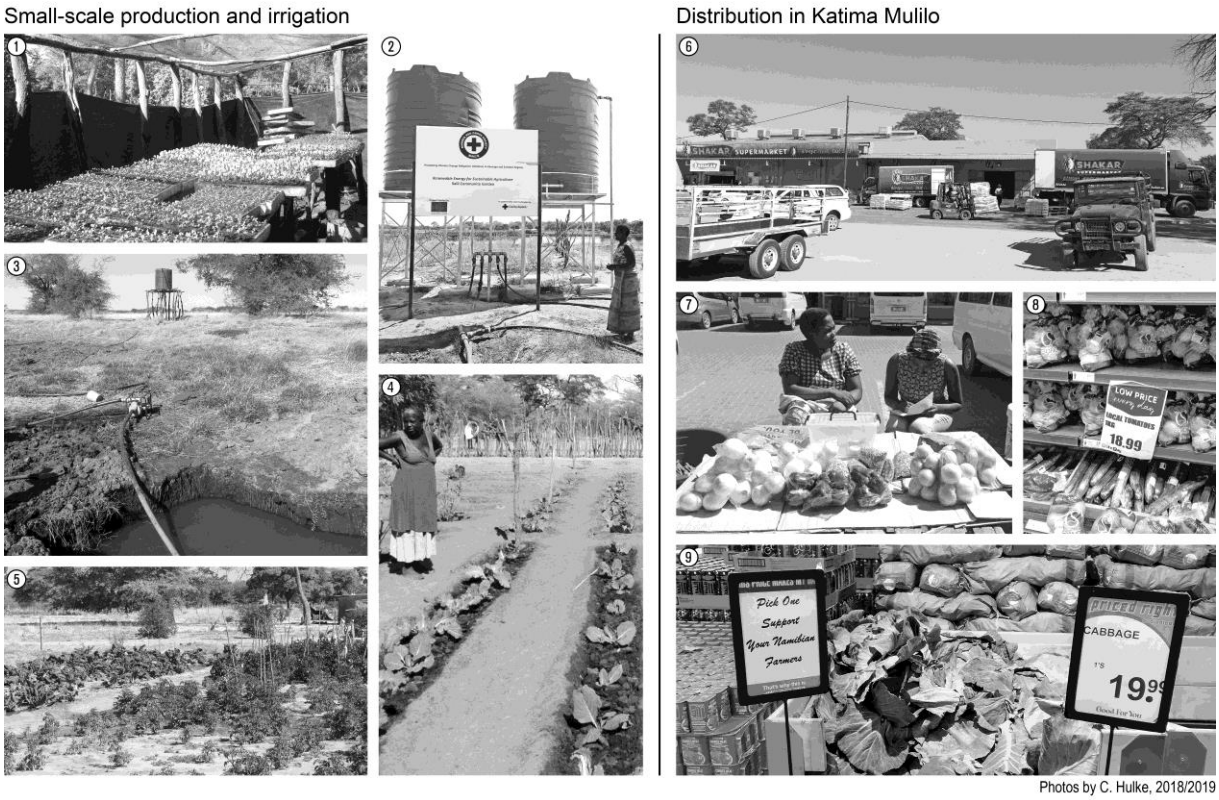

Figure 4-3. Examples of the production and distribution of fresh produce in Zambezi. Own images.

Despite local efforts to establish links between producers and consumers, in national comparison, Zambezi region still falls short in terms of marketisation. As Table 4-1 depicts, there are only three officially registered trading companies with marketing arrangements for horticulture farmers (compared to 22 and 23 in the planting areas in southern Namibia).

4.3.2 Public governance: the role of the state

As said, the Namibian government envisions large-scale crop production in the form of green schemes (large commercial irrigation out-grower schemes) (MAWF, 2008; Republic of Namibia, 2017). To date, however, the Kalimbeza Rice Farm (Fig. 4-1), the one green scheme implemented in Zambezi region, did not succeed in this goal. Smallholders working as out-growers on the farm report immense losses of income in the last two years and thus precarious livelihoods. The government is nonetheless fighting for this 'failed project' by investing another N$7.1 million, solely from government funds (Namibia Press Agency, 2020). Its impact on smallholders is minor, as only five small-scale farmers work on three of the total 229 ha (in 2019). Although in the long run, green schemes ought to produce for export as well, their current function is to achieve food security and sovereignty for Namibia.

The government investments in agriculture contrast with the slow sectoral development in Zambezi region (Fig. 4-4). The investment in agriculture more than doubled since 2018/19 and is five times as much as investments in tourism and nature conservation over the current legislation period (2019/20), which totalled over 700,000,000 N$ (equal to 46 Mio US$) and roughly 140,000,000 N$ (equal to 9.3 Mio US $), respectively (Fig. 4-4). Although this indicates an awareness of the need to stimulate development in the agricultural sector, apparently the investments are not reaching the right places and people. Although these allowances are allocated to developing commercial agriculture, the question remains where this money is spent and why little improvement in agricultural value chains is visible in Zambezi region. Regardless of the actual materiality of government initiatives, these numbers indicate immense hopes and visions associated with developing agriculture in Zambezi region but also that top-down envisioned developments are not materialising.

Table 4-1. Traders registered with NAHOP for marketing arrangements per planting region.

Area	Number of traders
South and Coastal	22
Karstland and Central	32
North Central	10
Kavango regions	3
Zambezi region	3

Source: NAHOP, 2020

Fig. 4-5 shows the forecasted yield of four exemplary vegetables that are grown in each of the five agricultural areas from November 2019 to February 2020 (AMTA, 2019). The government is monitoring special controlled products to estimate when local production will be sufficient, theoretically, to meet demand for the domestic market. This Market Share Promotion (MSP) is a crucial tool introduced by the Namibian Agronomic Board (NAB) in 2005 to protect domestic markets and strengthen Namibian farmers. The threshold value, set to 47% in 2019, gives the purchase quota of locally procured fresh horticultural produce for distributors before import licences are issued (NAB, 2020). Through AMTA production in the country is monitored and forecasted, creating the basis for regular border closures. Resulting from the government's endeavours to protect Namibian farmers from cheaper imports, mainly from South Africa and Zambia, and to simultaneously promote food security, this gradually implemented policy is a core mechanism for translating political visions of Zambezi as Namibia's 'food basket' into regional development (I_Lobby7; I_Lobby8; I_Gov9). However, in national comparison Zambezi region depicts the lowest yields, especially compared to the commercialised, largely privatised southern regions (AMTA, 2019).

Government bodies at both nation-state and subnational scales regulate the RVC in multiple ways. Interviews indicate the dominance of actors at the nation-state level, particularly from the Ministry of Agriculture Water and Land Reform (MAWL), NAB, and AMTA. The MAWL is an umbrella organisation for the agricultural sector that encompasses the NAB and AMTA (Fig. 4-6). The mandate of the NAB, based on the Agronomic Industry Act from 1992, is to "facilitate the production, processing, storage and marketing of controlled products in Namibia", as well as to "promote the horticulture industry through market regulations and facilitation" (NAB, 2019 p. 10) and to "become a renowned regulatory institution." (NAB, 2019, p. 3).

The governments' marketing and trade facilitating organisation, AMTA, is closely coordinated with the NAB. They monitor the production of controlled fresh products and decide when borders are closed to imports, as the monitored domestic supply is assumed sufficient. AMTA is therefore the heart of the state's regulatory function (I_Gov9). Moreover, AMTA is responsible for buying fresh produce, storing it in their own hubs, and redistributing it to public bodies. As the state covers a wide variety of functions, the establishment of AMTA in 2015 was an attempt to decentralise this system by outsourcing the buying function. Their efforts have nonetheless caused a conflict of interest within these

bodies that is also visible to the private distributors who have to deal with institutional insecurities (I_Lobby8; I_Priv5):

> *"[…] the function that we do conflicts with other functions that we have. Like the marketing because we are having a regulatory mandate. Now having a regulatory mandate at the same time trading so it's like you are the referee and the player at the same time." (I_Gov9)*

Mandates and objectives, although streamlined in their overarching aim of intensifying production within the country and protecting local producers from outside competition, are not clearly separated among the agencies.

4.3.3 Private and civil society governance

How do the public governance patterns described before interact with local institutions and thus private and civil society governance? Fig. 4-6 illustrates the organisational structure of government bodies and the lobbying association on the national and private actors on the local level.

Under the umbrella of the NAB, NAHOP is the lobbying body of horticulture farmers, supporting small-scale communal farmers. NAHOP functions as a bridge between government bodies and small-scale regional collectives by communicating when borders will be closed, how to create alternative market linkages, and the quality standards necessary to cope with these institutional insecurities. This collective organisation represents horticulture farmers from seven farming zones around the country, including board members and an advisory committee with chairpersons for each zone (I_Lobby5). Within these zones, small groupings or clusters have formed in addition to the mother association located in Windhoek, one of which is ZAHOPA in Zambezi region. The emergence of the horticulture RVC is closely linked to growing activities of ZAHOPA over the last few years, which is based on trust among the farmers and thus strong social networks (I_Lobby6; I_Lobby7). During the emerging phase, producers mainly applied a dual strategy of producing maize during the rainy season and fresh produce from small family gardens for self-consumption and surplus-sale within the village (e.g. GA_Cons4; GA_Cons7; GA_NonCon11). ZAHOPA's pioneer farmers hence represent one pillar of civil society governance in the emerging phase of the RVC.

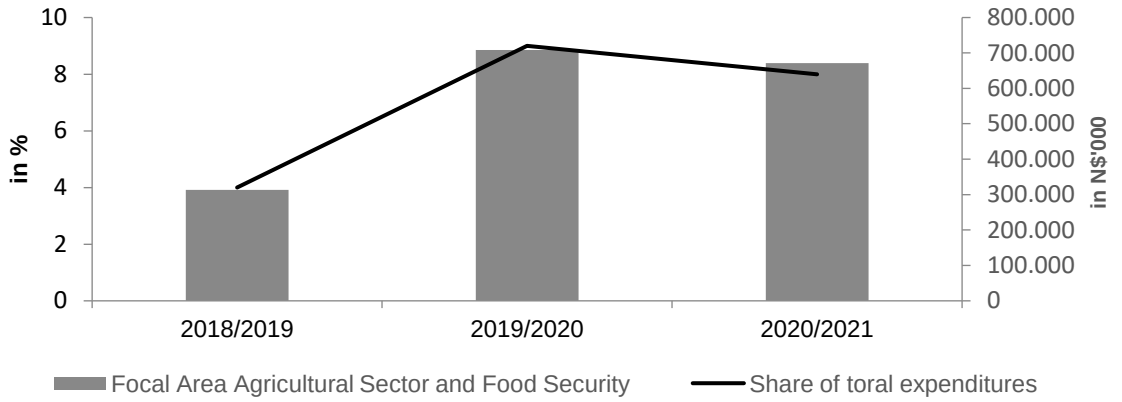

Figure 4-4. Governmental investment in Agricultural and Food Security in the Zambezi region (forecast for 2020/21). Own calculations, based on Republic of Namibia, 2018.

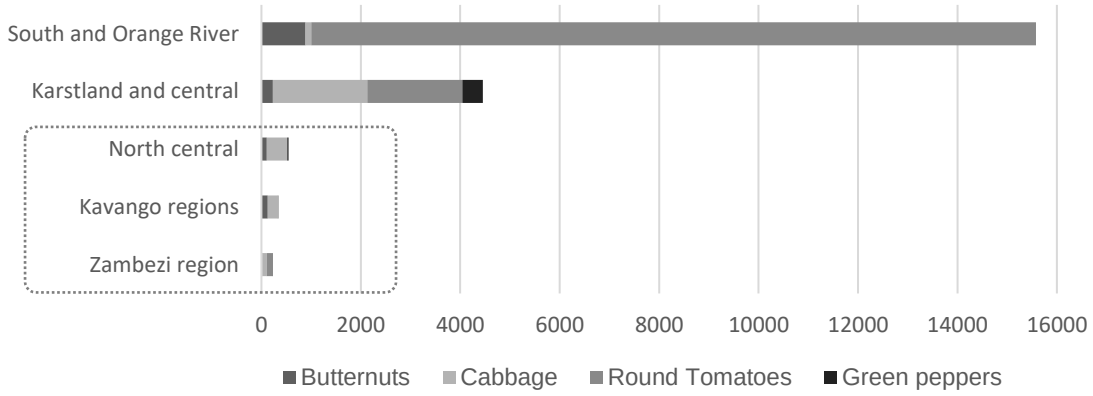

Figure 4-5. Total forecasted yield for 5 month period (Nov 2019 - Feb 2020, in tons). * Dotted line: Northern Communal Areas. Own calculations, based on AMTA, 2019.

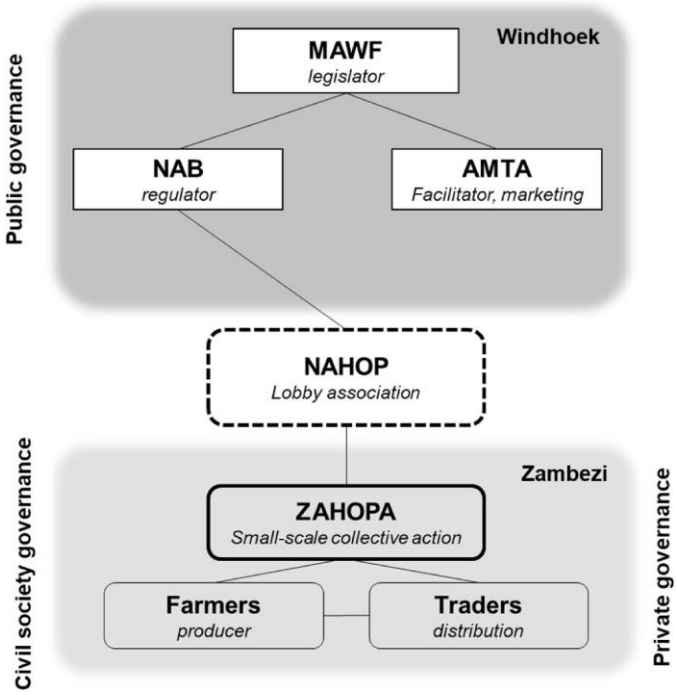

Figure 4-6. Organisational structure and institutional layering in the horticulture sector. Own figure.

Table 4-2. Main characteristics and driving actors in the two phases of emergence and consolidation of the horticulture RVC in Zambezi region.

Main characteristics	Driving actors
Emerging phase	
- Local/village market - Local knowledge diffusion - Opportunity & necessity-driven - Endogenous/informal	- Local pioneers - ZAHOPA farmers
Consolidation phase	
- Regional market (mainly in Katima Mulilo) - Knowledge diffusion from Windhoek - Opportunity-driven - Formalisation	- ZAHOPA farmers - NAHOP headquarter - Market access facilitator NAHOP - Regional supermarkets

Two factors were crucial in the emerging phase that are both opportunity- and necessity-driven (Table 4-2). First, targeted niche developments by pioneer farmers who served as role models and opportunity-driven adoption of new practices by neighbours and members of ZAHOPA. Second, the necessity to provide both household and village with fresh food due

to increasing drought and declining yields of staple crops drove many farmers to grow their own vegetables.

The consolidation phase was initiated by establishing a market facilitator for Zambezi region hired by NAHOP in November 2018 and was therefore mainly driven by the mother association in Windhoek.

> *"I connect the producers to the retailers, I bargain for prices, better prices for them I also tell them, because I am the guy who sits in the middle between retailers and producers. So, I get information from this side and I feed the other and vice versa." (I_Lobby7)*

The main characteristics of the second phase are the formalisation of market channels and local supply through verbal contracts, knowledge diffusion from other regions through connections to NAHOP, and the establishment of a market access facilitator. This resulted in a growing number of opportunity-driven horticultural production among small-scale farmers (Table 4-2).

The introduction of the Market Share Promotion by the NAB forced distributers to buy locally in a time where local production and quality did not meet their demand (I_Lobby5; I_Lobby7; I_Lobby9). It thereby partly contributed to the emergence of a RVC in a top-down manner, and can thus be characterised as an unintended, positive side effect of the policy: the insecure nation-state institutions pushed regional actors to creatively displace these with functioning, stable institutions. The expected outcomes of the MSP, however, were only partly achieved. Even MAWL, as the head organisation, is aware of the fact that the market situation does not allow the MSP policy. The hope is to continue pushing for development regardless of actual impacts: "So sometimes this market share does not really have any influence, but perhaps when we see real production going up in the region, then we can see how it will really affect the people who are here" (I_Gov6). Interviewees suggested that communication among different government bodies is insufficient to overcome uncoordinated institutional layering and rather develop integrated strategies (I_Lobby5; I_Lobby7; I_Lobby9):

> *"Everybody works in their own silent environment there. Even within the same Ministry the different sections really need to speak to one another. […] There are always these clashes […]. Because everybody has their own strategic plan." (I_Lobby9)*

The second crucial pillar in the consolidation of the RVC are regional traders and distributors, mainly regional supermarkets (Fig. 4-6). Triggered by the MSP, they used their regional network and personal contacts to certain farmers and made a virtue out of necessity (I_Priv3-7). In contrast to state institutions trying to regulate domestic production, the interviews with the region's lead firms distributing fresh produce as well as NAHOP's market access facilitator, reveal how the private sector could trigger upgrading in production. Not only distributors emphasise on the importance of collective action as organised farming; from the perspective of ZAHOPA farmers, knowledge of marketing and market needs is necessary for reliable production planning. This collective actions enable farmers to make use of economies of scale effects and thus to increase their negotiating power vis-`a-vis regional lead firms (I_Lobby7).

In sum, the policies protecting domestic markets from imports on an irregular, unforeseeable basis generates phases of free markets and market protection. These temporary free-market style arrangements coupled with protectionist measures comparable to interventions in planned economies causes insecurities in supply channels for regional lead firms such as supermarket chains, and makes production planning for local producers difficult. Local farmers have to compete with inter-regional supply channels and cheaper imports once the borders are opened again. This insecurity makes production planning nearly impossible and often causes overproduction or undersupply. As an unintended outcome of this public governance pattern, the MSP strengthened local, voluntary collective action and thus created a strong civil society governance counterpart, as ZAHOPA farmers and regional supermarkets were incentivised to work together on stable production and quality to meet growing demand of regional lead firms for local produce.

4.4 Concluding discussion

4.4.1 Institutional layering processes in the RVC

The analysis shows that especially in peripheral contexts, the responses and strategies of local actors *not participating* in global economic networks need to be included in research, considering in particular their abilities to govern regional economies (Barrientos et al., 2016; Bolwig et al., 2010). Based on the empirical findings presented, we inductively derive four parallel outcomes of institutional layering processes that either constrained or enabled (or both at the same time) RVC emergence in the Zambezi region: market knowledge creation,

private standardisation, contract establishment, and market protection (Table 4-3). The causal relation between institutional layering and resulting outcomes can inform practitioners and policy-makers on how to create synergies rather than frictions in a regional institutional environment to the benefit of RVC consolidation.

In terms of market knowledge creation, results have shown that there is information exchange on production through small-scale collective actions among ZAHOPA farmers. This knowledge is based on rather close social networks that were streamlined with already existing practices in crop farming and thus based on *bricolage*. The crucial information about market needs and quality standards, however, is provided by NAHOP's middleperson in the Zambezi region and the regional supermarkets (I_Lobby8; GA_Cons5). The standards required by supermarket chains are not the same and therefore non-transparent for producers; each firm has their own catalogue of quality requirements (I_Priv3-7). This is why farmers rely on information exchange. This shows how the private sector can especially influence the down- and midstream segments of RVCs (through standardising quality seeds, production practices, packaging, training, and investment), as this is in the interest of regional lead firms (Bosiu et al., 2017). Such private sector engagement was triggered by the government's protectionist market regulations that force distributors to engage in regional procurement in the first place, revealing one unintended effect of the state policy that benefitted the emergence of a RVC. Thus, processes of institutional *conversion* of the MSP created stronger regional actor networks. Public governance and private governance function simultaneously, but with two contradicting directions of effect, to fit the regional peculiarities and consolidate the RVC.

Contract farming is one channel to achieve value chain integration and socio-economic upgrading for small-scale farmers (e.g. Kuzliwa et al., 2017). In Zambezi region, the horticulture association established contracts with distributors such as supermarket chains and partly with lodges in and around Katima Mulilo within the consolidation phase of the RVC, clearly enabling the farmers to participate in supply channels. Here, results have revealed the importance of civil society governance based on local collective action, as ZAHOPA bridges between producers and supermarket chains. The organisation of farmers in a formalised association has been emphasised by lead firms as necessary for establishing contracts and implementing local private standards thus creating a constant quality and quantity of supply (I_Priv4; I_Priv5). This intertwined private and civil society governance pattern emerged through institutional *bricolage*, the endogenously driven recombination of

institutional environments to create new, alternative alliances for local actors' benefits (Chhetri et al., 2012; van der Heijden, 2011). Again, the role of collective action was outstanding in creating an institutional framework that is able to integrate farmers into a consolidated RVC in horticulture.

Table 4-3. Enabling and constraining outcomes of institutional layering in the horticulture RVC.

Outcome	**Impact**	**Examples**	**Actors/*governance form***	**Institutional layering process**
Market knowledge	++	Crop diversification, production planning, quality standards	ZAHOPA/NAHOP *civil society governance* Distributors *private governance*	Bricolage
Private standardisation	+/-		Distributors *private governance*	Bricolage
Contract establishment	++	Verbal contracts with supermarkets and lodges	ZAHOPA, farmers *civil society governance* Distributors *private governance*	Bricolage
Market protection	+/-/--	Supplier linkages, overproduction, undersupply	AMTA, NAB *public governance*	Displacement Conversion

Finally, the impact of irregular and unforeseeable border-closing through the MSP has enabling and constraining outcomes, as the results have shown. The pressure by the MSP and thus public governance functioned only as a trigger to create those regional networks, thus heavily influencing private governance. The intra-regional supply channels remain even when borders are open as they are more reliable. The subsequent collective action endeavours are an unintended but positive side effect of the policy. Nonetheless, actors from all segments of the RVC stated that they face increasing market-related insecurities due to the MSP policy. Although on paper the state roles are distributed among the MAWL, NAB and AMTA, the interviews revealed that they layer regulations and incentives in an uncoordinated way that causes a gradual *displacement* of state institutions with regional, privately driven institutions based on closer social networks. The institutional co-evolution that van der Heijden (2011) and Mahoney and Thelen (2009) identify as resulting from uncoordinated institutional layering at various levels in this case did not hinder incremental institutional change, but rather triggered it. In the consolidation phase, however, public, private and civil society governance partly aligned to support a RVC that actually captures value on the local level.

In sum, despite its constraining effects, this case also revealed positive outcomes of institutional layering processes, such as the power of local actors to govern the RVC according to their needs. It thus contributes to a more nuanced and multi-faceted understanding of how institutions ultimately shape value chain based regional development (Rodríguez-Pose, 2013). Especially in the emerging phase of a RVC, endogenous attempts are key for establishing a regional network that can integrate small-scale farmers into local supply channels. Bottom-up associations that shape an innovative environment for regional economic actors as stressed by Rodima-Taylor (2012) highlight the importance of streamlining top-down initiatives with existing local institutions to improve regional value capture. The study also shows the immense influence of the state as regulator and facilitator, which is based more on visions of future development than on actual realities.

4.4.2 Concluding remarks and further research needs

This study of horticulture in the Zambezi region provides an example on how agricultural regional value chains evolve in relatively peripheral areas, and illustrates the role that multi-layered institutions play in this process. Summing up how the RVC in horticulture currently structured, it is still in the process of consolidating through establishing contracts and private regional standards. Small-scale farmers originally ventured into horticulture as an additional income and food source beyond traditionally grown rain-fed crops. Border-closing introduced by the governments' MSP initiated the RVC consolidation as regional lead firms were forced to buy from local farmers, constituting strong public governance.

Institutional layering processes have affected the evolution of the RVC in multiple, sometimes contradictory ways. Through knowledge exchange, farmers engaged in collective action meet the demands of regional distributors and traders, thus making use of this window of opportunity. Farmers as well as distributers contributed to convert existing institutions in new and creative ways. Civil society and private governance fruitfully merged through bricolage and convergence of regional institutions. Although the various state functions triggered the emergence of a RVC, the uncoordinated policies created an unstable environment that ultimately brought regional actors closer together and strengthened the power of private, regional lead firms. For a RVC to consolidate into a formalised regional economic network, knowledge creation and access at production *and* marketing segments are crucial to building a bridge between farmers and distributors. Such immanently grown regional institutions need to be *converted* with state institutions that provide targeted support of these endogenous attempts rather than trying to *displace* them with maladjusted agrarian

policies, e.g. for intensification and market protection. Looking at RVCs through the lens of institutions *and* firms from an evolutionary perspective helped to disentangle the multi-layered political economy that ultimately constitutes value chain governance.

Applying this to policy-making, the questions urges how to streamline policies to support the consolidation of a RVC for the benefit of the regional actors. The study adds to debates on how to exploit endogenous development potential, as it shows how crucial local collective action is within an unstable institutional environment for a new industry or value chain to emerge. Agrarian policies should strengthen input access and knowledge creation rather than giving short-term subsidies and regulating the market in form of long-term border-closing. Instead, public governance needs to establish stable and foreseeable institutions, which can support the private sector, namely, regional distributors and buyers, middlepersons and input suppliers. Establishing long-lasting contracts and regional standards can potentially increase sustainable income opportunities, increasing purchasing power for small-scale farmers and decrease the feeling of 'being left out' in a peripheral area.

Finally, further empirical and conceptual research is needed on economic outcomes of RVCs as an alternative development paradigm to GVCs beyond the agricultural sector in rural peripheries. The study of the emergence of a horticultural RVC demands a context-specific view, as the Zambezi region exemplified. To understand overarching patterns of institutional layering, research needs to focus on the role of the state, endogenous dynamics, and the co-evolution of not only private and public institutions but also civil society collective action for more inclusive value distribution. Here, the notion of "*distributive regionalism* that is 'centered on equity, access, and quality of life'" (Christopherson & Clark, 2007, p. 148, cited in Coe, 2021, p. 134) could be further explored.

Despite the crucial role of institutions, which this contribution focussed upon, other determining conditions for a flourishing RVC need to be addressed in future research. In the case of agriculture, these include ecological conditions such as a changing climate, demographic development and migration, and various other socio-economic factors, which we could not address in this contribution. Nonetheless, examining the role of multiple institutions in the evolution of RVCs is a fruitful step towards better understanding how incremental institutional change can contribute to a stable socio-economic environment without depending on the politically promoted and scientifically criticised GVCs as panacea for regional development. This debate is gaining even more importance in light of the current Covid-19 pandemic that has disrupted global supply channels and value chains. Especially to

cope with these disruptions and to design sustainable post-Covid economies is this of relevance. In light of the growing regionalisation, RVCs will surely be key to bringing peripheral areas closer to core areas and their markets and thus reduce socio-economic and territorial inequalities.

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5 Development visions, livelihood realities – how conservation shapes agricultural value chains in the Zambezi region, Namibia

Hulke, C.; Kairu, J.; Revilla Diez, J. (2020): Development visions, livelihood realities – how conservation shapes agricultural value chains in the Zambezi region, Namibia, *Development Southern Africa*, 1–18. DOI: 10.1080/0376835X.2020.1838260

Abstract

In the Zambezi region, seemingly unrelated political visions propagate two development paths: nature conservation to promote tourism and Community-Based Natural Resource Management (CBNRM), and agricultural intensification. This study examines the unintended interrelations between these top-down visions by linking upgrading possibilities in agricultural value chains (AVC) with livelihood strategies of farmers from a bottom-up perspective. The results are based on qualitative field research that explains the how and why of the emergence of multiple rural development trajectories. We operationalise upgrading as actual and aspirational hanging in, stepping up and stepping out strategies. Findings show that although farmers envision stepping up their agricultural activities to better position themselves in AVCs, they remain in a strategic hanging in or downgrading state due CBNRM-related institutions. Concluding, we propose implications for CBNRM that synthesise competing development visions with actual livelihoods realities through the acknowledgment of small-scale agrarian systems rather than the crowding out of such.

Keywords

CBNRM, agricultural value chains, livelihood strategies, conservation, Namibia

5.1 Introduction

> *"[The Zambezi] region, especially, has great potential to become the food basket and one of the tourism hubs in our country, and the government will work relentlessly to help make this reality" (Saara Kuugongelwa-Amadhila, cited in Kooper, 2019).*

Namibia's Prime Minister Saara Kuugongelwa-Amadhila expresses the ambitious goals set by the Namibian national government for economic development in the north-eastern strip of the country, Zambezi region, both in the tourism and agricultural sector. These two economic development pillars are manifested in the Fifth National Development Plan (NDP5), which defines political goals for the years 2017 to 2022. The modernisation of the agricultural sector is intended to improve small-scale communal farmers' skillsets and to integrate them into domestic and international value chains (Republic of Namibia, 2017). Simultaneously, NDP5 points towards significant development potential in nature conservation and the attraction of international eco-tourists, thus promoting the commercialisation of nature conservation, inter alia by establishing communal conservancies (Republic of Namibia, 2017).

Although the development of both agriculture and nature conservation is seemingly unrelated, their implementation on a common territory naturally results in interrelations. Large parts of Namibia are designated as national parks or conservancies; meanwhile 70 % of the people depend on agriculture as the most important livelihood, and 23 % on subsistence agriculture (Ruppel & Ruppel-Schlichting, 2016). In the Zambezi region, there are 15 conservancies, which cover 27 % of the region's surface. The region is relatively well-suited for agriculture with favourable tropical climate and surrounding large rivers, but simultaneously shows increasing numbers of medium and large sized wildlife species (Mendelsohn, 2006). As we show, the anticipated agricultural expansion is at odds with increasing efforts to establish communal conservancies across most of the region. Unlike the political narrative of two parallel paths, unintended and often detrimental interrelations exist and become evident when taking the perspective of local livelihoods.

Communal conservancies are a decentralised form of land-use and environmental management, which transfer authority to an organised committee, and offer the community opportunities to benefit primarily from tourism revenues (e.g. Bandyopadhyay et al., 2009; Lubilo & Hebinck, 2019). Such Community-Based Natural Resource Management (CBNRM)

manifests in small, mosaic-like territories, where the institutional context significantly differs from institutions regulating communal land-use (Gargallo, 2020). Due to the rapid expansion of CBNRM within the last three decades on the African continent, numerous studies concern the impact of conservancies on rural development (e.g. Anyolo, 2012; Naidoo et al., 2019), the commodification of nature (e.g. Kalvelage et al., 2020; Koot, 2019; Lenggenhager, 2018; Lubilo & Hebinck, 2019), and distribution of benefits within local communities (e.g. Bandyopadhyay et al., 2009; Mosimane & Silva, 2015; Schnegg & Kiaka, 2018).

What is lacking in CBNRM-related research, however, is a multi-sectoral perspective that considers local residents' livelihood strategies in response to top-down conservation efforts (Gargallo, 2020). Moreover, little attention has been paid to differences among agricultural communities residing within and outside of conservancies. A comparative approach allows to filter out the impacts of CBNRM institutions on livelihood pathways. Against this backdrop, the paper investigates the impact of CBNRM visions and institutions on agricultural development and ultimately the livelihood strategies of small-scale farmers in the Zambezi region.

While we illustrate the changing livelihood strategies in agricultural value chains, this paper does not analyse the value chain per se, in its entirety from crop production to consumption. Rather, it focuses on the regional production segment and the prospects and limits of upgrading caused by interrelations with nature conservation by addressing the following questions: How do differing institutional settings, both in and outside of conservancies, shape farmers' livelihood strategies? Which possibilities exist to upgrade their position within the regional agricultural value chain? The findings can contribute to a broader understanding of policy coherence and participation across localities in southern Africa, where nature conservation efforts often collide with people's dependency on agricultural production and envisioned upgrading of agricultural value chains. Sections 2, 3, 4, and 5 present theoretical debates, methodology, empirical results, and policy implications respectively. We conclude by summarising our findings and reflecting on the need for further research.

5.2 Missing links in CBNRM research

In a recent reflection on both successes and failures of CBNRM, Koot et al. state that 'CBNRM programs globally may fall short of their high expectations […]. Failures in terms of the gap between presented visions and the execution of these visions are observed as a feature of

market-based dimensions of CBNRM' (2020:5). In other words, possibilities for households located in conservancies to generate income and establish sustainable livelihoods based on CBNRM are not sufficiently pronounced and diversified.

This missing link between vision and execution is especially relevant in the agrarian context (Gargallo, 2020; Koot et al. 2020). Prior studies identify two major reasons for the disconnection between CBNRM benefits and agricultural livelihoods: as wildlife increases in protected areas, conflict with humans increases causing damage on agricultural infrastructure (Schnegg and Kiaka 2018; Silva and Mosimane 2014), and resource use for agricultural purposes such as water and land are restricted (Koot et al., 2020). By explicitly including agricultural value chains (AVC) in CBNRM studies, farmers' livelihood strategies and upgrading possibilities can be associated to institutions brought about by communal conservancies. The subsequent sections set forth two concepts that help addressing the gap in CBNRM-related research: livelihood strategies and value chain upgrading.

5.2.1 The structural component of livelihood strategies

The livelihoods perspective (Scoones, 1998, 2009) has recently been included in value chain studies to assess the impacts of our globalised economy from a structural, bottom-up perspective (Fold, 2014; Vicol et al., 2019). We understand the term 'livelihood' as complex, diverse, and historically shaped pathways of pursuing life, either individually or within a household or community. The Sustainable Livelihoods Approach (SLA) helps to conceptualise strategies that local actors choose to cope with their environment (Scoones, 1998, 2009; Vicol et al., 2019). This paper does not aim to implement a 'classic' SLA which analyses each household's physical, social, financial, natural and human capital. This approach has been critiqued by several researchers (e.g. Dorward, 2009) for its instrumental conceptualisation of five capitals and for methodological individualism that underestimates the exploratory power of structures and institutions.

Rather than knowing which capitals are accessible, we argue that it is more important to provide reasons for specific capital endowments and resulting livelihood strategies. The institutional setting is crucial to depict reasons as to why certain strategies can or cannot be carried out. Institutions manifest in the form of laws, regulations and policies or local norms, values, and socio-economic regulations that shape livelihood aspirations and ultimately people's agency to carry out certain actions. The institutional setting is simultaneously constituted by internal norms and values and externally implemented visions and regulations. In the case of CBNRM, novel institutions are for instance the establishment of a conservancy

management board, the development of zonation maps to allocate land-use towards tourism, wildlife and agricultural areas and the management of income that is generated by the conservancy body (Lenggenhager, 2018; Mosimane & Silva, 2015). Thus, livelihood strategies are not developed individually and out of context; rather, they are shaped by structural conditions and institutional settings (Scoones et al., 2012; Vicol et al., 2018).

Dorward (2009) usefully categorises livelihood strategies under the influence of various internal and external conditions through interrelations between livelihood strategies, their institutional environment and assets. Livelihood strategies are grouped according to three trajectories, referred to as hanging in, stepping up, and stepping out (Dorward, 2009). These typologies have been applied in case studies on climate resilience, poverty, and small-scale farming (e.g. Dorward et al., 2009; Scoones et al., 2012; Steinbach et al., 2016; Vicol, 2019; Yobe et al. 2019). Hanging in refers to households, often under precarious conditions that maintain their current activities without investment in new assets and thus do not upgrade their economic situation or position in the value chain. Stepping up entails efforts to upgrade current activities through investment in further assets, such as agricultural inputs or on-farm diversification. Stepping out refers to shifting to different activities that would deprive assets from their previous use for investment in new, more promising income generating activities, such as shifting from agricultural production to stable employment (Dorward et al., 2009; Dorward, 2009; Vicol, 2019).

To overcome the static nature of the SLA, livelihood strategies are therefore regarded as dynamic, aspirational trajectories that households do not always achieve, as they may drop out, move back or move up (Dorward, 2009). 'The possibilities of different households to hang in, step up, or step out (…) hinge on their location within the socio-political structure.' (Vicol et al., 2019:142) which becomes evident through conceptually linking development trajectories on the micro-level to structural and institutional dynamics.

5.2.2 Upgrading in agricultural value chains

In many rural areas in Africa, agriculture is an important livelihood and the main driver of economic development. Hinting towards the importance of upgrading in rural, agriculture-based contexts, Vicol et al. note that: 'Value chain upgrading interventions have emerged in recent years as a dominant approach to rural development' (2018:26), and must be critically examined with regard to 'livelihoods and local agrarian dynamics' (2018). Smallholder farmers, amongst other disadvantaged groups within value chains (e.g. female labourers in the Global South), have weaker positions in negotiating trade conditions or prices and thus

less opportunities to capture value (Ponte & Ewert, 2009). Therefore, questions of agency, power and benefit distribution of upgrading are recently gaining momentum in value chain research. Global Value Chain (GVC) approaches especially focus on firms' upgrading strategies within the value chain – according to a 'moving up the chain' logic (Ponte 2019) – rather than impacts on and strategies of individual livelihoods (Vicol et al., 2018). Although we do not employ a GVC theory, we adapt the concept of upgrading in value chain-driven development to the livelihoods dimension in the following ways (e.g. Bair & Gereffi, 2003; Barrientos et al., 2011; Barrientos et al., 2016; Lee et al., 2012; Vicol et al., 2018).

First, the basic understanding of the term 'upgrading' does not reflect horizontal hierarchies and unequal agency, such as the access to land or social networks within a chain. A multi-facetted use of the upgrading concept includes the acknowledgment of various upgrading trajectories, such as strategic *downgrading*, and asks for reasons not to 'move up the chain'. (Ponte 2019; Ponte & Ewert 2009; Vicol et al. 2018).

Second, by moving past the firm-centric understanding of industrial economic upgrading through the four modes of process, products, functional, and inter-chain upgrading (Humphrey & Schmitz, 2002; Ponte & Ewert, 2009), scholars have increasingly included a social dimension to consider broader institutional structures that produce inequality and uneven power relations (Barrientos et al., 2011; Bolwig et al., 2010; Selwyn, 2013). From a conceptual viewpoint, this paper applies an understanding of upgrading trajectories that may benefit smallholder farmers envisioned livelihoods. Hence, we consider the aspirational nature of either striving for stepping up or stepping out, as these indicate a desire for socio-economic upgrading. The critical question of *who benefits* from evolving value chains can be addressed through the conceptualisation of upgrading implications for livelihoods connected to chain segments, rather than by focusing on the chain as a whole. We therefore capture upgrading not solely through increases in agricultural income, but as the agency of farmers to carry out envisioned livelihood strategies. The acquisition of such agency can require an improved positionality within the value chain through know-how and social networks that does not lead to economic upgrading directly and measurably but causes *relational* improvement (Glückler & Panitz 2016; Krishnan 2017). Figure 5-1 summarises the

conceptual framework of this study, linking livelihood strategies with dynamic upgrading in AVCs.

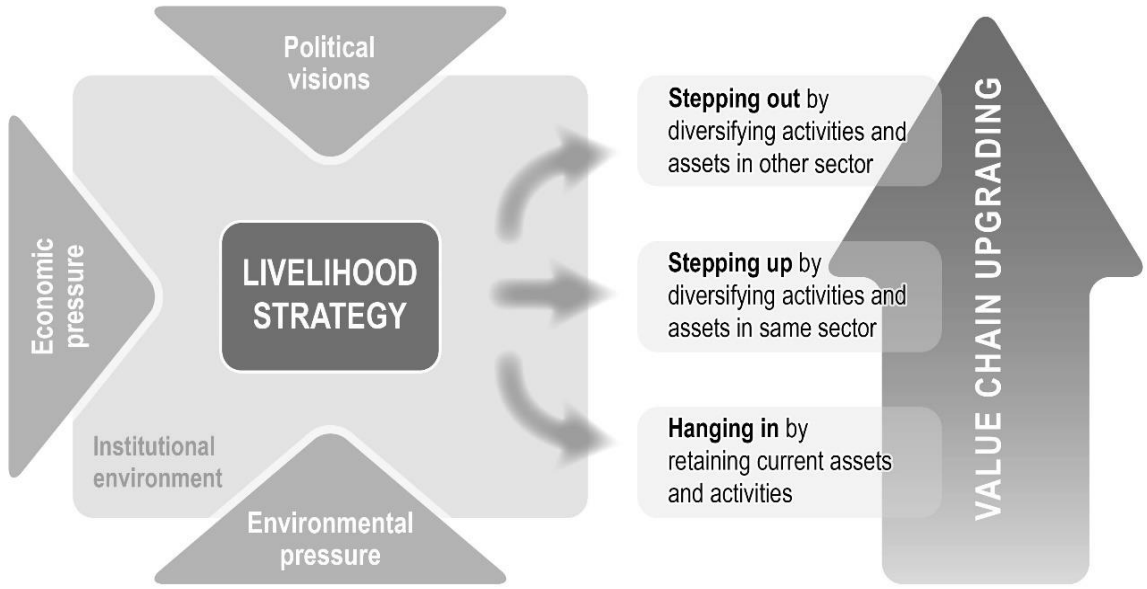

Figure 5-1. Dynamic livelihood strategies (according to Dorward, 2009; Steinbach et al., 2016).

5.3 Methodology

During field work in Zambezi region and the capital Windhoek from September to November 2018, we applied a qualitative, exploratory research design that employed three methodological approaches (Table 5-1). To identify reasons for developing livelihood strategies and aspirations connected with value chain upgrading, the core of this study was a bottom-up, participatory method based on focus-group discussions (FGD) and go-along interviews (GA) with farmers in selected case study conservancies and non-conservancy settlements. Institutional influences and political visions were captured through semi-structured interviews (I) with stakeholders from both the agricultural and conservation sector. The inter-sectoral perspective is used to differentiate the impact of visions for both conservation and agricultural intensification on local livelihoods. By considering delimited territories – communal conservancies and non-conservancies – we take direct influences of institutions on livelihood strategies into account.

In Namibia, communal farmers are distinguished from commercial farmers by being non-title deed holders and title deed holders, respectively. This contribution focusses on small-scale communal farmers, characterised through small land parcels where mixed crops are grown, such as rain-fed staple crops (maize, pearl millet), other traditional crops (beans,

ground nuts, leafy vegetables), or fruits and vegetables (horticulture products) (Mendelsohn, 2006). Individual communal farmers typically cultivate land parcels less than 5 ha in size (according to Mendelsohn (2006), the average size of cultivated land in Zambezi region amounts to 1.6 ha).

Table 5-1. Conducted interviews by category from September until November 2018.

Category	Approach and Code	Number
Farmers and managers in conservancies	Go-along interview (GA_Cons1-3)	3
	FGD (FGD1-3-Cons-F/M)	11
	Interview (I_Cons1/2)	2
Farmers and extension officers in non-conservancies	Go-along interview (GA_NonCons1-3)	3
	FGD (FGD1-3-NonCons-F/M)	6
Consulting/distribution stakeholders	Semi-structured interview (I_Consult1/2)	2
Government stakeholders	Semi-structured interview (I_Gov1-5)	5
Lobby stakeholders	Semi-structured interview (I_Lobby1-4)	4
NGO stakeholders	Semi-structured interview (I_NGO1-5)	5
Total sum		**41**

Semi-structured interviews were conducted in Windhoek and in Katima Mulilo, the capital of Zambezi region, with stakeholders from national and regional government bodies, non-governmental-organisations (NGOs) and the private sector (consulting, lobbying, associations). These interviews, conducted in English, were recorded and later transcribed. To address the bottom-up perspective, FGDs were held with communal farmers in six case study areas: four conservancies (Sikunga, Bamunu, Dzoti, Mayuni) and two non-conservancy settlements (Sibbinda, Masokotwani, Figure 5-2) as a comparison group. Sikunga conservancy was chosen because it is the only locality where conservation directly overlaps with the regions' only Green Scheme (commercial irrigation scheme) for agricultural intensification. The other three conservancies offered heterogeneous insights through their varied population sizes, age structures, income sources, and locations. The two comparison settlements located in proximity to the conservancies allowed for comparisons based not on geographical location but rather on institutional frameworks (Figure 5-2).

The FGDs were conducted in the local languages, mainly Silozi. Permission for recording was obtained and anonymity and confidentiality is maintained. The sampling of the FGDs was undertaken via local gate keepers, according to the following criteria: Balanced numbers of male and female farmers, range of ages, crops produced, and field sizes. The total number of

participants was 155 (F=73, M=82), the group size ranged from 5 to 20, with a mean of 9. One co-researcher guided the discussion in the local language according to a structured interview guideline, while a second research assistant offered ad hoc translation to enable the researcher to intervene when necessary. The FGDs were recorded, translated, and transcribed by the research assistants. Through their participatory, interactive nature, FGDs generate more reflective and layered insights on research topics compared to one-on-one interviewing. Ideally, social control mechanisms within the rounds of discussion and a more diversified range of opinions contribute to a solid database (Onwuegbuzie et al., 2009).

Go-along interviews with successful farmers identified in the FGDs functioned as micro case studies. As a qualitative approach, the go-along employed elements from ethnography by combining interviewing with participant observation in everyday life practices. Through the joint observation and mutual activity, the strict question-answer settings are broken up and an atmosphere was created that better reflected the interviewee's reality (Kusenbach, 2003). The material was analysed using qualitative content analysis according to Mayring (2000), applying structured deductive category application with the coding software MaxQDA. The coding categories reflect the guideline for the FGD, which was structured according to:

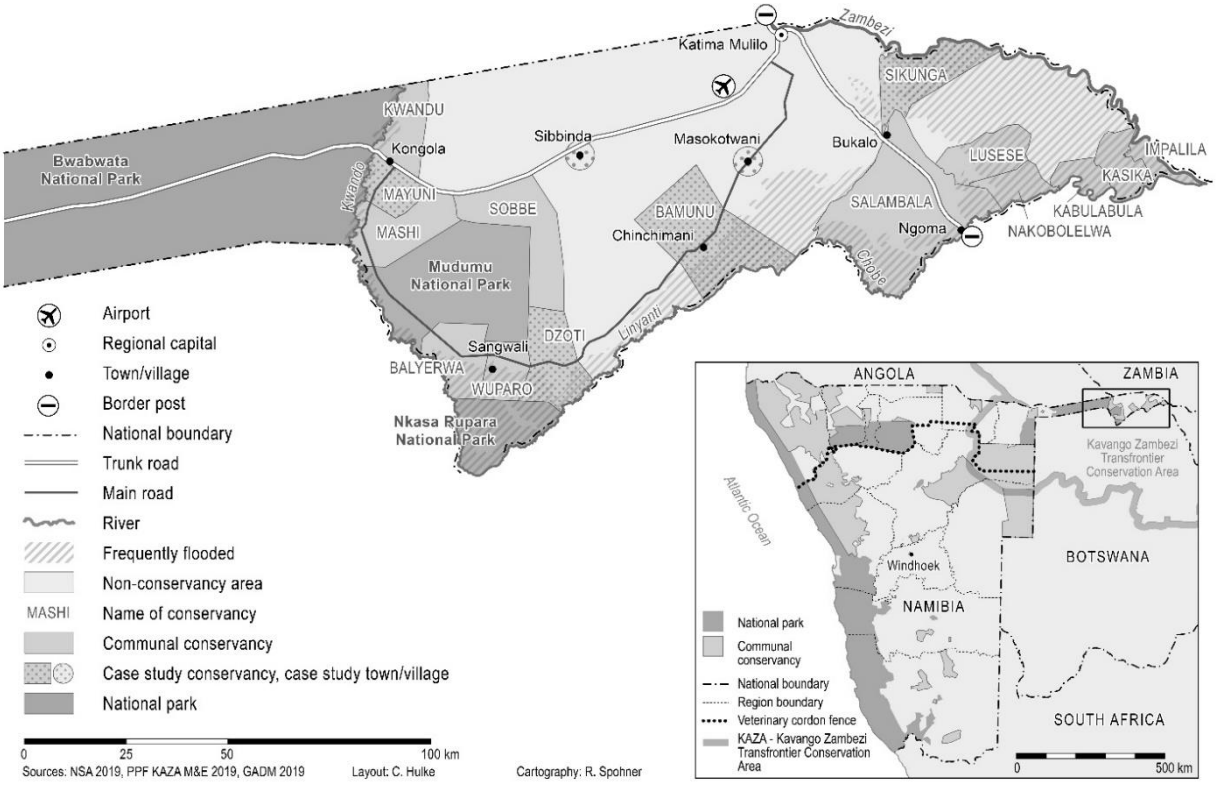

Figure 5-2. Case study area: communal conservancies and non-conservancy areas in Zambezi region.

livelihood wellbeing; AVC trajectory/farming activities; constraints; potentials; actors involved (associations, private businesses, governmental actors, NGOs, conservancy); future plans/aspirations.

5.4 Evidence from agricultural value chains in conservation areas in the Zambezi region

In the following, we first elaborate on the predominance of top-down visions and institutions related to CBNRM that impact the agricultural value chain and then uncover the corresponding impacts on livelihood strategies within and outside of conservancies in Zambezi.

5.4.1 Top-Down Visions and institutions of CBNRM

The Ministry of Environment, Forestry and Tourism (MEFT) and several NGOs supporting nature conservation create local institutions that predominantly shape development in conservancies. These conservation endeavours go back to the 1990s, following Namibia's independence from South Africa. On the one hand, safari and hunting tourism has heavily benefitted from the growing number of conservancies and has managed to capture a substantial share of international value (Kalvelage et al., 2020). On the other hand, the change of land-use gradually caused a 'crowding out' of agricultural activities within conservancies (Gargallo, 2020). Differing institutional frameworks and processes of commodification of natural resources, both within and outside of conservancies, as we argue, cause different possibilities for participating in AVCs and value chain upgrading.

Although conservancies aim at benefitting their members by generating income through natural resource use and tourism, farmers within conservancies complain about various constraints on agricultural production that can be linked to top-down conservation initiatives favouring tourism. Land-use restriction manifested in conservancy zoning plans, in particular, severely affect farmers, especially in accessing crucial inputs such as water. Conservancies are obliged to develop zoning maps, which define core wildlife areas, hunting areas, tourism areas, and settlement/cropping areas (NACSO, 2017). Based on our findings, the dangers for power abuse with respect to land allocation, causes insecurities for farmers:

> *The conservancy management lied to us, they told us we would be able to plough and live with wild animals. The conservancy is paying little*

> *compared to the income I was going to get if I had harvested my crops. (FGD2-Bamunu-M)*

> *Around here most of the fertile land is next to river and we cannot settle there anymore because it has become a core area for wildlife in this conservancy. (FGD2-Mayuni-F)*

Stakeholders in the conservation sector stress the focus on nature conservation, wildlife, and tourism instead of supporting the AVC in conservancy areas (Table 5-2). Overlaps between CBNRM and agricultural intensification occur in Sikunga conservancy, where the only Green Scheme project in Zambezi region, Kalimbeza Rice Farm, is located. The conservancy management board states that six permanent workers are employed by the Green Scheme (FGD1-Sikunga, FGD2-Sikunga), resulting in the majority of community members not participating.

Table 5-2. Top-down visions of CBNRM, derived from FGDs and stakeholder interviews.

Aim	The focus is on natural resources, through our natural resources management, through tourism, what we can get out. So, the most emphasis in conservancies is on tourism and wildlife utilization from which they can make money. But from other sources, let me just be honest it has not been explored. (I_Gov3) For me conservation is taking care, managing, and conserving of biodiversity and wildlife. The main aim of CBNRM is to maintain a healthy population of wildlife and at the same time assisting the communities to benefit from the natural resources, which they are living with in the area. So yes, it is for rural development, when you have wildlife; it has an economic value. (I_Gov3) So slowly but sure so that we are creating a market for people who are in the northern areas also. (…) Zambezi is an area that is 75 % rural and our economy is more driven by two, three sectors. One, the tourism sector plays a major part in terms of foreign income and in terms of employment creation. Agriculture is the backbone of the region in terms of regional economy. These sectors make Zambezi move a bit forward, reducing the level of unemployment. If the Green Schemes are all fully functional, I see seasonal employment absorbing a number of youth in Zambezi. I see the level of unemployment being drastically reduced and I see the wellbeing of people being improved. Again, if the tourism sector like now and our wildlife conservationist is doing very well. (I_Gov4)
Implementation	With conservation, we talk about many things that should be done within the conservancy. We talk about tourism, agriculture, or whatever. We really want to see tourism within the conservancy, seeing tourists coming to visit their places, to see whatever culture they have, whatever species they have, whatever landscape. (I_Conserv2) (…) if you keep those areas for agriculture, hunting and tourism it can work. It only becomes a problem when one wants to be hot-headed and decides to go plough in the tourism zone or he wants to go and plough in the hunting zones. (I_Gov3)

Table 5-3 summarises the amount of income generated in the case study conservancies in 2017, including the source of income and the distribution of benefits, according to financial data gathered by the Namibian Association of CBNRM Support Organizations (NACSO). The uneven distribution becomes evident when firstly looking at differences in the share of benefits, which are distributed among the members between the four conservancies. In Bamunu and Mayuni, roughly a quarter of the income generated is used for benefits, whereas Sikunga only distributes about 4 % of its income to members. Second, how money is spent plays a major role in members' satisfaction with the conservancy management. Corruption of conservancy management bodies in the process of income distribution is mentioned as a

constraint of development within conservancies because communities are hesitant to establish a conservancy: 'Having a conservancy doesn't guarantee that the resources or benefits will be for the community. The community is just like a shepherd looking after those animals but, the larger shares go to the hands of the "mafias"' (FGD2-Sibbinda-M).

Table 5-3. Accumulated income of case study conservancies and income distribution in 2017. Own calculations, based on NACSO, 2017.

		Income sources (in %)				
Conservancy	Total income (in NAD)	Hunting	Tourism	Plant utilisation	Crafts	Other
Bamunu	808.339	97,6				2,4
Dzoti	1.384.300	100,0				
Mayuni	764.800	60,1	35,5	3,8	0,2	0,4
Sikunga	605.000	88,4		0,8		10,8
		Benefits distributed (in %)				
Conservancy	Total benefits (in NAD)	Total share of benefits	Cash benefits	TA payment	Community projects*	HWC offsets
Bamunu	258.641	23,6		23,8	53,0	23,2
Dzoti	232.656	18,0	4,3	19,3	63,5	12,9
Mayuni	282.196	22,6	41,5	45,2	13,3	
Sikunga	27.500	3,6		72,7	27,3	

* including funeral payments.

A proclaimed goal of conservancies is the harmonious co-existence of humans and wildlife. To counteract impacts of increased Human-Wildlife-Conflicts (HWC), such as destruction of fields, attacks on cattle, or even humans, the conservancy compensates losses caused by wildlife through HWC offsets. Those payments are a crucial instrument to achieve legitimacy of conservation in agrarian contexts, and to increase satisfaction and support among farmers who suffer losses by virtue of their location within conservancies. Only Bamunu and Dzoti invested in HWC offsets, as shown in Table 5-3. Nonetheless, these measures are not sufficient to compensate losses and disadvantages associated with living and farming near wildlife (FGD2-Bamunu; FGD2-Mayuni). Finally, the income in all four conservancies is almost exclusively generated through hunting and other tourism, showing that conservancies largely depend on the tourism sector.

Farmers in conservancies state that there is a lack of support for agriculture (FGD1-Bamunu; FGD2-Sikunga). One reason is the administrative affiliation of territories gazetted as conservancies. They are under the umbrella of the MEFT, supported by NGOs, which give nature conservation priority over agricultural development (I_Gov5; I_NGO3; I_NGO4).

Table 5-4 summarises the effect mechanisms identified in the implementation of top-down policies and visions both within and outside of conservancies. In the following subsection, we address how these mechanisms affect livelihood strategies and thus possibilities for upgrading.

Table 5-4. Generalised effect mechanisms of small-scale agriculture, derived from FGD, go-along interviews and stakeholder interviews.

	CBNRM	Non-CBNRM
Benefits	Employment possibilities in tourism, tourism revenues, employment possibilities by conservancy, distribution of benefits (limited potential)	Access to land, access water from rivers, proximity to markets, financial start-ups by government
Constraints	HWC, decline in yield, limited access to land and water due to zoning plan, distance to markets, dissociation from actors in agricultural sector	HWC increase in areas neighbouring conservancies, limited attention by NGOs
Stakeholders	MEFT, IRDNC, NACSO, private tourism enterprises, other NGOs	MAWF, Zambezi Regional Council, private food processing companies (millers, supermarkets), extension officers

5.4.2 Impacts on livelihood strategies

Within conservancies, constraints in AVC upgrading and thus stepping up strategies occur especially in the production and marketing segments (Table 5-5). In the production segment, accessing inputs is the main limiting factor (FGD-Bamunu/Dzoti/Sikunga/Mayuni). The management zoning plans resulted in relocations of farmers from their previous crop lands when these were located near water bodies or forests. These areas are potentially suitable for irrigated agriculture but are also best suited for tourism. The increased HWCs have caused losses in yields (FGD-Dzoti/Mayuni). Therefore, AVC upgrading through stepping up – invest in agricultural activities and diversification – is barely visible. This prohibits farmers within conservancies to upgrade their positionality in supply channels and formalised value chains and puts them in a (perceived) position of comparative disadvantage compared to farmers outside of conservancies.

Table 5-5. Expressions of bottom-up perceptions on possible livelihood strategies, derived from FGDs.

Hanging in
You can have degrees and diplomas yet you remain unemployed. This is why we teach our children activities like farming as backup if there are no stable jobs. (FGD2-Dzoti-M)
I am not satisfied but we just do it (farming) because there is nothing we can do. (FGD2-Dzoti-M)
Animals are also increasing because we are now a conservancy. This has resulted in low harvests and more conflicts than before. (FGD2-Mayuni-M)
We have a problem in farming. I can plan to plough more, but the wild animals we have in the conservancy are damaging our crops. The animals are destroying our crops and we hardly get anything in the end. Our livelihoods keep going down. (FGD1-Mayuni-M)
Stepping up
There's an association, you can register and sell to them. People with gardens then sell their vegetables to local supermarkets. They look at the quality of your products, if it's fine then you can deliver to them. (FGD3-Dzote-M)
Having a good living standard or livelihood is when I can produce enough food for my family from my field. And I can make money from my field. (FGD1-Dzoti-F)
In terms of seeds, we don't get them on time and this pulls our cultivation activities backwards. (…) Last week I was at Agribank to apply for a loan. I wasn't successful because the requirement is to have a permanent house structure instead of a mud house. Now how can we as farmers develop when we cannot have access to these loans? (FGD2-Mayuni-M)
Stepping out
Tourism activities are also creating jobs in the community. You can have a job and still be a farmer. Once you retire from that job and move back to village, if you never farmed how will you live? (FGD3-Dzoti-M)
We are now prohibited to set foot in core areas where one would get attacked by wild animals. Lodges are also beneficial because the youth are employed in these facilities and with the little that they get they are able to support themselves financially. (FGD2-Mayuni-F)

The geographical reach of AVCs within conservancies is mostly restricted to neighbouring villages. The marketing segment is thus limited to selling occasional surplus on local markets with low value added. Agricultural inputs, such as chemical pesticides or herbicides, are not accessible as there is simply no market in the rural areas and insufficient financial capital. Therefore, only organic fertiliser (manure) is used on the fields (GA_Con1/2).

> *The quality differs, imported crops have high quality because they use fertilisers, us local farmers cannot afford to buy fertilisers and hybrid seeds because they are expensive but when we sell, we sell at a cheaper price. (FGD1-Bamunu-F)*

Moreover, farmers complain that they are unable to increase production due to unreliable and expensive transportation resulting in limited market access. Thus, farmers aspire to upgrade their activities by sourcing higher quality inputs and accessing larger markets in the city. However, stepping up strategies through upgrading agricultural activities that go beyond the production segment of the value chain are hardly possible within conservancies due to the constraints described above.

The strategy of stepping out of agriculture is rarely mentioned. The few non-agricultural income-generating activities include employment in tourism enterprises or conservancy management boards (e.g. as cleaning staff, ranger, area representatives), or small vendors/services (e.g. hair braiding, sewing, selling sweets). However, permanent jobs are rare, resulting in dependency on crop farming: 'For us, farming is everything we have, that's how we maintain our livelihoods' (FGD1-Mayuni-M). But apart from farming for reasons of necessity, farming is also seen as an important part of local culture and tradition that has been passed on for generations (FGD-Dzoti/Sibbinda). This cultural dynamic helps to explain the predominating aspiration for stepping up through AVC upgrading rather than stepping out altogether.

The presence of poor farmers in rural areas of the region depending on agriculture is a fact that the regional government is well aware of:

> *Of course, we have the small scale farmers if we were going to go in the tourism way, will they be benefiting from it? Would there be food security from their side? Obviously, the answer is no. (…) Therefore, the two must run parallel, so we must have tourism on one side and agricultural production on the other side. But if you say forget about agricultural production, we must just have tourism alone – that would be a tragedy for the poor. (I_Gov4)*

Regional decision-makers hence acknowledge the problematic aspects of developing the tourism sector in conservancies without providing alternative livelihood bases for farmers. This somehow contradicts the dominance of tourism and CBNRM-related visions for

developing the Zambezi region, meaning that only a small share of the society is empowered to upgrade their livelihoods and the majority of farmers is excluded.

By contrast, farmers in non-conservancy areas express more freedom to choose the locations for their agricultural activities, as land is not allocated to certain uses, as in conservancies' zoning. Contact to regional lead actors (local supermarket and an association for farmers), which are mostly located in Katima Mulilo, the only urban centre in the region, is crucial for developing successful stepping up strategies.

Whenever opportunities of stepping up arise, farmers would indeed dynamically adjust their livelihood strategy, e.g. changing from traditional rain fed crops to horticulture, establishing irrigation systems to increase productivity, or negotiate verbal contracts with buyers such as supermarkets (GA_NonCon1). Stepping up strategies that continue with existing practices of diversification of crops towards horticulture production was mentioned to be most successful.

5.5 Development trajectories and resulting policy implications

Based on our findings presented above, we sketch out four development trajectories that are related to the various strategies and derive how the pursuit of envisioned strategies can be better supported by government initiatives. Figure 5-3 illustrates examples of how livelihood strategies of hanging in, stepping up and stepping out are carried out in the case study region and how these can be linked to value chain participation and upgrading: first, a conservation lock-in which contains hanging in due to locational constrains of being in a conservancy; second, an intensification lock-in, meaning hanging in through integration into a Green Scheme, which was only described by two farmers in Sikunga conservancy; third, evolving AVC which entails stepping up aspirations towards diversifying agricultural production and using assets to improve activities; and fourth evolved conservation, stepping out through the rare scenario of leaving agriculture and finding stable employment in the tourism sector.

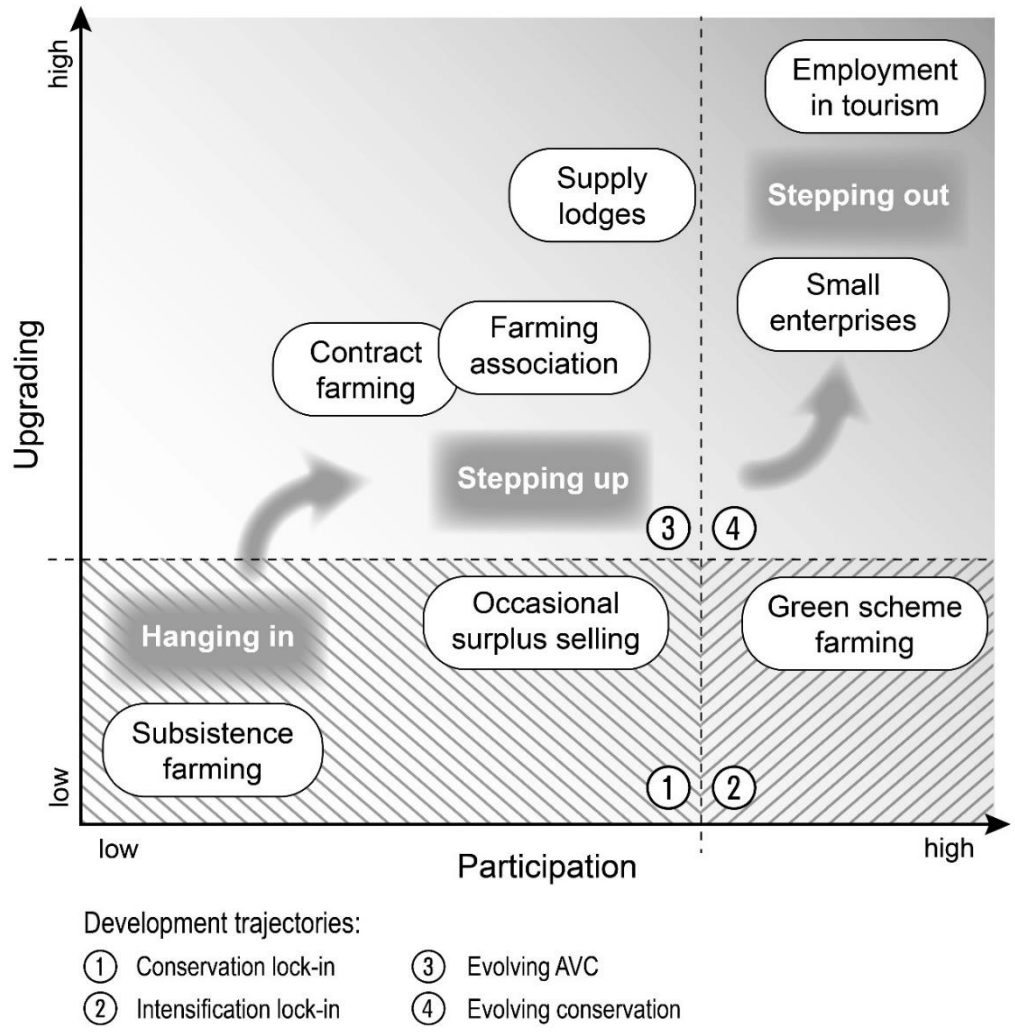

Figure 5-3. Examples of livelihood strategies in regard to participation and value chain integration.

However, a recent study by Kalvelage et al. (2020), estimates the employment of tourism in Zambezi conservancies at 566 jobs. This represents a marginal share of 1.4% of the total labour force of 41,600 people in the region (NSA 2019). The tourism sector's capacity is thus very limited to reduce the dependency on agriculture (see also Gargallo, 2020). The political goals of providing alternative income sources through tourism and conservation in order to decrease dependency on crop production in conservancies – as is also the case with intensification measures through Green Schemes – have not sufficiently materialised on the ground.

Although livelihood strategies mostly aim at upgrading related to the AVC, e.g. through contract farming to supply lodges or collective action in associations, livelihoods within conservancies – due to several constraints outlined above – remain oriented towards subsistence farming and local surplus-selling. Regardless the support of market-based

CBNRM initiatives, agriculture-based livelihoods are still dominant. Therefore, strengthening AVCs within conservancies is necessary.

Scholars agree that conservation is a significant constraint for agricultural development (Gargallo, 2020; Nyambe & Belete, 2018). This study provides an explanation for the exclusionary effects: commercial agriculture that would allow farmers to integrate into regional AVCs and lead towards relational upgrading is merely possible due to land insecurities, restricted water access and HWC. The resulting strategies of hanging in are not addressed by CBNRM initiatives, they rather create institutions that hinder rural development in the Zambezi region and can therefore be described as 'a placebo type of relief to the unsustainable livelihoods' (Nyambe & Belete, 2018:2). The slowly emerging research on the importance of agricultural livelihoods within conservancies pinpoint towards a crucial reason for the rise of critical voices that contradict the predominantly positive narrative of CBNRM as an empowerment tool of rural communities (e.g. Lenggenhager, 2018).

On the one hand, farmers within and outside of conservancies target a stepping up strategy, which is also envisioned by agricultural policies. On the other hand, these aspirations could, to a large extent, not be put into practice, as the production and marketing segments in AVCs are limited within conservancies. The fact the larger share of farmers within conservancies does not directly participate in its benefit sharing schemes (Table 5-3) and can therefore neither step up nor step out, confirms that development interventions through upgrading are 'necessarily exclusionary' (Vicol et al., 2018:35). Therefore, top-down initiatives need to acknowledge and include various forms of agricultural activities as livelihood strategies in multi-sectoral and participatory implementation schemes.

Moreover, land-use restrictions and HWCs disconnect farmers from elaborated AVCs, production intensification, and food security, contradicting the government's vision of increasing domestic food production and commercialising smallholders. This finding, however, is consistent with development goals propagated by the MEFT or conservation NGOs that exclude agricultural development because it contradicts land-use requirements for nature conservation (Table 5-2). This calls for harmonising top-down visions with local realities and livelihood needs through cooperation between stakeholders in both sectors to establish a coherent, participatory policy making that integrates various sectors and development trajectories.

Finally, we characterise decision-making of communal farmers as a logical, strategic response to exogenous influences and frictions in policy making that limit their scope of action. The seemingly passive notion of hanging in can rather be seen as a strategic assessment – or strategic downgrading – of the situation based on experience and a limitation of farming activities adapted to the unstable institutional environment. Vicol et al. (2018) point to the fact that farm households do not always follow neoclassical economic principles such as profit maximisation, which helps to make sense of the resistance that many farmers in conservancies have to stepping out of agricultural activities. Hence, the economic dimension of upgrading is not necessarily prioritised by farmers compared to a cultural and social dimension (Barrientos et al., 2011).

Moreover, as argued by Hazell et al. (2010), due to changing political agendas and unpredictable dynamics in emerging economies, farming trajectories seldom pronounced as a linear path of growing and expanding, but rather remain a small-scale structure, which our results clearly show. The answer may be an alternative paradigm in agriculture to remain 'small', meaning to retain a small-scale structure and remain autonomous (Dorward, 2009). This would, in turn, need an incremental institutional change in order to support participation and representation of smallholders endogenously, e.g. through collective action, to overcome dependency on international donors and trade imports (Andersson & Gabrielsson, 2012; Dorward, 2009; Naziri et al., 2014).

For this study, the ways that the four dominating development trajectories are interlinked, indicates that stepping up strategies are not automatically achieved through value chain upgrading; nor are stepping out strategies possible via the mere existence of alternative income sources, such as tourism in conservancies. It is more a question of agency and participation in the implementation of political visions that can lead to evolved positions within AVCs and inclusive, beneficial CBNRM institutions.

5.6 Summary and conclusion

Coming back to the Prime Minister's statement on the promising development of both agriculture and tourism in Zambezi, the current nexus of initiatives and local strategies does not indicate the realisation of this vision.

Identifying interrelations between the two main development pathways, which mostly worsen the positionality of farmers within AVCs contributed to a nuanced understanding of

the reasons for failure in the implementation of political visions. The study has shown that up until now, the broader development implications of CBNRM visions and the contradictory goals of intensifying agriculture and expanding value chains, have not materialised in the Zambezi region. These unintended links between both sectors could be uncovered through the lens of aspired and achieved livelihood upgrading or downgrading.

Summarising, the findings revealed that farmers do aim at stepping up their livelihoods through intensification of agricultural produce, diversification of crops, or additional off-farm businesses. Subsistence farming for food security coupled with strategic surplus-selling on local or regional markets was identified as a predominant livelihood strategy. Although most farmers did envision stepping up strategies, upgrading their farming activities or diversifying was seldom possible. The results have shown that the two paths must be considered as intertwined rather than disconnected in order to harmonise the demands on resources by a variety of actors that come together in conservancy spaces (tourists, farmers, conservationists, flora and fauna, traders etc.). Otherwise, the high political expectations will not become reality.

Future policies could support existing local networks following a place-based approach. Here, the potential of collective action, contract farming, and backward and forward linkages for input access and marketisation needs to be explored further (e.g. Fold & Neilson, 2016). As opportunities to step out of agriculture are limited in the case study region, a policy aiming at 'accumulation from below' (Aliber & Hall, 2012) could strengthen local or regional AVCs without preventing farmers from pursuing farming, which is a major cultural and identity-forming activity.

Concluding, it must be recognised that CBNRM is a prominent and promising development tool in many countries in southern Africa. The framework and outcome of this analysis can be relevant for academia and practitioners beyond the borders of Namibia as it stresses the importance of integrating local resident's perspectives and other, interrelated economic sectors. While this study's complex, multi-layered actor setting shows certain patterns influencing livelihood strategies, the findings are not representative beyond the Zambezi region. The bottom-up approach considering aspirations of local actors, and contrasting those with top-down policies, initiatives and visions is necessarily subjective. Hence, we captured the perspective of farmers who feel disconnected from top-down intensification and conservation attempts and examined reasons for their discontent. Acknowledging the importance of space-specific local institutional settings and historical preconditions, ‚more

empirical examples are needed on non-firm actors and horizontal – social and spatial – dynamics in other regions of sub-Saharan Africa which are shaped by nature conservation to identify beneficial development strategies associated with such top-down interventions.

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6 Path Formation and Reformation: Studying the Variegated Consequences of Path Creation for Regional Development

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Abstract

The emergence of new regional paths is a key topic in economic geography. While new paths are largely associated with positive regional economic outcomes, little is known about how the formation of a new industry affects other parts of the regional economy. By linking recent conceptual advancements on early path formation and interpath relationships, this article develops a framework for studying how path creation, as a result of diverse resource formation processes, can cause reformation processes of existing industries. The value of the framework is illustrated in a case study on the tourism path formation process in the Zambezi region (Namibia) and its impacts on the agricultural sector. The findings reveal how the path formation has caused new forms of intraregional inequalities as well as novel opportunities for the existing agricultural sector depending on the interpath relationship. Beyond these case study–specific findings, the results emphasize the importance of a broader perspective that goes beyond a single new path and includes nonparticipating regional actors in the analysis. Only in this way can we understand how new path creation translates into regional economic development.

Key words

Path creation, regional development, interpath relationship, new industries Namibia

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6.1 Introduction

Policy makers harbor great hope for the emergence of new industrial paths, in particular in peripheral regions and regions characterized by declining industries, to create new economic opportunities and compensate for losses (e.g., Fornahl et al. 2012; Dawley 2014). Therefore, it is not surprising that the question of how new paths evolve in regions has been declared "as one of the most intriguing and challenging issues in the field of economic geography" (Neffke, Henning, and Boschma 2011, 241). Evolutionary Economic Geography (EEG) studies, in particular, have pioneered the discussion by showing that the emergence of new paths is more likely and successful in regions that host related industries (e.g., Boschma, Minondo, and Navarro 2013; Breul, Broekel, and Brachert 2015; Mewes and Broekel 2020). Recently, a number of important advancements have been made that broaden our understanding of how new paths emerge in regions. These studies have incorporated building blocks like agency (Grillitsch and Sotarauta 2019), nonfirm actors (Dawley et al. 2015), and extraregional resources (Isaksen and Trippl 2017) into the discussion.

Despite the progress made in understanding how new paths emerge in regions, a major motivation for studying this phenomenon — that is, the impact of a new path on the regional economy — has largely remained restricted to insights into economic impacts immediately inherent in the newly created path. However, a successful new industry cannot be equated with successful economic development for the entire region (Christopherson and Clark 2007). Beyond direct effects, new paths may generate opportunities for existing paths and form synergetic relationships; likewise, new paths may be the source of inequality through competitive relationships with existing economic activities in the region (Hassink, Isaksen,

and Trippl 2019; MacKinnon et al. 2019). Understanding these interdependencies is critical to grasp what kind of regional development is generated by new path creation. To derive more nuanced insights into the role of new path creation for regional economic development, a broader approach is required that goes beyond the analysis of a single new path. This article develops a framework that links the path formation framework by Binz, Truffer, and Coenen (2016) with ideas from the interpath relationship framework by Frangenheim, Trippl, and Chlebna (2020), allowing to study to what extent the formation process of a new path causes reformation processes of existing regional paths. The article, thereby, aims to contribute to the burgeoning research strand on new path creation by bringing the debate a step closer to the major point of concern, regional economic development.

We demonstrate the use of the framework to understand how new path creation may affect existing economic activities and how this relates to the overall goal of promoting regional economic development in an illustrative case study of the Zambezi region in northeastern Namibia. The Zambezi region, as we will show, is a suitable example to study the effects of new path creation on existing economic structures. Historically, the region relied on agriculture as the main livelihood activity. Since the 1990s, different resource formation processes have contributed to the creation of a tourism path. We analyze this formation process of the tourism path and its influence on the existing agricultural path. The findings highlight that new path development cannot be interpreted as a *growth path* for the entire region. The formation of the tourism path has generated variegated outcomes within the region, with benefits and losses unevenly distributed among firms and people.

6.2 The Formation of New Industrial Paths and Regional Economic Development

Where and how new industrial paths emerge has been the main line of inquiry within EEG. Here, the development of new paths is understood as a regional branching process that emerges out of preexisting economic structures and organizational routines (Boschma and Wenting 2007; Boschma and Frenken 2011; Neffke, Henning, and Boschma 2011). However, claims for more comprehensive conceptualizations of new path development have often been expressed (for an overview, see Hassink, Isaksen, and Trippl 2019). These include, inter alia, a multiactor approach that goes beyond the mainly firm-driven understanding of new path development in EEG (Dawley et al. 2015). Recent work, therefore, suggests distinguishing

between firm- and system-level agency. While the former refers to actors that establish new firms or to existing companies introducing new activities, the influence of system-level agency transcends the organizational borders of individual firms and transforms regional innovation systems (Hassink, Isaksen, and Trippl 2019). Moreover, scholars have suggested broadening the narrow focus of EEG beyond locally available assets (Trippl, Grillitsch, and Isaksen 2018; Alonso and Martín 2019).

Binz, Truffer, and Coenen (2016, 174) propose an analytical framework that incorporates these claims and explicitly includes firm and nonfirm actors, resources other than knowledge, and the crucial role of extraregional assets to provide "more nuanced answers to the fundamental questions when (under what conditions) and how (through what kind of mechanisms) new industrial paths are created in regions." The authors conceptualize new path development as an alignment process in which heterogenous actor networks mobilize key resources in so-called formation processes aiming to introduce a new path. Key resources include knowledge, markets, financial investment, and legitimacy. Like in EEG, the framework sees *knowledge* as a central component of new path development. *Financial investment* is another critical resource for new path development. New economic activities are often characterized by high insecurity and, therefore, face difficulty in mobilizing financial inputs. Furthermore, markets for new paths are not automatically given, but rather have to be created in a *market formation* process. Lastly, new paths tend to face high skepticism or lacking acceptance. *Legitimation* can be achieved through the adaption of the path to the existing institutional structure or vice versa.

But why is an understanding of how new paths emerge so important and attracts so much scholarly attention? A central reason is that the ability of regions to create new paths is perceived as crucial for long-term economic success. Various quantitative studies have shown that the ability to diversify into new economic activities matters significantly for the economic performance of countries and regions (for a literature review, see Content and Frenken 2016). Case studies on the formation of individual industrial paths have also provided valuable insights into regional economic outcomes (e.g., number of employees, firm entry, investments etc.) immediately inherent in this newly created path (e.g., Fornahl et al. 2012; Isaksen and Trippl 2017). In sum, new path creation is by and large positively associated with regional economic development concerns, which is also reflected in the occasionally interchangeably used term *new growth path* (e.g., Trippl, Grillitsch, and Isaksen 2018; Hassink, Isaksen, and Trippl 2019).

However, so far, the consideration of regional economic outcomes has been restricted to the given new path itself or takes place aggregated at a regional level. While new paths tend to produce economic benefits, less is known about their effects on the rest of the region (e.g., existing industries, actors, people). In their seminal work, Christopherson and Clark (2007) warn against automatically interpreting regions as successful when hosting a competitive industry and underline the importance of considering the intraregional allocation of resources in order to grasp developmental outcomes for a region. In a similar vein, Coe and Hess (2011, 134) call attention to the variegated effects the embedding of global production networks, that is, path importation, may have on different parts of a region: "although the articulation of regions in global production networks can produce significant economic gains on an aggregate level, in many cases it also causes intra-regional disarticulations, for instance, through uneven resource allocation and the breakup of existing cultural, social and economic networks and systems."

These discussions indicate that new paths can be the source of new forms of intraregional inequalities as well as an impetus for regional economic development. One cannot derive conclusions about regional economic impacts stemming from new path creation when only focusing on an individual new path.

6.3 Path Formation and Reformation Processes of Existing Economic Structures

In Binz, Truffer, and Coenen's (2016, 174) seminal work, "path creation is conceptualized as a sociotechnical alignment process where heterogeneous actor networks mobilize" key resources. Appropriate for its purpose of explaining early path creation, this understanding only includes actors relevant for the path creation process itself. Naturally, other actors exist in the region that do not participate in the path formation process or are excluded from it and its related benefits (see Werner 2016 for a similar discussion in global production network research). To be capable of grasping the variegated developmental effects of new path creation on regions, it requires the inclusion of these nonparticipating parts of the regional economy into the analysis and to connect them to the path formation process. This section elaborates an analytical framework to analyze the impact of new regional path development on other parts of the regional economy by conceptually linking the path formation process with what we define as the reformation processes of existing regional paths

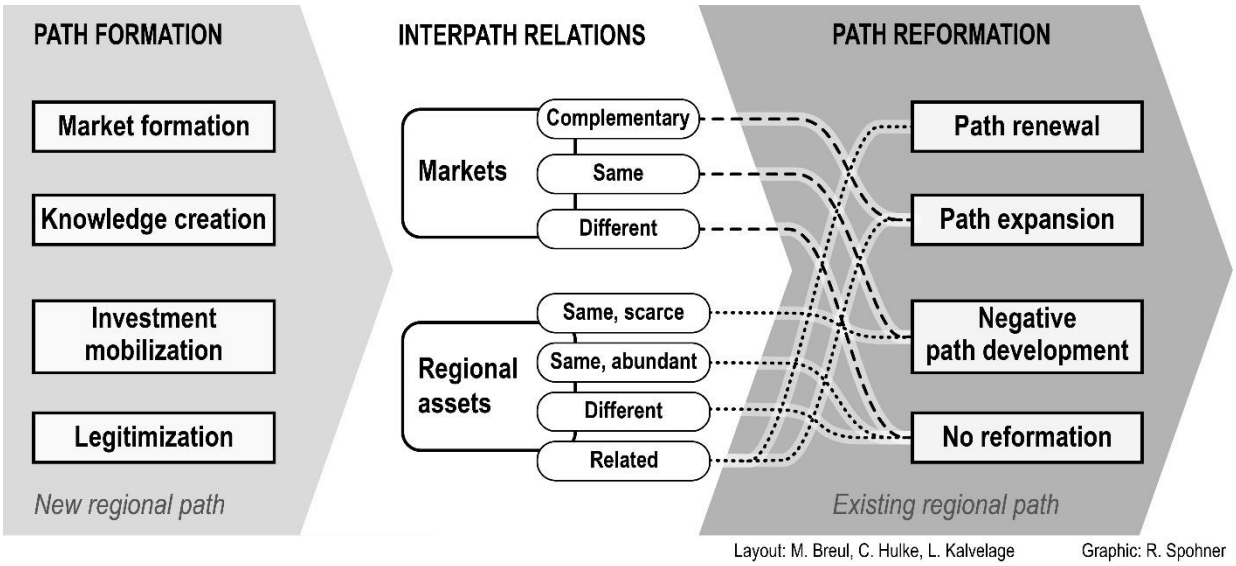

Figure 6-1. Analytical framework to study the effects of new path creation on existing regional paths.

(Figure 6-1). For this purpose, our approach considers changes in the intraregional allocation of resources caused by the path formation process as outlined in the following section.

Our point of departure is the formation process of the new path. Resource formation processes as outlined in the section above are seen as the condition for a new path to successfully emerge (Binz, Truffer, and Coenen 2016). Through these processes, key resources are mobilized creating markets and different types of regional assets that are required by firm and nonfirm actors to develop the new path. While being at the center of path formation, the resource formation processes can also be understood as *asset modification processes* in which new regional assets are created, nonregional assets are imported, existing regional assets are reused or destroyed (Trippl et al. 2020). This understanding highlights that the mobilization of resources for the new path possibly also affects the regional production environment of other existing paths. It thereby offers a helpful perspective to explicitly link path formation to other parts of the regional economy by considering changes in the regional availability and allocation of resources that may cause reformation processes of existing regional paths.

We define reformation processes as changes of existing regional paths initiated by the formation of a new path in the region. Different directions of reformation processes are possible as we derive below. The effect of the newly emerging path on existing regional paths is mediated through the assets and markets that were created by the resource formation processes, depending on how these relate to existing regional paths. We draw on recent conceptualizations of interpath relations by Frangenheim, Trippl, and Chlebna (2020) to

elaborate the causal connections between new path formation and different types of reformation processes. The key idea of their framework is to characterize the nature of the relationship of two or multiple emerging paths by considering whether they rely on the same assets or markets (see also Sandén and Hillman 2011 for relationships among technologies). In addition, what matters to understand the relationship between different paths from the asset perspective is whether the required assets are abundant or scarce.

Based on these interpath relationships, four types of reformation processes of existing regional paths are plausible that have partly been mentioned in typologies of existing work: negative path development, path expansion, path renewal, and no reformation. In the following, we define the different types, explicitly depict through which interpath relationships they are caused, and discuss their consequences on regional development.

Negative path development: Following Blažek et al. (2019), we define this reformation type as the decline of an existing regional path, such as in terms of output or employment. While various exogeneous and endogenous factors can cause the decline of an industry in a given region (e.g., Martin 2014), in this article the term explicitly refers to a negative path development caused by the formation of a new regional path. If a new path accesses the same scarce assets that are required in an existing path, both are in a competitive relationship with one another. In such a context, the formation of the new path can cause a reallocating effect on the availability of regional assets (e.g., crowding-out effects of skilled workers arising from foreign investments (Becker et al. 2020)). Moreover, negative path development can occur when the new path targets the same market as the existing path (Frangenheim, Trippl, and Chlebna 2020), potentially replacing the established path. Regarding questions of regional development, this type of reformation process highlights that while creating economic gains for some, the formation of a new path may also cause losses in other parts of the regional economy. MacKinnon et al. term this phenomenon the "dark side of path creation" and note that "new paths may generate new forms of inequality [. . .] through, for instance, [. . .] uneven resource allocation, and the exclusion and displacement of some groups" (MacKinnon et al. 2019, 121). Negative path development is especially troublesome and increases intra-regional inequality when the new path is not capable of compensating for the losses in the existing path.

Path renewal: Grillitsch and Asheim (2018, 1641) define path renewal as "a major change of the existing industry due to the introduction of new technologies, change of business models, or organizational innovations." Path renewal in this article explicitly refers to changes in an

existing path based on the introduction of new assets such as knowledge or technologies by the formation process of a new path. A conducive interpath relationship for this reformation type to occur is the reliance of the new and the existing paths on different but related assets. For instance, the creation or transplantation of new knowledge for new path formation also contributes to the expansion of the regional asset base, thereby increasing the scope for knowledge recombinations in the region. Following the relatedness argument (Frenken, Van Oort, and Verburg 2007), it is more likely that this newly available knowledge may be applied by existing paths that are related to the new path. Moreover, existing regional industries may also benefit from investment mobilization that is utilized to create assets for the new path if these are related to these industries' own asset requirements. Research on the development of production linkages uses the term *horizontal linkages* to describe a situation where capabilities that are developed by one path also meet the needs of other existing regional paths (Morris, Kaplinsky, and Kaplan 2012). Path renewal implies that the developmental impact of a new path exceeds the new path itself and spills over to other parts of the regional economy. It contributes to the rejuvenation of existing regional economic structures. This is particularly crucial for declining mature paths that are losing competitiveness (Coenen, Moodysson, and Martin 2015).

Path expansion: Path expansion is defined as the growth of an existing regional path in terms of economic output, revenue, and/or employment caused by multiplier effects resulting from the formation of a new regional path. This reformation type can be initiated if a new path creates a market that is complementary to the market of an existing regional industry. Through backward or forward linkages or the production of complementary products, the existing path may benefit from the formation of the new path. For instance, the market formation of solar photovoltaic through feed-in tariffs caused growth effects for the existing semiconductor path, due to complementary markets (Choi and Anadón 2014). Furthermore, the creation of related assets cannot only cause the renewal of an existing path but also contribute to path expansion due to an improved production environment. An example is the development of a port to enable an export-oriented mining path, which is then also used by actors from other paths, thereby increasing their economic output (Morris, Kaplinsky, and Kaplan 2012). When this reformation type occurs, the growth of the new path prompts the expansion of the existing path, leading to regional economic development that also unfolds beyond the new path.

No reformation: Lastly, new path formation does not necessarily lead to any reformation of existing paths. This is the case when the new and the existing regional paths are unlinked and are, therefore, in a neutral relationship. Following Frangenheim, Trippl, and Chlebna (2020), this interpath relationship exists when two or multiple paths target different markets or rely on different (abundant or scarce) assets or the same but abundant assets.

The various reformation types highlight that while some parts of the regional economy may benefit from the new path, others are hit by losses. In reality, one may not be able to observe the one reformation process or the other individually, but one can possibly detect various resource formation processes in parallel. These processes need to be analyzed jointly in order to assess the complete impacts of path creation on regional development.

6.4 Case Study and Method

The analytical framework developed above is applied to analyze the impacts of the formation of the tourism path on the existing agricultural path in the Zambezi region. Located in northeastern Namibia, the Zambezi region is home to roughly 100,000 inhabitants as of 2016, 70 percent of whom live in rural areas (Namibia Statistics Agency 2017). The Zambezi case is suitable to illustrate the value of the analytical framework for two reasons.

First, its economy is mainly based on two sectors: agriculture and tourism (Hulke, Kairu, and Revilla Diez 2020). Although economic activities such as timber export, fishing, and logistics exist on a limited scale, the region is traditionally characterized by small-scale crop farming and cattle herding for subsistence use (Mendelsohn 2006). Farmers typically grow dry crops such as maize, mahangu, or sorghum for their own consumption and occasional surplus selling. The farming system has shown few dynamics over the past decades and is characterized by smallholders with a low- input, low-output structure (Mendelsohn 2006). This is despite recent government efforts to intensify and formalize agricultural production and promote Zambezi as Namibia's *food basket* (Republic of Namibia 2017). Medium and large-scale irrigation schemes, so-called Green Schemes, ought to realize this vision by including smallholders as outgrowers. However, so far only one Green Scheme has been established in the Zambezi region, which employed six permanent farmers in 2019 (Hulke, Kairu, and Revilla Diez 2020).

Since the late 1980s, the emergence of a tourism path has led to economic diversification in the region. Large mammals, such as elephants, hippopotamuses, and cape buffaloes, attract

an increasing number of tourists who come for photo safari or hunting tourism. Although distribution channels differ, both types of tourism rely on similar assets and institutions (Kalvelage, Revilla Diez, and Bollig 2020), which is why we consider it as one path. Both hunting and photo safari tourism build on the designation of nature conservation areas and the more transcendent or more direct consumption of wildlife. Furthermore, both products are tailored for wealthy international clients. The two types of tourism can also not be clearly separated, as hunting tourists are often accommodated in the same lodges or engage in photo safari activities after a successful hunt. In short, the region is largely characterized by the existent agricultural sector and the emerging tourism path. It therefore provides a contextual field that facilitates the empirical investigation of the reformation processes of the existing regional economy caused by new path creation.

A second reason for the case selection is the relatively recent emergence of the tourism path that allows the reconstruction of its path formation process and its consequences on agricultural activities.

However, quantitative data on the two economic sectors at a regional level are scarce and, if available, only depict small excerpts of the existing economic activities. This is particularly true for the agricultural sector, where informal work greatly contributes to people's livelihoods; 87.6 percent of all households depending on informal work are engaged in the agricultural sector (Namibia Statistics Agency 2015). These limitations make a qualitative research design more appropriate.

To grasp the resource formation processes of the tourism path as well as its consequences on agricultural activities, qualitative data was gathered during eight months of fieldwork in 2018 and 2019 in Zambezi and Namibia's capital Windhoek. During this period, focus group discussions (FDGs), go-along interviews, and semistructured interviews with stakeholders from various actor groups were conducted, covering both the tourism and agricultural sectors (see Appendix A). In the case of tourism, all forty-seven accommodation establishments (LOD-T) were contacted aiming for a complete survey, twenty-one of which agreed to be interviewed. Moreover, seven professional hunters (PH-T) and seven tour operators (TO-T) were interviewed. Sampling included businesses that currently are or previously were active in Zambezi. A semistructured interview guideline was used to assess local linkages, distribution channels, relationships with other stakeholders in the sector, and to reconstruct the history of the companies. Interviews took roughly one hour and were conducted in English or occasionally in German, since German speakers are active in Namibian tourism,

and the interviewer is fluent in German. To this, interviews were added with conservancy management boards (seventeen, CONS-T/CONS-A), business associations (nine, ORG-T), and government agencies (four, GOV-T) to explore system-level agency and contextualize findings.

In the case of agriculture, we conducted fourteen FDGs and fourteen go-along interviews with farmers in four conservancies (Sikunga, Bamunu, Dzoti, Mayuni) and two settlements on ordinary communal land as a reference (Masokotwani, Sibbinda). The chosen conservancies cover various population sizes, age structures, income sources, and geographic locations in the region. The FGDs, which took two hours on average, were conducted in the local languages and subsequently translated into English by two Namibian research assistants who are familiar with the objective of the study. Local gatekeepers, that is, residents of the respective settlements, assisted in the sampling of FGD participants with the aim of balancing gender and age, and covering various crop types and farm sizes. The total number of participants was 155 (F = 73, M = 82), the group size ranged from five to twenty, with a mean of nine. The FGDs triggered discussions on overarching structures and trends in agricultural production and marketing, the conservancy impact, and tourism development in the respective sites. In this way, common knowledge on overarching trends concerning agricultural livelihoods, conservation, and their interrelationships with tourism could be extracted from the data. Farmers that ventured into horticulture were chosen for additional go-along interviews (FARMER) in order to gather details on their livelihood strategies. As the stakeholder landscape in the agricultural sector is relatively small, we included most relevant actors in the study (total of forty-four), ranging from national and regional government bodies (GOV-A) to nongovernmental organizations (NGO- A), lobby groups or associations (LOBBY-A), and private companies (COMP-A). Interviews, varying between thirty minutes to two hours in length, were conducted in English and transcribed afterward.

The qualitative data from the FGDs and individual interviews were analyzed in a systematic content analysis (Mayring 2000). Coding followed the categories developed in the conceptual framework (see Figure 6-1). This approach allows the systematic extraction of common narratives and recurring information provided by a large number of interviewees. Thereby, our analysis aimed to reveal similarities that reoccur across the cases as well as differences that might occur only in a few cases but are of importance to understand the entire dynamics (e.g., to highlight missing synergies between paths). In the empirical sections, we quote expressive statements from the interview material to illustrate general findings as described

in Mayring (2000). The original data is supplemented with a systematic literature review on existing scholarly sources, reports, and policy documents.

6.5 The Formation of the Tourism Path in the Zambezi Region

The emergence of the tourism path in Zambezi is relatively recent, although the endogenous development potential of wildlife in Zambezi has been recognized since the early stages of colonial rule. In 1983, an advisory commission to the national government identified nature conservation and tourism among the most significant areas of economic potential (Lenggenhager 2018). First attempts to establish a national park date back to 1937 but only came into effect a few weeks before Namibia gained independence from South Africa in 1990. Prior to independence, tourism development in the area was hampered by the military activities of the South African Defence Force, which used the region as a base for operations during the Angolan war (Lenggenhager 2018).

Infant stages of tourism development can be traced back to the 1980s, when the center of military conflicts shifted westward, away from Zambezi. Since the 1970s, more and more trophy hunters had come to Central Namibia, as an increasing number of cattle farms specialized in game breeding for tourist purposes (Lindsey et al. 2013). These farmers advocated for a change of legislation, which resulted in the Nature Conservation Ordinance (No. 4 of 1975) that transferred the right to benefit from and utilize wildlife to farm owners. Interestingly, the farmers' agency met the government's objective of protecting wildlife on private land. This policy proved to be successful, considering that wildlife numbers increased steadily and trophy hunting was expanded to communal land in northern Namibia. In 1988, two newly created concessions in Zambezi enabled game-breeding farmers from Central Namibia to expand their business activities (I-PH-1), and a small number of trophy-hunting tourists made their way to Zambezi. However, trophy hunting did not yield much and, in 1994, an estimated $US163,000 was earned from trophy hunting (Barnes 1995). Between 1980 and 1990, only four tourism establishments had emerged in the region (Suich, Busch, and Barbancho 2005).

The tourism path took off in parallel with the introduction of the Nature Conservation Amendment Act No. 5 from 1996, which served as a *market formation* process. The new legal framework was driven by the postapartheid government that aimed at empowering the previously disadvantaged population in rural areas. By granting communities on public land

similar rights to wildlife as those that had been enjoyed by the owners of large private farms since the 1970s, the mobilization of nature, mainly wildlife, as an asset for the tourism industry was enabled. The act entitled communities to form village-based conservation entities (Silva and Mosimane 2014). These conservancies were obliged to implement conservation measures to protect free-roaming wildlife and, in return, were awarded use rights over wildlife. The conservation narrative led to the revaluation of wildlife, given that agreements could be made with hunting outfitters who sold quotas to trophy hunters. Since then, there has been a strong incentive for communities to engage in hunting, because the revenues paid to the conservancy are exempt from tax (I-gov-t-1), and provide a new income opportunity besides agriculture. Local residents, however, are largely excluded from hunting, since most quotas are sold to professional hunters and fetch high prices (Lubilo and Hebinck 2019). All in all, trophy hunting was legalized as a result of system-level agency and, thereby, created new market opportunities for legal hunting activities in the area. As a consequence of the commodification of wildlife, trophy-hunting activities increased in parallel with the establishment of new conservancies.

Salambala was the first conservancy to be announced in Zambezi in 1998; fourteen more conservancies were formed in the following years (Figure 6-2). The formation of conservancies was accompanied by NGOs like the Namibian organization IRDNC (Integrated Rural Development and Nature Conservation) and WWF (World Wide Fund for Nature), and supervised by the Ministry of Environment, Forestry and Tourism. Until today, these organizations play a major role in the management of conservancies by providing assistance with legal advice, auditing, negotiating contracts with private enterprises, and conducting game counts. Conservancies contributed to an increase in large mammal populations and provided space for the expansion of trophy hunting in the area. In 2017, the total turnover from trophy hunting in Zambezi was $US5 million (Kalvelage, Revilla Diez, and Bollig 2020). 54 percent of the region is currently protected to varying degrees, including national parks, a state forest, and conservancies (Kalvelage, Revilla Diez, and Bollig 2021).

The development of this new path has not been uncontested because it interfered with the preexisting use of natural resources and land by the local population (as is outlined in more detail in the next section). Thus, the alignment of institutions was necessary to create acceptance for the new path to develop. This *legitimation* process is apparent in the institutional structure of the conservancies. For instance, zone management has been introduced to set aside plots for tourism development, exclusive hunting areas, and core

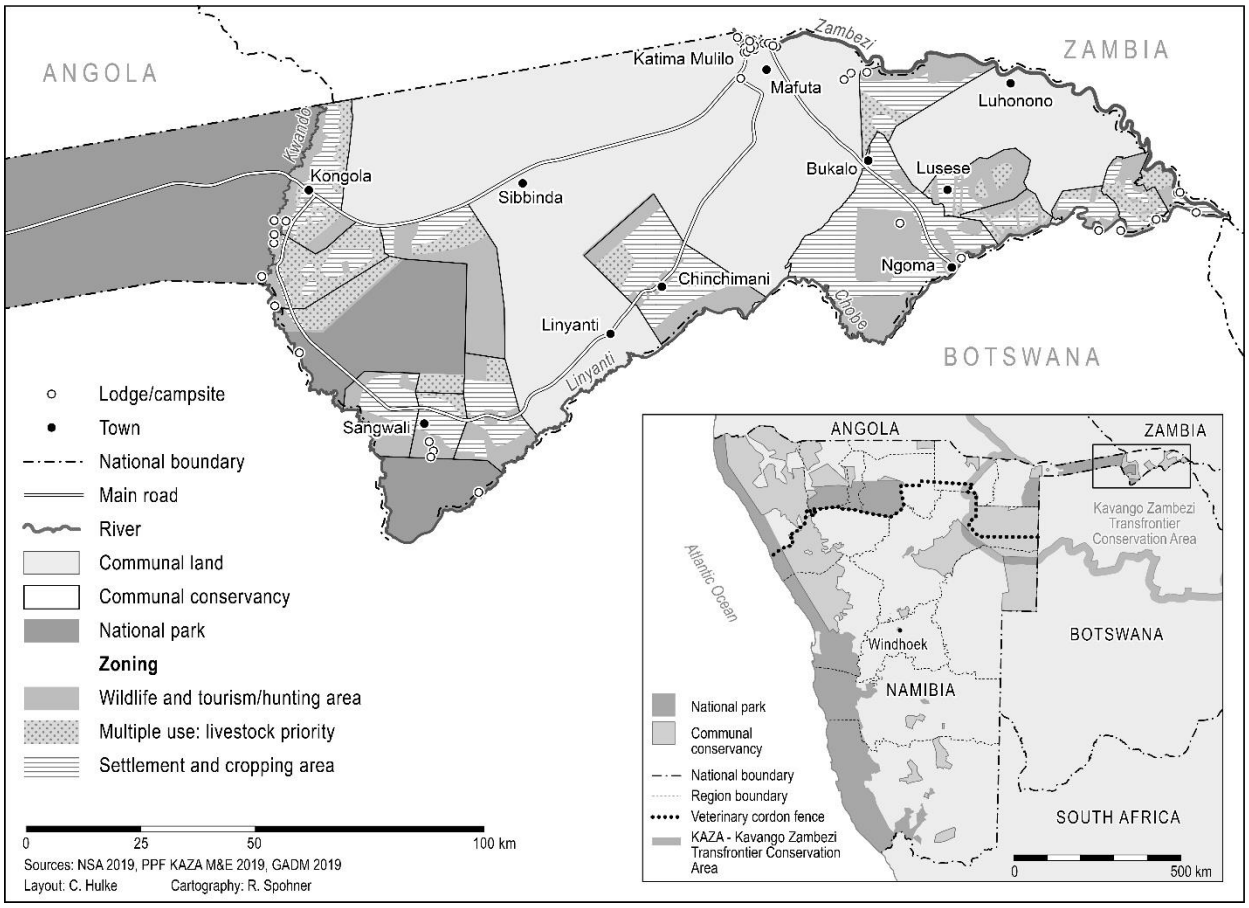

Figure 6-2. Map of the Zambezi region, location of lodges and campsites and zoning in conservancies. Own figure, data from Namibia Statistics Agency, Peace Parks Foundation. https://maps. ppf.org.za/KAZA_ME/public/index.html Source: https://digitalnamibia.nsa.org.

wildlife areas of no disturbance (CONS-T-2). The designation of areas to particular land uses is a formal requirement for the establishment of a conservancy, and the planning involves the community, conservancy committee, traditional authorities, and the staff of conservation NGOs. Similar to hunting outfitters, lodges enter a benefit-sharing agreement with conservancies and pay annual fees to the conservancy. This income is shared with conservancy members to reward the implementation of conservation measures and compensate for coexistence with wildlife in the area (GOV-T2). All these activities were intended to increase the legitimacy of the tourism path and have facilitated its steady growth. During the 1990s, following independence, a rapid increase in tourism can be observed. In 1994, a study identified four up-market lodges, three fishing lodges, and one campsite in the region (Barnes 1995). In 2005, 24 establishments catered to an estimated 31,000 guests (Suich, Busch, and Barbancho 2005). From 2005 to 2018, the total number of tourism establishments had doubled to 47 (Kalvelage, Revilla Diez, and Bollig 2020), and so had the number of arrivals to the region (60,000 in 2017; Kalvelage, Revilla Diez, and Bollig 2021).

Investment mobilization in the early stage was primarily driven by individual firms and, thus characterized by firm-level agency. For instance, there are a number of former South African militaries who built lodges to cater to tourists, as this example illustrates:

> *Well, *lodge has been around for a long time; actually, it was the first lodge after independence that existed. Because before independence *lodge was a recreational camp used by the South African army. [. . .] then after independence it was continued as a lodge by one of the officers. (LOD-T-1, translated from German)*

During the war, the entanglement between nature conservationists and military had been high, since military reconnaissance and nature conservation both aimed to expand their knowledge on the environment (Lenggenhager 2018). *Knowledge creation* on environmental features was crucial for successful military operations (Lenggenhager 2018). Therefore, the South African military hired local residents as trackers to access indigenous knowledge of the environment (Taylor 2009). Knowledge of the environment, however, was not only used for military purposes but also for hunting. Members of the South African Defence Force hunted excessively, both for sport and to trade ivory (Lenggenhager 2018). When conditions became more peaceful, this knowledge about the environment could now be used to offer tourist products.

The first lodges and campsites that had emerged were designed to accommodate fishing tourists and trophy hunters because the poor condition of roads and phone signals prevented the development of an upmarket safari tourism sector (TO-T-1). It required *investment mobilization* from extraregional sources to exploit these new market opportunities that were created by the commodification of nature. Infrastructural and material assets had to be constructed. For instance, the construction of a tar road that connects Zambezi with the national tourism hub Windhoek generally improved the accessibility of the region and allowed for the arrival of guided bus tours (Kalvelage, Revilla Diez, and Bollig 2020). Furthermore, investments were required for hunting operations, the maintenance of roads to keep hunting grounds accessible, and for installing accommodation facilities. Investment capital in both segments, photo safari and hunting tourism, has mainly been mobilized from outside the region. Hunting concessions in the Zambezi region are exclusively operated by white Namibians or, increasingly, South African professional hunters. Most of the time, these professional hunters gained experience in the field as owners of a private game farm in Central Namibia and hold concessions to offer a more exclusive hunting experience in the

open range. The growth in the number of lodges has also been largely spurred by the great involvement of extraregional actors in the tourism path. In 2005, only 21 percent of the lodges were owned by black Namibians (Suich, Busch, and Barbancho 2005). Although this figure is not a reliable indicator for local ownership, the low share of black ownership hints at the dominance of extraregional actors in the tourism industry in the Zambezi region. While the first investments were primarily owner operated, lately the region has attracted investments from larger corporations from France, South Africa, and Central Namibia (Kalvelage, Revilla Diez, and Bollig 2020) that run luxury lodges mainly for the market in the Global North. Aiming for the upmarket segment, tourism market knowledge is crucial, as an example of a community-run campsite illustrates:

> *There was a community camp (. . .) that didn't run well at all until people said: Okay, let's show you how it's done. And I think they went from something like N$3,000 minus every month, then something like N$61,000 plus for the next 6 months, just because it was marketed or managed a little bit right. So, it's not that the will is not there, (. . .) but simply the know-how and these international connections and that is unfortunately fast-moving in tourism and it is networked. (LOD-T-1, translated from German)*

In addition, anchoring international knowledge in Zambezi through the training of professional service staff has been critical to the success of the tourist path. Large companies organize in-house training to reach international standards:

> *For our kitchen, very often and for service, we have professionals that come from training companies that will come up and re-train staff, service staff. And the kitchen quite regularly receives visits from professional trained chefs who come in and change things on the menu and show them how to make new things and stuff like that. (LOD-T-2)*

Thus, the influx of financial investments was accompanied by a transfer of industry-related knowledge from international target markets that was recombined with region-specific knowledge about nature.

Overall, although the endogenous development factor *wildlife* was identified early on, the mere presence of game did not automatically induce a tourism path. As depicted above, several resource formation processes were required such as the legalization of trophy hunting,

the recombination of local knowledge about nature with a tourism-related skill set, the establishment of the conservancy institution to gain legitimacy, and the influx of extraregional investments to turn the endogenous economic potential into a tourist path. These processes were driven by both firm- and system-level agency. On the one hand, pioneering entrepreneurs commenced offering trophy hunts and built first accommodation establishments in the Zambezi region. On the other hand, concerted action was required from conservation NGOs and public bodies to create a legal framework that allowed for the emergence and expansion of the tourism sector.

Conservancies, as local institutions, enforce transfer payments and local employment, which leads to some degree of local value capture. Overall, roughly 20 percent of the tourism turnover remains within the region (Kalvelage, Revilla Diez, and Bollig 2020). Nevertheless, the economic effect of tourism is limited: less than 3 percent of the local labor force work for a tourism business, predominantly in low-wage jobs such as receptionists, cleaning staff, and gardeners. In total, tourism-related revenues account for 5.5 percent of the total household income in the rural areas (Kalvelage, Revilla Diez, and Bollig 2021). In addition, local linkages are limited, since most of the inputs required for the operation of lodges and camps are imported from outside the region (Kalvelage, Revilla Diez, and Bollig 2020). Despite the limited extent, the new path has generated immediate economic effects. But what does the formation of the tourism path mean for the rest of Zambezi's economy? This requires an analysis beyond this single path, which we elaborate in the following section.

6.6 Reformation Processes: The Impact of the Tourism Path Formation on the Existing Agricultural Path

The aforementioned resource formation processes of the tourism path have created, imported, and reallocated key resources within the Zambezi region that also modify the regional production environment for the existing agricultural path. Table 6-1 summarizes the formation processes in the tourism sector and resulting reformation processes in the agriculture path, which we elaborate below.

The institutionalization of conservancies commodified wildlife and, thereby, enabled a *market formation process* for the tourism sector. This new market is not in a competitive relationship with the existing agricultural path. On the contrary, the two paths partially form a complementary market relationship, since the growing number of lodges, campsites, and

restaurants has created new opportunities for farmers to sell fresh produce. Because large parts of the rural population can cover their demand for fresh food from their own production, the local market in the Zambezi region is limited. Therefore, the sale of fresh food to lodges and campsites was mentioned as an attractive opportunity by various farmers (FARMER-11; FARMER-1; GOV-A-1; NGO-A-8; COMP-A-6; FGD3-Dzoti; FGD2-Mayuni). Selling directly to businesses in the area reduces transport costs and the need for cold storage to keep products fresh. For instance, a company that operates three lodges in Zambezi sources roughly 20 percent of its fresh food from local farmers in Zambezi (COMP-A-1). This is especially relevant for farmers within conservancies and thus in proximity to lodges. However, the scope of this new sales channel is limited due to the relatively few lodges in the area. A quote from a farmer illustrates the benefits of supplying directly to lodges: "Sometimes they tell me 'grow for us some onions, we need spring onions, we need salads, so I grow the things according to their demand. (. . .) You can put a higher price because the vegetables are still in the garden, they are fresh" (FARMER-1). Yet, the share of vegetables this farmer can sell to lodges is below 30 percent of his production, since there are only two lodges nearby. Through these backward linkages, the tourism path has prompted the growth of agricultural output for some farmers and, thereby, contributes to path expansion, albeit on a limited scale.

Table 6-1. Path Formation and Reformation Processes in Zambezi.

Formation Processes of the Tourism Path	**Interpath Relationships**	**Reformation of the Agriculture Path**
***Market formation*:** - Commodification of wildlife (Nature conservation Amendment Act No. 5 (1996))	Complementary markets (synergetic)	***Path expansion:*** - Lodges, campsites, and restaurants as new markets
***Investment mobilization*:** - Foreign investments in tourism	Related assets (synergetic)	***Path expansion:*** - Spillovers to set up local procurement structures for fruits and vegetables
***Legitimation*:** - Zoning - Benefit distribution	Same, scarce assets (competitive)	***Negative path development:*** - Displacement of farms near rivers - Necessity-driven irrigation schemes for horticulture

		- Mismatch of human wildlife conflicts offsets turns some agricultural activities unprofitable
***Knowledge creation*:** - Recombination of industry-related knowledge from international target markets with region-specific knowledge on nature	Related assets (synergetic)	***Path renewal:*** - Introduction of newly demanded crops and quality standards (e.g. organic products)

Furthermore, we found a case in which path expansion has been supported through investment mobilization by tourism businesses. The lodge operator "started a program in *village where we said we will pay for the infrastructure for the vegetable garden but we need you guys to manage it and we will buy the vegetables from you again" (COMP-A-1). This example shows that extraregional financial investments directed toward the development of the tourism path partly spilled over to the local agricultural sector aiming to set up reliable local procurement structures for fruits and vegetables.

Legitimation processes (zoning of land uses and offsets for human wildlife conflicts) did not only allow the tourism path to develop but also had severe effects on the use and allocation of critical regional assets for agriculture. In many cases, the zoning process in conservancies has allocated favorable agricultural land along rivers to tourist use (see Figure 6-2). In this context, the relationship between the two paths is characterized by a demand for the same scarce asset, that is, areas proximate to rivers. Since the zoning exhibits a reallocating effect on the availability of fertile land and water, it withdraws this scarce natural asset from its previous agricultural use, as exemplified by this quote: "Areas for farming in conservancies are becoming scarce because of zoning" (FGD2-Sikunga).

According to the zoning maps of eleven conservancies[7], 78 percent of the area along rivers, that is, agriculturally favorable areas as they enable access to water and provide fertile soils, is allocated to tourism/hunting or wildlife use, compared to 22 percent for settlements, cropping, and livestock use. Excluding the Salambala conservancy from the analysis, which designated significantly more areas for settlement and cropping, tourism/hunting and wildlife zones even account for 97 percent of the areas along the rivers. According to these

[7] Conservancies in eastern Zambezi that are located in a regular flood plain are excluded from this analysis. The analysis was carried out with ArcMap 10.5.1 by clipping the zoning with a 1 kilometer buffer around rivers. This distance can be assumed to enable the agricultural use of water and fertile soils along the river banks.

numbers, in most conservancies, agricultural activities have largely been displaced from areas along rivers, thus impeding agricultural practices. A central reason for this one-sided reallocation of critical natural assets is that thezoning process was dominated by the conservancy management, local elites, the government, and international NGOs that often favored the interests of tourism businesses and wildlife rather than those of smallholder farmers (Lenggenhager 2018; Hulke, Kairu, and Revilla Diez 2020). Although residents participate in the planning process of a new conservancy, these outcomes indicate that their needs are not considered in the actual implementation of a conservancy in the long run.

Based on a livelihood baseline survey (Mosimane et al. 2014), 26.5 percent of the surveyed households in the Zambezi region state that conservation constraints hinder them from the self-determined use of water, and 77 percent could not access their land as before. The reallocation of scarce assets to the benefit of the tourism path, thus, impedes existing agricultural activities and caused a negative path development of the existing agricultural path. As a consequence of the zoning, fields partly had to be relocated to dry, touristically unattractive areas, as farmers described in two case study sites (FGD1-Dzoti; FGD2-Mayuni). This hampers specifically the development of irrigated horticulture. One group of farmers concludes, "Gardens are very important. The only problem there is the land to build these gardens on. Around here most of the fertile land is next to the river and we cannot farm there anymore because it has become a core area for wildlife in this conservancy" (FGD2-Mayuni). As a result of the relocation processes, irrigation to cope with the dry environment becomes challenging: "The water has to be sourced underground or pumped kilometers from the river. And for our members also access to loans from Agribank [for installing a pumping system] is a problem [. . .] that is why we end up not having those big horticulture farms, only small farms, just for people" (FGD1-Mayuni).

In addition, human wildlife conflicts have been increasing since the establishment of conservancies in the late 1990s in the region because of the recovering populations of wildlife (FGD1-Mayuni; FGD4-Bamunu). Human wildlife conflict offsets have been introduced as a crucial instrument to compensate farmers for losses of crops or cattle caused by wildlife (GOV-A-5; NGO-A-3), thereby contributing to the legitimacy of the tourism path among the local population. Although the offsets have been raised from $US15 per destroyed hectare to $US60, there was broad consensus in the FGDs that these payments do not compensate for the actual losses. Thus, the conservancy institution is blamed for hampering agricultural production (e.g., FGD1-Bamunu; FGD2-Bamunu; FGD1-Dzoti; FGD2-Dzoti; FGD1-

Mayuni; FGD2-Mayuni; FGD1- Sikunga): "I can plan to plough more, but the wild animals we have in the conservancy are damaging our crops and we hardly get anything in the end. Our livelihoods keep going down" (FGD1-Mayuni). "The conservancy is paying little as compared to the income I was going to get if I had harvested my crops" (FGD2-Bamunu). As the quotes exemplify, the mismatch of human wildlife conflicts offsets results in the withdrawal of farmers' livelihoods and turns some agricultural activities unprofitable. In the livelihood baseline survey from 2014, 70 percent of the surveyed maize farmers stated suffering losses from wildlife crop raiding, with an average of 22 percent of yield losses (Mosimane et al. 2014). A recent study on a conservancy in Zambezi found that only 30 percent of the value of crops lost in wildlife raids is compensated through offset payments by the conservancy (Drake et al. 2021).

Farmers are, therefore, constrained in their agricultural activities. Zoning limits access to fertile soils and water, and especially fields that are located far away from settlements and need protection from animal damage become uneconomic.

The recombination of tourism-specific *market knowledge* with region-specific knowledge about nature has been a crucial resource formation process for successfully creating tourist products in Zambezi. The transplantation of this new tourism-specific market knowledge in Zambezi can be characterized as a different, but to a certain degree related, asset to the requirements of the existing agricultural path. It, therefore, provides opportunities for knowledge recombinations and path renewal in the agricultural sector regarding the types of crops and quality standards.

One farmer explains that vegetables commonly grown in the region are usually not in demand by tourism businesses, and knowledge on what to grow and how to access seeds is often a barrier for farmers to diversify accordingly (FARMER-6). Tourism businesses demand vegetables that meet the Western appetite such as lettuces, eggplants, or strawberries (COMP-A-1; GOV-A-6). The introduction of this knowledge, when communicated to local farmers, has occasionally driven on-farm diversification and facilitated their access to new markets for horticulture (FARMER-1; FARMER-2; FARMER-4; FARMER-6; FARMER-11). A regional horticulture association is active in transferring this market knowledge to Zambezi farmers: "So now what happens is that we communicate to the farmers and more of them are starting to produce according to the demand. Now they start to plant herbs and lettuces for the lodges. So, the whole perception shifted from there is no market over to there is a market and we

need to produce" (LOBBY-A-5). However, only a few lodges exist in the region that cooperate with local producers.

In addition to newly introduced crops, new quality standards, such as organic production, are set by tourism businesses that help farmers to access formal supply channels with supermarkets that demand similar quality standards (COMP-A-1; NGO-A-8; LOBBY-A-7). Thus, the use of this newly imported knowledge has, at least to a small extent, contributed to a path renewal of the existing agricultural activities toward the emergence of a regional horticulture value chain. However, this knowledge is still difficult to access for the majority of actors from the existing agricultural path, as one group of farmers complains: "We need to get knowledge of other sectors, especially to find out what the international market might demand" (FGD4-Bamunu). The analysis shows that the reformation process induced by market-specific knowledge is primarily driven by private actors (a few lodges, regional supermarket branches, and an association for horticulture farmers). There was no indication of support from government bodies.

To sum up, these findings reveal that resource formation processes have not only enabled the creation of the tourism path in Zambezi but also caused variegated effects on the existing agricultural path. On the one hand, the formation of the tourism path has created new related assets and complementary markets. These could be partially exploited by some actors from the agriculture sector, thereby contributing to path expansion and renewal. The occurrence of both reformation processes has contributed to increase the heterogeneity within the agricultural path. New economic opportunities have started to provide some farmers with additional income and knowledge, albeit on a limited scale so far. Thus, both reformation processes reveal ways in which the formation of the tourism path has also spilled over to other parts of the regional economy. They, thereby, contribute to regional economic development that exceeds the new path itself. However, as revealed above, these benefits only reach some actors from the agricultural path.

On the other hand, the reallocation of scarce natural assets in favor of the tourism path has caused a negative path development for agricultural activities reflecting the *dark side of path creation* (MacKinnon et al. 2019) for regional development. This type of reformation process is particularly troublesome for Zambezi, since 65 percent of livelihoods depend on agriculture (Mosimane et al. 2014). Meanwhile, the new tourism path has only created employment for less than 3 percent of the local workforce (Kalvelage, Revilla Diez, and Bollig 2021).

Thus, from a distributional perspective on regional development, a balancing of these various reformation processes is unlikely, since benefits and losses are unevenly distributed among residents of the region. Therefore, policies are needed that focus on the synergies between the two paths and support farmers to adapt to the changing business environment. Similarly, empowering farmers' agency is crucial in order to consider their needs in the process of designating new conservation areas. For instance, a more participatory zoning process that is sensitive to the needs of local farmers could help to mitigate negative effects on the agricultural sector, while allowing the development of tourism. This would have to go hand in hand with strengthening communication and knowledge transfer among farmers and tourism businesses.

6.7 Conclusion

While new path creation is largely associated with the generation of positive regional economic outcomes, little is known about its effects on other parts of the regional economy. To close this gap, this study has established a link that has been missing so far between the question of how new paths are created and how this formation process affects the existing regional economy. We applied the analytical framework developed in this article in a case study on the tourism path formation process in Zambezi. The framework not only revealed the various resource formation processes that were required so that a tourism path could evolve but also allowed the disclosure of how these processes caused reformation processes of the existing agricultural path. The creation, importation, and reallocation of key resources for the tourism path modified the regional production environment for agricultural activities, thereby in parallel triggering different types of reformation processes depending on the interpath relationships. The reallocation of agriculturally favorable land for the tourism path led to the negative path development of agricultural activities. Simultaneously, through the knowledge generation and market formation of the tourism path, new assets have been imported, and complementary markets were created that provide new opportunities for the expansion and renewal of the agricultural path. These nuanced insights are crucial to understand how path creation relates to the overall goal of promoting regional economic development. Besides generating direct economic opportunities for a small share of the local population, the resource formation processes of the tourism path have also restricted established agricultural activities and, thus, hampered the major source of livelihood in

Zambezi. This indicates that the mobilization of resources for new path creation does not necessarily reflect harmonious interests between regional actors but can also be a source of intraregional conflicts and inequalities (Coe and Hess 2011; MacKinnon et al. 2019).

Due to the single case study approach, the generalizability of the empirical findings is limited. These are most instructive for other industrial paths that also rely heavily on natural assets such as extractive industries. However, the single case study served for illustrative purposes and is rather to be understood as largely analytically generalizable. In different sectoral settings, for example, high-tech industries, resource formation processes create assets and markets that differ widely from the presented tourism case. Therefore, reformation processes are mediated through distinct assets, markets, and interpath relationships that are, nevertheless, detectable along the logic of the developed analytical framework. In this example, the reformation processes would rather be triggered by spillovers of synthetic knowledge or the competition for scarce highly qualified labor than for fertile land.

Beyond the case study–specific findings, the insights illustrate the analytical value of the framework to study and explain the variegated outcomes path creation can produce in other parts of the regional economy. The novel lens acknowledges that a new path not only triggers one sole direction of development in a region but is closely intertwined with other existing industries so that even the presence of a new *growth path* cannot automatically be interpreted as successful regional economic development (Christopherson and Clark 2007). It includes nonparticipating regional actors, such as farmers in Zambezi, in the analysis and, thereby, helps to develop nuanced answers to the crucial question of "what kind of local and regional development and for whom" (Pike, Rodríguez-Pose, and Tomaney 2007, 1254) path creation can induce. A greater consideration of the distributional issue of new regional dynamics is not only relevant for research on path creation but also an exigent topic for other literature strands on regional development such as research on global production networks (Coe and Hess 2011; Coe and Yeung 2015). Our framework could help to overcome the predominant *inclusionary bias* (Werner 2016) in global production network research and enable research "to consider the extent to which the [effects] of strategic coupling spill over to the region more generally — that is, to those who are not directly plugged in" (Coe and Yeung 2015, 192).

Closely related to this issue, studying the variegated consequences of path creation raises awareness for the fundamental question of which paths are the most *desirable* for a certain region. While we know a lot about the feasibility of path creation, that is, facilitating and

constraining conditions, little research has focused on questions of desirability (for an exception, see Hartmann, Bezerra, and Pinheiro 2019). Taking into account possible reformation processes as a consequence of path creation delivers important insights to reflect on decisions about which path to promote. This decision should not only be based on relatedness as an enabling environment and the complexity of the new path but also consider the intraregional allocation of resources and the possible consequences on the existing regional economy. Knowledge about interpath relationships between new and existing paths could allow policy to play a proactive role in harmonizing them, and to carefully consider the conditions under which the gains from new path creation can be optimized across the entire region. On the one hand, negative reformation processes resulting from competitive interpath relationships are to be avoided by designing solutions to meet conflicts of use early on. For instance, actors from existing paths could be integrated into resource formation processes to avoid or reduce exclusionary mechanisms. On the other hand, it is important to note that the existence of potential synergies between new and existing paths does not automatically result in beneficial reformation processes. Strategic policy interventions, such as supporting networking among the actors of different paths or promoting regional value chains to foster complementary market relations, could activate these synergies.

Finally, more research is required to improve our understanding of the conditions under which path creation can contribute to regional economic development beyond the single path. Especially from a methodical perspective, this will be a challenging task. First, this broader view on interpath relationships between new and existing paths in thicker and more diversified urban regions will be demanding due to larger regional portfolios. Future research could meet this complex task by building on well- researched paths and extending the research focus subsequently. Second, quantitative approaches (e.g., intersectoral analyses) are needed to reveal the systematic interrelations between new and existing paths. Only through this broader perspective can we bring research on new path creation a step closer to the major point of concern, its translation into regional economic development.

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Appendix A

Table 6-2. Overview of Qualitative Data.

Method	Sector/Path	Number	Actor Group	ID
Focus-group discussion	Agriculture	14	Crop farmers (individual and collective)	FGD#-*site*
Go-along interviews	Agriculture	14	Crop farmers (individual and collective)	FARMER-#
Semistructured interview	Agriculture	3	Conservancy management	CONS-A-#
	Agriculture	9	Government	GOV-A-#
	Agriculture	12	Lobby	LOBBY-A-#
	Agriculture	8	NGO	NGO-A-#
	Agriculture	12	Private company	COMP-A-#
	Tourism	14	Conservancy management	CONS-T-#
	Tourism	21	Accommodation establishments	LOD-T-#
	Tourism	7	Tour operators	TO-T-#
	Tourism	7	Professional Hunters	PH-T-#
	Tourism	4	Government	GOV-T-#
	Tourism	9	Business associations and other tourism organizations	ORG-T-#
	Total: 134			

7 Navigating through the storm: Conservancies as local institutions for regional resilience in Zambezi, Namibia

Hulke, C.; Kalvelage, L.; Kairu, J.; Revilla Diez, J.; Rutina, L. (2022): Navigating through the storm: Conservancies as local institutions for regional resilience in Zambezi, Namibia. *Cambridge Journal of Regions, Economy and Society*, DOI: 10.1093/cjres/rsac001.

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Abstract

The COVID-19 pandemic has disrupted global production networks and challenged the resilience of regional economies to external shocks. The tourism sector was severely affected by the travel bans imposed, as were regions characterised by tourism development, such as Zambezi in northern Namibia. Nonetheless, with the support of the national government, conservancies, as local governance institutions, partly maintained the distribution of value from tourism throughout the pandemic and strengthened agriculture-tourism linkages to achieve long-term transformation. These findings suggest that local institutions are able to create regional resilience through their capacity to drive adaptation and adaptability in a diversified regional economy.

Keywords

Regional resilience, value distribution, regional diversification, tourism-agriculture linkages, conservation, tourism GPN, COVID-19

7.1 Introduction

The economic shockwaves caused by the Covid-19 pandemic immediately affected tourism as a consequence of imposed travel bans. Attempting to prevent the spread of the disease, the closure of borders has left firms and regions decoupled from global networks (Dallas et al., 2021; Oldekop et al., 2020). This disruption caused profound repercussions on regional and local economies, especially in rural areas with vulnerable social-economic structures and a high dependency on tourism (e.g. Niewiadomski, 2020).

This is problematic for rural economies that rest their hopes on tourism (Telfer and Sharpley, 2016): the arrival of international guests is expected to initiate capital influx, increase employment and stimulate innovation in peripheral regions that benefit from attractive flora and fauna but lack alternative development pathways. Despite these rather positive development effects, tourism is vulnerable towards external shocks such as natural disasters (e.g. Tsao and Ni, 2016), thus raising questions about regional resilience, especially during a global pandemic.

The economy of the Zambezi region in northern Namibia is marked by high unemployment rates, poverty, and a high dependence on subsistence farming and agriculture for food security (Hulke and Revilla Diez, 2022). Tourism is one of the few more globalised sectors in the region and the national government uses the policy of community-based natural resource management (CBNRM) as a vehicle to achieve economic growth. CBNRM aims to build local institutions able to protect the natural environment and valuates wildlife through the attraction of investors in the safari and hunting tourism sector (Gargallo and Kalvelage, 2021). Because of the reliance on tourism, the COVID-19 pandemic has left the conservancies as local institutions implementing CBNRM within ‘a perfect storm’ (Lendelvo et al., 2020).

This article explores, firstly, the impact of the COVID-19 pandemic on the tourism industry and CBNRM policy through its changing value distribution patterns and, secondly, tourism-agriculture linkages in the Zambezi region in north-eastern Namibia. Combining insights gained from the research on tourism global production networks (GPN) with a perspective on regional resilience, we examine the role of local, place-specific governance institutions to achieve regional resilience through value capture and distribution in the Zambezi region.

While the significance of local institutions - as both formal rules and regulations, as well as informal norms and values - in the context of GPNs have recently been highlighted (Kalvelage et al., 2020; Kleibert, 2014), their role in managing economic shockwaves caused by

temporary decoupling of a region from tourism GPNs remains unclear. Following an intense discussion on regional resilience as a regions' capacity to recover from a shock and remain capable of long-term transformations (e.g. Boschma, 2015; Cretney, 2014; Hassink, 2010; Hu and Hassink, 2019), the COVID-19 pandemic presents a suitable moment to recap the developments made and revise applicability and usefulness of the regional resilience concept to assess regional development.

To this end, we study how locally bounded GPN actors build regional resilience at the local level by examining two questions: (1) how has the COVID-19 pandemic affected the capacity of local institutions to capture and distribute value? (2) What consequences do the changes in value capture and distribution have for building adaptation and adaptability in the region?

This article is structured as follows: firstly, we will outline current debates on regional resilience and link them to the growing body of research on global production networks. Secondly, the case study and methodology will be presented. Thirdly, the results section will give insights into the impact of Covid-19 on tourism and agricultural livelihoods, thus highlighting changing value distribution patterns and the dynamism of tourism-agriculture linkages. Fourthly, the role of conservancies for adaptation and adaptability will be illustrated, before conclusions are drawn.

7.2 GPNs and regional resilience

7.2.1 Regional resilience through adaptation and adaptability

The understanding of resilience has shifted from an equilibrium-based system theory to an evolutionary and dynamic one (Boschma, 2015; Martin and Sunley, 2015; Simmie and Martin, 2010) that highlights the transformative capacity of regions (Davoudi et al., 2013). The core notions of adaptation and adaptability in regional resilience are not uncontested due to their binary character (Hassink, 2010), but they do provide a conceptual distinction between short-term reactions to shocks and long-term, innovative change (Hu and Hassink, 2019). Adaptation builds on an understanding of resilience as the capacity to bounce back and recover. This would imply a return to a state prior to the crisis, such as "an equilibrium-based rebound in tourist expenditures or employment" (Christopherson et al., 2010: 5). Conversely, adaptability is the capacity of a regional economy to create new pathways and transformations, such as economic diversification towards future-oriented sectors. This is

important for regional development because it "echoes the argument that diversified economies are more adaptable because they act as a 'shock absorber'" (Pike et al., 2010: 65).

It has recently been argued that both adaptation and adaptability are important components for regional resilience, raising the question as to how both can be equally accounted for in policy strategies: "the long term evolution of a regional economy will most likely involve with both adaptation and adaptability. And the ways in which they interact over time are indicative of the differentiation of regional economic resilience" (Hu and Hassink, 2019: 11). Hence, in the complex evolution of regional resilience, adaptation and adaptability are assumed to co-evolve and dynamically influence each other.

Hu and Hassink (2017; 2019) differentiate five types of adaptation-adaptability relationships: (1) they *oppose* each other, thus contradicting their effect; (2) they are *separated*, thus unrelated with relatively little effect on regional resilience; (3) *adaptation enables adaptability*, where local actors mobilise place-specific resources; (4) *adaptation benefits from adaptability*, initiating potentially less regional resilience, and (5) a *complementary, reciprocal* relationship, exploiting GPN-specific assets. The form of relationship is dynamically constructed by "broader social, economic and institutional environments" (Hu and Hassink, 2019: 15) and local agency (Gong et al., 2021), two factors that require further empirical research.

Hence, the capacity of regions to adapt to shocks and risks can have a positive impact on the capacity to transform in the long run (Martin and Sunley, 2015). This can be achieved specifically through strengthening the interactions between both adaptation and adaptability in creating synergies between various industries in a diversified economy (Boschma, 2015; Hu and Hassink, 2019; Pike et al., 2010). However, the role of multi-scalar institutions and local actors' agency in building resilience has not been sufficiently addressed (Boschma, 2015). We, therefore, integrate GPNs, especially, as drivers and determinants of regional resilience, with a special focus on local institutions governing value distribution. By showing how they influence adaptation and adaptability, the GPN framework can help capture the dynamics of resilience in a region embedded in globalised networks (Gong et al., 2021).

7.2.2 Local institutions and value distribution in GPNs

Briefly summarised, the GPN framework aims to explain uneven regional development outcomes through their linkages to the global economy (Coe and Yeung, 2015; Yeung, 2015). Regional institutions mediate a strategic coupling process between the needs of the lead firm and regional assets embedded in regions (Coe, 2021; Horner, 2014). Increasingly, the *dark*

sides of economic globalisation are addressed by including the perspective of actors that are directly or indirectly affected either through their integration in or disarticulation from a GPN (e.g. Bair and Werner, 2011; Coe and Hess, 2011; Kelly, 2013; Phelps et al., 2017). Following this understanding, firms in GPNs have the capacity to transform a region after a crisis – or leave it behind and cause a decline in resilience (e.g. decoupling, see Horner, 2014).

We propose that GPN research can enrich the examination of regional resilience by investigating how coupling and decoupling of industries in a region affect its local economy concerning dependencies, lock-ins, and regional diversification. In our view, one way forward is to include in the analysis the capacity of local institutions to capture and distribute value from GPN integration (Fold, 2014). By operationalising value capture and distribution by local institutions as the necessary enabler of both adaptation *and* adaptability, we aim to explain the capacity of regions to induce long-term transformation paths.

The GPN framework conceptualises regional institutions as organisations or actors orchestrating processes of strategic coupling, such as state agencies, lobby or labour associations, to understand how and under which conditions lead firms enter a specific region (Coe et al., 2004; Smith, 2015; Yeung, 2015). Through strategic coupling, value in the form of surplus value and economic rents is created, enhanced and captured. The latter addresses "which actors and locations in the network are able to appropriate and retain value, highlighting questions of ownership and control" (MacKinnon, 2012: 229). Value capture implies that "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).

Through the negotiation processes of GPN actors, including local institutions and the state, resources captured at the local level should ideally be transferred into investments for regional development (Murphy and Schindler, 2011). This conceptualisation has two major downsides: firstly, it condenses a variety of institutions *as rules of the game*, both formal and informal, on multiple spatial scales (Smith, 2015). In particular, subnational and local scales are not fully taken account of (Kleibert, 2014). Secondly, it does not grasp value distribution patterns at a local scale, since regions can show positive value capture on an aggregate level but the distribution of benefits among actors within the region remains highly unequal (Christopherson et al., 2007; Fold, 2014). While the importance of local institutions in patterns of value capture has recently been emphasised (Kalvelage et al., 2020), their agency in governing value distribution needs further examination.

Comparable to a 'sandwich structure', regional resilience is, therefore, constituted through local value capture via GPN firms and value distribution via local institutions. Thus, formal and informal institutions on various scales can determine regional resilience by creating an open environment for new sectors to emerge, while at the same time allowing for the broad distribution of the value created, employment opportunities, or other endogenously developed livelihood strategies to avoid lock-ins and negative path-development (Boschma, 2015; Breul et al., 2021).

In sum, regional resilience depends on the distribution patterns at a local scale and the ties into which resources are channelled. Rents and surplus value can be distributed, for instance, through investments in infrastructure (Irarrázaval, 2022), but also education and institution building. Through their distributive function, local institutions can provide much broader impulses for regional development, firstly, through investing in adaptation measures as a direct response to shocks and, secondly, through building a diversified economy that enables adaptability. Value distribution is, therefore, a relevant determinant of the relationship between adaptation and adaptability that has been overlooked so far.

7.2.3 CBNRM as a concept for regional resilience

Community-based natural resource management (CBNRM) depicts a political tool, local governance form, and regional development strategy, aimed at establishing sustainable resource management institutions to valuate nature and strengthen endogenous development. Members annually elect a management committee that implements nature conservation measures, hires game guards, and monitors adherence to different use zones (Mosimane and Silva, 2015). Under considerable government and NGO support, conservancies attract investors to erect lodges and, in a bidding process, professional hunters acquire hunting quotas that are used to sell hunting packages to wealthy customers. Thus, conservancies govern the coupling of regions and their residents with the tourism GPN, both for hunting and safari tourism (Kalvelage et al., 2020).

As tourism was one of the most severely affected sectors in Africa, there are a growing number of studies looking at COVID-19 as an external shock on the configuration of the tourism GPN (Giddy and Rogerson, 2021; Onsomu et al., 2021; Rogerson and Baum, 2020; Rogerson and Rogerson, 2020). Because of the dependence of nature-based tourism on international travellers, "adaptive measures cannot replace the revenues formerly generated from the international tourism market" (Giddy and Rogerson, 2021, 698), even with the help of government support.

Yet, tourism is embedded into the wider regional economy. Existing studies on linkages between tourism and agriculture in rural areas show that supply linkages can benefit both sectors and increase revenues (Mtapuri et al., 2021; Pillay and Rogerson, 2013; Rogerson and Rogerson, 2014). Utilising local resources and, thus, integrating local suppliers into the tourism sector, can generate economic growth and secure livelihoods, as highlighted by Mtapuri et al. (2021). However, exclusionary effects are possible, especially for poor farmers, from these supply channels (Pillay and Rogerson, 2013). Examining these linkages more holistically, a recent study shows that the emergence of tourism businesses in the Zambezi region has positive *and* negative effects on the agricultural sector, highlighting sectoral interdependencies when promoting certain economic sectors (Breul et al., 2021).

To achieve CBNRM's proclaimed aim of generating benefits for conservancy members to be compensated for conserving and living with wildlife, the distribution of conservancy income among its members is inevitable to legitimize this institution (e.g. Bollig and Vehrs, 2020; Schnegg and Kiaka, 2018). Moreover, farmers that operate within conservancies need special attention since they are largely affected by nature conservation and tourism activities (Breul et al., 2021; Hulke et al., 2020).

This raises the question which determinants can, in fact, contribute to regional resilience in tourism-driven economies. By analysing CBNRMs capacity to cope and mitigate in times of crises, we argue that attention needs to be drawn to the agency of these local institutions to capture and distribute value from GPNs, as well as their capacity to strengthen other economic sectors in the region.

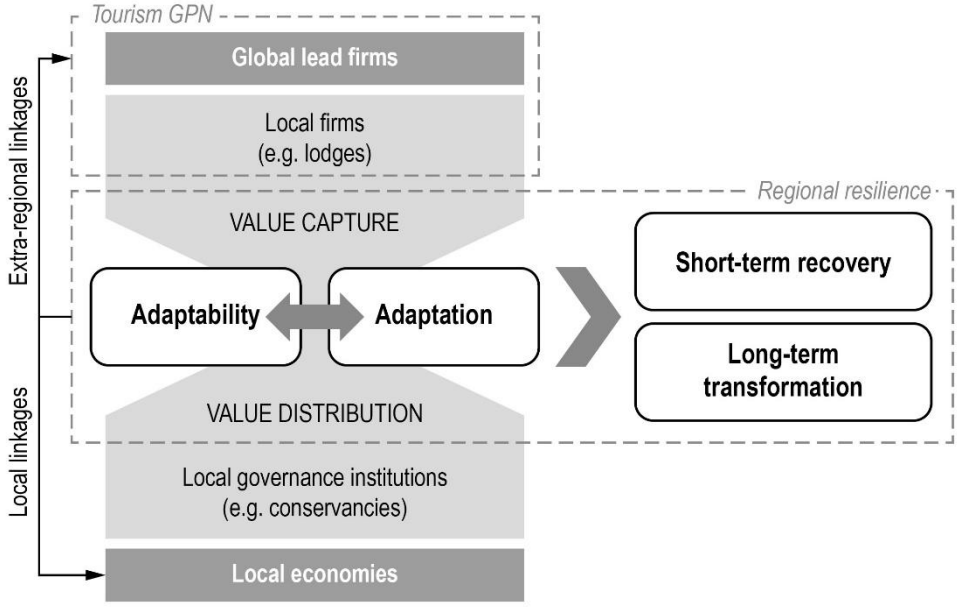

Figure 7-1. Conceptual framework: value capture and distribution in building regional resilience.

Based on the combination of regional resilience and GPN literature, Figure 7-1 illustrates the conceptual framework of this study, combining adaptation and adaptability in regional resilience with GPNs capturing value and local institutions distributing value. To show the applicability of the conceptual framework, in the following section, we draw on the case of CBNRM and the tourism GPN in Namibia. The analytical categories and interrelations of adaptation and adaptability for value capture and distribution guide our empirical analysis.

7.3 Case study and methodology

The CBNRM approach in Namibia, promoted since the 1990s, is generally perceived as a success model, since it safeguards wildlife populations, introduces democratic institutions to rural areas marked by traditional leadership and opens up new income opportunities through the promotion of the wildlife-tourism sector (Mosimane and Silva, 2015). In 2017, 98% of the conservancy income was generated through hunting and safari tourism indicating the dependence of Namibian conservancies on international tourism. Alternative income sources, such as the marketing of forest and craft products, accounted for only 2% (NACSO, 2017). To date, there are 15 conservancies in the Zambezi region, a region that largely relies on small-scale agriculture with an emerging tourism sector fostering its embeddedness in global production.

Out of the 15 conservancies in the Zambezi region, seven case study conservancies were sampled, covering a range of characteristics such as length of existence, distance to rivers/national parks, population size, or density of tourism businesses (Figure 7-2): Mayuni, Kwandu, Dzoti, Sikunga, Salambala, Mashi, and Impalila, which we anonymised for this analysis. The authors and enumerators met during regular online workshops to jointly develop the questionnaire and interview guidelines and to agree on the sampling strategy and implementation of the study.

A mixed method approach was employed to identify the ability of conservancies to foster regional resilience. A conservancy resident survey based on a structured questionnaire was complemented by structured and semi-structured interviews with stakeholders, conservancy management, farmers, and tourism businesses, supplementing the survey with qualitative, in-depth insights. By doing so, both the household/individual level of analysis can be triangulated with the firm-level as well as the broader institutional framework.

Following a pre-test, 20 residents were targeted in each conservancy. The sampling was done randomly with the help of the conservancy management boards or village headmen to ensure acceptance of the research. Face-to-face interviews were conducted in the local language on the respondents' perception of the impact of COVID-19 on their lives and the natural environment. This approach ensured a high response rate and a high data quality, resulting in a sample of 137 completed surveys. With a total population of roughly 23,000 residents in all case study conservancies, the sample is far from being fully representative but is equipped to illustrate major trends. Enumerators translated the results into English, while completing the paper-based questionnaire.

The resident survey was complemented by structured and semi-structured interviews with relevant actors from the tourism GPN, agricultural sector and pertinent organisations. The purpose of the study was explained to the respondents and they consented to be interviewed, while being assured of anonymity. Purposive sampling was done in selecting interviewees from the regional heads of wildlife, tourism and agriculture, conservancy management boards, NGOs, lodge owners and business owners. For the data analyses, we firstly calculated descriptive statistics of the resident's survey (such as location parameters, measures of dispersion, frequencies). Secondly, the interview material was transcribed, translated into English if necessary and coded, following a deductive coding scheme guided by the research questions based on a qualitative content analysis. Table 7-1 summarises the database and IDs used in the empirical analysis.

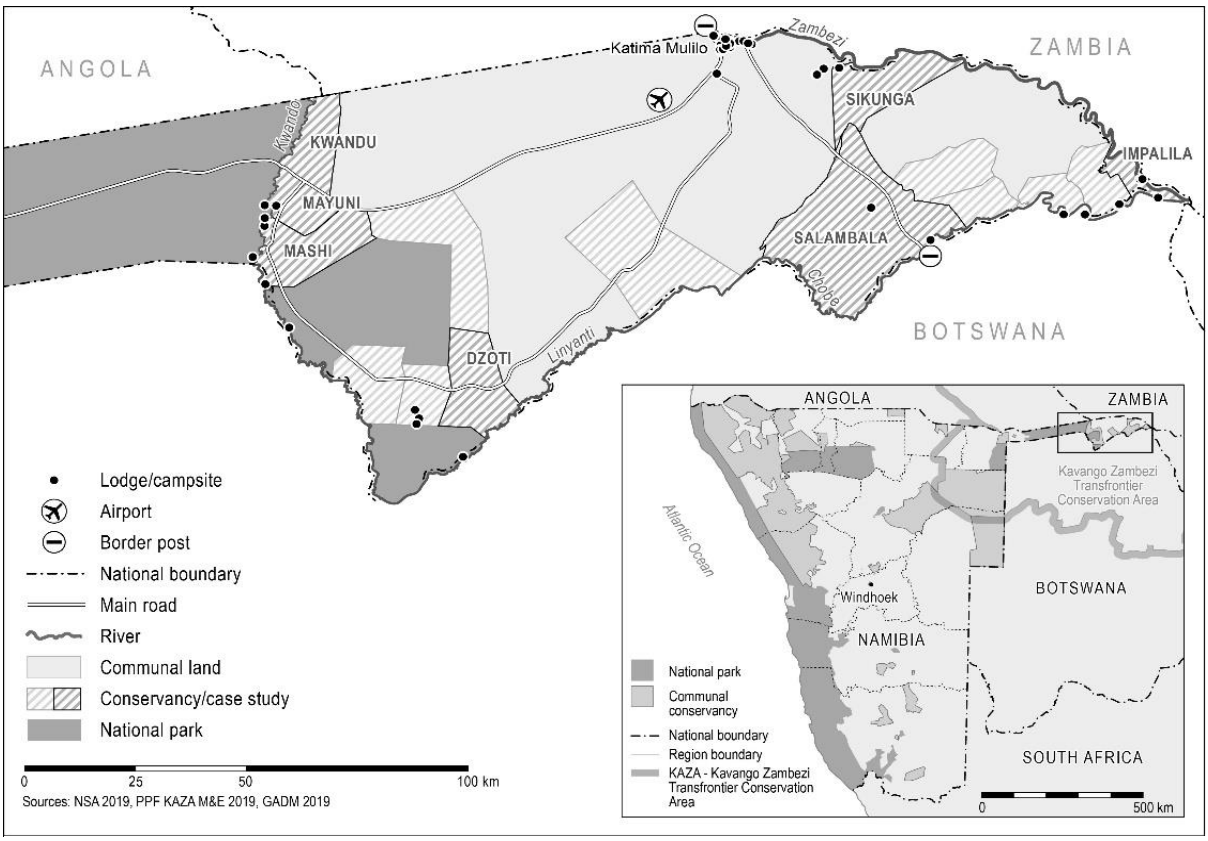

Figure 7-2. Map of the case study areas.

Table 7-1. Overview of the database.

Sector	Method	Number	Actor group	ID
Conservation	Structured interview	30	Conservancy management	CON-M-#
	Semi-structured interview	2	Stakeholder	CON-ST-#
	Structured quantitative survey	137	Conservancy residents	CON-RES-#
Tourism	Structured interview	7	Accommodation establishment	T-LOD-#
	Semi-structured interview	1	Stakeholder	T-ST-#
Agriculture	Structured interview	25	Farmer/producer	A-P-#
	Structured interview	13	Retailer	A-R-#
	Semi-structured interview	3	Stakeholder	A-ST-#
Total				**218**

7.4 The impact of COVID-19 on regional resilience in Namibian conservancies

7.4.1 Conservancies and the tourism GPN: changing value capture

High expectations rest on tourism for economic development in the Zambezi region, since it is one of the few sectors that attracts extra-regional investments. The overall turnover from hunting and safari tourism was estimated to be around USD 10 million in 2017 and conservancies are able to capture roughly 20 % of the gains (Kalvelage et al. 2020). Tourism is one of the few employers in a region marked by subsistence agriculture, yet only 4% of the total workforce is employed either in tourism businesses or by the conservancies and tourism only contributes 5.5% to the total household income in the Zambezi region (Kalvelage et al. 2021).

The COVID-19 pandemic has deeply disrupted the tourism GPN and, consequently, the income of conservancies and related value distribution patterns. In Namibia, the estimated losses due to the travel bans in 2020 sum up to N$ 55.3 million (USD 3.3 million) in annual tourism revenue (Lendelvo et al., 2020).

The first COVID-19 cases reported in Namibia on 13 March 2020 were a tourist couple from Europe. In view of tourism's threat to public health, the Namibian government immediately declared a state of emergency, entailing a ban on international travel, the closure of all borders and nation-wide travel restrictions. A series of lockdowns were effected to prevent the spread of the virus until 1 September 2020, when Hosea Kutako International Airport was re-opened as part of the *International Tourism Revival Initiative*, a range of legislative measures to facilitate international travel by the *Namibian Tourism Board*.

These travel bans had serious consequences for the tourism sector in the Zambezi region, however, the impacts on different GPN actors vary. Lodges report a complete standstill of activities during the period from March to September 2020, due to travel restrictions to Namibia from Europe, one of the key tourism outbound continents (T-LOD-1). Even when travel bans were lifted, tourism recovered slowly and the few international guests often refused to travel to the north-eastern corner of the country, opting instead for established destinations in the southern regions. The Zambezi region's touristic attractiveness builds on its strategic position along the way to landmarks in neighbouring countries, such as Victoria Falls in Zambia and Zimbabwe. Increasing administrative burdens when crossing borders,

COVID-19 tests, for instance, deterred tourists from travelling to the north-eastern Zambezi region (T-LOD-2).

As international arrivals drastically declined, the tourism industry launched the *Local tourism is lekker* initiative with the aim of fostering domestic tourism. Adapting to the new business environment, lodges in the Zambezi region offered a number of discounts for Namibian guests and invested in the upgrading of the lower price segment by erecting new tents, for instance. However, these efforts could only partly compensate for the immense losses. Depending on the business model, booking rates in 2020 were only 2.5-5% compared to the pre-COVID-19 period (T-LOD-2). This resulted in financial difficulties for lodge managers: outstanding balances were not paid because tour operators went bankrupt, bookings were cancelled and payments had to be refunded, while the operational costs for the lodge, including staff salaries, remained (T-LOD-2).

After an initial three-month retrenchment ban imposed by the government, many lodges decided to lay off workers, send them home on a reduced salary (25-50%, T-LOD-5, T-LOD-4), or introduced monthly rotations. Larger companies tended to be able to retain staff (T-LOD-3), due to cross-financing or spare capital helping to mitigate immediate negative effects. In Conservancy G, where lodges are part of larger domestic or transnational corporations, lodge employment reduced from 131 in 2019 to 100 in 2020 and, similarly, lodges owned by the large Namibian private company *Gondwana Collection* did not need to lay off workers. In Conservancy D, on the other hand, where businesses are mostly owner-run, lodge employment dropped from 31 (2019) to 10 (2020).

Hunting tourism was similarly affected by international travel bans in the first phase of the pandemic. Since large shares of the yearly hunting quotas awarded by the government could not be used, prices for trophy animals dropped drastically (CON-M-14), an elephant, for instance, that could bring conservancies up to N$180,000 (USD 11,900) was sold for N$100,000 (USD 6,600). These dynamics had a direct effect on value capture in conservancies. The figures retrieved from conservancy interviews show a considerable drop in conservancy income (Table 7-2), which is only partly substituted by donor and government funds.

Table 7-2. Income* in case study conservancies, 2019 and 2020 (in N$ and (US$)). Based on CON-M-1-30.

	Income 2019	Income 2020
Conservancy A	828,000 (52,000)	46,000 (30,500)
Conservancy B	400,000 (26,500)	172,000 (11,400)
Conservancy C	5,500,00 (232,000)	1,435,000 (95,100)
Conservancy D	1,100,000 (72,900)	478,000 (31,700)
Conservancy E	1,850,000 (123,800)	1,090,000 (73,000)
Conservancy F	390,000 (26,000)	130,000 (8,600)
Conservancy G	791,000 (50,500)	0

*The numbers were provided to the authors by members of the conservancy management board, mostly by the bookkeeper or chairperson. As official statistics on conservancy finances are not publicly available, the authors rely on field data published here to the best of their knowledge.

Table 7-3. Distribution of hunted game meat and cash by the surveyed residents in the case study conservancies, 2019 and 2020, own calculations.

	2019	2020
Residents who received cash benefits (n=137)	12%	5%
Residents who received game meat (n=137)	34%	20%
Average amount of cash benefits per conservancy, in US$	435	39
Average amount of game meat per conservancy, in kg	56	32

To ensure operations and anti-poaching measures, the Ministry of Environment, Forestry and Tourism (MEFT) together with a number of third-party donors installed the *Conservation Relief, Recovery and Resilience Facility (CRRRF)*. CRRRF made quarterly payments to the conservancy managements, which financed 80% of their salaries, running

costs and transport to maintain essential services. This ranged from N$100,000 (USD 6,600) to N$600,000 (USD 39,800) of the annual budget of conservancies.

To recap, those companies embedded into wider corporate structures were able to contribute to regional adaptation through the continuous payment of (at least parts of) salaries. Because of decreasing tourism arrivals, the conservancy maintained value distribution through various forms of benefit sharing, although they captured less value from the tourism GPN. This points out the immense importance of the integration into global tourism for the success of the current Namibian CBNRM model. Nevertheless, due to their mediating position, conservancies managed to use national government support and donor funds to compensate for value captured from the tourism GPN (Kalvelage et al., 2020) that partly make up for the decline in revenues.

7.4.2 Value distribution

A core objective of CBNRM is to support rural development through the empowerment of conservancy members, both financially and in terms of agency. To do so, conservancies usually aim to distribute 50% of their income to residents, while the other half is used to cover operational costs (e.g. transport, daily allowances, and salaries). We identify three value distribution channels by the conservancy as the local institution that distributes captured value from tourism to the local level: firstly, conservancy employment, secondly, indirect benefit sharing through community investments, and thirdly, direct benefit sharing.

Conservancy employment increases household income significantly, but the number of beneficiaries is limited to 411 employees in the whole Zambezi region (NACSO, 2017). Therefore, it has a direct, albeit limited effect on broader regional development. Conservancy employment consists of the management, game guards, area representatives, and maintenance staff. These employees receive regular salaries that have proven to be relatively stable during the pandemic.

Despite the fact that 16 employees lost their jobs, the resident survey found nine new employees. In Conservancy E, the expenditure for conservancy salaries even doubled from 2019 to 2020, although conservancy income dropped sharply by more than 60% in 2020. Support from the CRRRF scheme enabled Conservancy E to maintain the payment of salaries throughout the crisis. Keeping the conservancy running is a crucial factor for adaptive capacity as it depicts the central role of the local institution for distributing value captured from the tourism GPN. How the conservancies reinvest their income, however, is crucial for

their capacity towards transformative path development that assures the possibility of regional diversification (Hu and Hassink, 2019).

Besides the payment of salaries, community development programmes, such as the electrification of villages, scholarships or investment in infrastructure like borehole drilling (resident survey), aim to have a broader impact on regional development within conservancies and can potentially induce future transformations. For instance, the attraction of new industries, such as food processing, logistics or renewable energy, relies on a stable connection to the electricity grid.

Lastly, direct benefit sharing is implemented either via cash pay-outs, human-wildlife conflict (HWC) offset schemes, or game meat for food from hunted wildlife. Aggregating all conservancies, the survey shows a sharp decrease in cash benefits and the amount of game meat received by members (Table 3). Both value capture and value distribution at a regional level have, therefore, decreased. Nonetheless, donor or government funds and conservancy savings to directly cope in the most critical phase of the pandemic creates security that would have not been available without the conservancy institutions.

It appears that value distribution patterns do not only depend on the financial capacity but also on the institutional quality of the conservancy management. This implies the individual willingness to invest not only in the maintenance of the conservancy body itself, but to contribute to benefit sharing, knowledge, and training on financial management, and the relationships that are established to the support organisations and businesses. However, there are "*instances of financial mismanagement in conservancies. However, it seems even if you release clear financial mismanagement in conservancies, nothing really takes place. It is just reported, but people are not held responsible*" (CON-ST-1).

During the pandemic, as visible in the case of Conservancy E, cash benefits even increased (Table 4). This indicates the adaptive capacity of conservancies to function as a shock absorber, being able to spend savings from previous years to ensure ongoing operation. Not only are operations maintained, but future-oriented community projects and effect cash pay-outs to members are kept up (Table 4). Conversely, in Conservancy D dissatisfaction with the distribution of benefits is high among members and criticism has arisen stating that managers are using the remaining funds for their benefit in the form of allowances (CON-M-20).

From the above, it becomes clear that through value distribution, conservancies can act as shock absorbers in times of crisis, when well managed. Both employment and benefit

distribution increase adaptation for regions, and depending on the kinds of investment, adaptability is a possible outcome.

Table 7-4. Expenditures is Conservancy E, 2019 and 2020 (in N$ and (US$)). Based on CON-M-24-17.

	Operational costs	Staff salary	HWC	Community projects	Auditing & legal fees	Cash pay out	Total expenditures (incl. donations)
2019	480,000 (32,200)	901,000 (60,500)	60,000 (4,000)	433,000 (29,100)	90,000 (6,000)	n.a.	1,964,000 (131,900)
2020	119,000 (8,000)	1,800,000 (120,900)	60,000 (4,000)	645,000 (43,300)	20,000 (1,300)	475,000 (31,900)	3,119,000 (209,500)

7.4.3 Broader economic impacts and agricultural livelihoods

Despite the focus on safari and hunting tourism for regional development in the Namibian CBNRM model, small-scale agriculture remains as one major economic pillar with a high social-cultural significance in the Zambezi region and most local livelihoods depend on subsistence farming and small-scale surplus selling (Hulke et al., 2020).

Pre-COVID-19 linkages

Case studies have highlighted the potential of providing supplier linkages between tourism enterprises and local farmers (Mtapuri et al., 2021; Pillay and Rogerson, 2013; Rogerson and Rogerson, 2014). In the Zambezi region, looking at interlinkages between the tourism sector and agricultural livelihoods before COVID-19, the effects were variegated. Negative path development in agriculture has resulted from the demarcation of land-use zones in the process of establishing a conservancy as both sectors compete over the same scarce resources such as land and access to water (Breul et al., 2021). To ensure wildlife habitats within conservancies which ultimately attract tourism businesses, conservancies must reserve parts of their territory for tourism, hunting and wildlife which results in farmers losing access to fertile lands close to rivers and access to water to irrigate their fields (Breul et al., 2021). Moreover, living and farming in close proximity to wildlife results in increasing crop raids and damage to agricultural infrastructure such as boreholes. In some cases, synergy effects between the two sectors exist that have the potential to accelerate economic growth (Breul et al., 2021). Lodges, campsites, and restaurants represent new markets for local farmers, which has partly contributed to the emergence of a regional value chain in horticulture within Zambezi. Upgrading of agricultural production, for example through quality standards, input

access or product variety, is supported by investments from tourism enterprises in agricultural infrastructure. Thus, tourism enterprises ensure stable procurement structures for their own supply network. Knowledge of newly demanded crops and quality standards integrate farmers into more stable supply channels (Breul et al., 2021).

Tourism - agriculture linkages during the pandemic

The ruptures in the tourism sector caused by the pandemic had severe repercussions on the agricultural sector: linkages to tourism businesses were partly disrupted, conservancy income severely declined and livelihood activities connected to conservation were endangered (CON-M-5/14). As a response, there are three visible trends: firstly, the expansion of agricultural activities and natural resource use as coping strategies; secondly, disruptions of tourism - agriculture linkages due to reduced demand from lodges but increasing demand from retailers for local supply; and thirdly, the reorientation of conservancies aiming to include agriculture in their policies.

Regarding the first point, smallholders decide to shift (back) to agricultural activities out of necessity. This expansion of agricultural activities collides with the prior attempt of conservancies to reduce the importance of agriculture with the help of tourism income: *"Some people are even moving into the wildlife zones to farm because they say they do not see the importance of the conservancy anymore, since there are no benefits. Their families have lost their jobs from the lodges"* (CON-M-20). Interviews in most study sites indicate that crop farming has increased but so have harvest losses due to wildlife crop raids (CON-M-14).

These findings are congruent with the conservancy resident's survey; 65% of the respondents perceive an increase in human-wildlife conflict within conservancies, leading to losses in crop harvest. Additionally, 65% of the sampled residents have experienced an increase in crop farming within their conservancy. This increase in farming activities puts pressure on wildlife zones to expand agricultural land. In this scenario, farmers move closer to wildlife and are more exposed to conflicts as a statement from the management of Conservancy D exemplifies: "*The conflict arises because more farmers are now farming on a commercial scale. They are clearing more lands, including the wildlife corridors and the conservancy is losing the wildlife core areas. These activities affect the conservancy*" (CON-M-21).

Regarding the second point, the pandemic has caused disruptions to established regional food supply channels in the Zambezi region. To react to the increasing cases of COVID-19, the government has restricted cross-border trade and food imports as well as trade within the Zambezi region. The activities of middlepersons and street vendors who organise the supply

of regional supermarkets and connect local farmers to markets in Katima Mulilo town have been severely affected (A-ST-2; A-P-5; A-R-1-5/12). As street vendors could not comply with hygiene requirements, their operations were forbidden. Despite these negative developments and setbacks, retailers increasingly acknowledge the benefits of a local supply: *"Pricing, the cost has gone up and we are trying to sustain the business. We are looking at all areas where we can cut the costs, so buying local is cheaper than buying in South Africa like we used to. The transport costs and the middleman are expensive"* (A-R-7). To cope with the absence of middlepersons, producers engage in value-adding activities such as packaging or on-farm upgrading (A-P-20/23; A-R-5). Interestingly, in Conservancy E, COVID-19 donor money for nature conservation was invested in farming*: "I got water using a bucket but I applied and was given N$40,000 (USD 2,700). I made a 20-meter borehole. The CRAVE project also assisted by installing a solar pump to pump water and removed the generator that I was using. Now we are going to plant on half a hectare"* (A-P-23). With these efforts, farmers increasingly produce for the local market and, thus, contribute to food security within conservancies.

Coupled with food import bans from neighbouring countries, many residents engage in crop farming to maintain food security (A-ST-1) and make use of the opportunity that arose from limited outside competition (A-P-1/25; A-R-3; CON-M-30; CON-ST-1): *"Some of the producers have signed contracts and many of the local retailers are now accepting our local farmers' produce on their shelves"* (A-ST-1). Food supply to lodges that are located in conservancies provide new markets and, thus, income opportunities for farmers, especially for horticulture products (Breul et al. 2021). As employment possibilities in tourism businesses and conservancy management are limited (Kalvelage et al., 2020), the emergence of agricultural value chains integrating small-scale farmers into formal supply channels is one possibility for regional diversification and, thus, adaptability. Apart from increasing demand from local supermarkets, the large Namibian company *Gondwana Collection* maintains their supplier linkages with local farmers (T-LOD-6), indicating a contribution of these linkages for regional resilience.

Thirdly, within the last year there has been a new trend towards conservancies including agriculture in their development strategies. In Conservancy A, Conservancy D, Conservancy E and Conservancy F plans to diversify income and job opportunities in tourism *and* agriculture (e.g. through aquaculture, poultry farms, goat keeping, community lodge) might be a hint of long-term economic transformation (CON-M-5/20/23/29).

7.5 The role of conservancies for adaptation and adaptability

COVID-19 has had variegated effects on the economy in Zambezi. While tourism has shown a negative development, agricultural production has expanded. The CBNRM model is clearly vulnerable due to its strong dependency on tourism. However, CBNRM is capable of triggering regional diversification and, thereby, achieving broader regional development goals that include most livelihoods. Conservancies as local governance institutions play a major role in creating adaptive capacities through capturing value from the tourism GPN and receiving financial capital from government support schemes. This direct effect is partly coupled with adaptability where common, future-oriented investments target development in agriculture and, thus, instigate regional diversification.

Firstly, through the agency of conservancies to distribute value and maintain linkages to the tourism GPN (through employment, benefit sharing, and food supply), they partly function as a shock absorber (Boschma, 2015). Therefore, they are highly relevant for adaptation. The differences we revealed between various conservancies (e.g. Conservancy D and Conservancy E), however, indicate that this positive effect on regional resilience depends on the institutional quality of the individual conservancy and their firm landscape. The type of firm (owner-run vs. larger companies) determines their adaptive capacity through value capture and distribution. Due to larger capital reserves, larger companies, compared to owner-run businesses, are able to maintain payments during the pandemic. Hence, both tourism lead firms and local governance institutions are crucial mediators for adaptation.

Secondly, the expansion of agriculture within conservancies is clearly visible. Due to closed borders, the importance of food production both for own consumption but also as an income-generating activity was recognised in conservancies and partly supported by the conservancy institution. To actually contribute to regional resilience, the further support of agricultural regional value chains within conservancies would need to be sustained in a post-COVID economy, where local farmers will be exposed to outside competition. Based on prior studies on such regional value chains, it can be assumed that strong regional supply networks, knowledge of quality standards and production practices, and supplier linkages can contribute to a competitive regional economy (Ahmad and Primi, 2017; Hulke and Revilla Diez, 2022; Scholvin et al., 2021).

In sum, tourism-agriculture linkages in the case study area will probably intensify, which is an indicator for adaptability that is closely linked to adaptation measures by the economic setting that were already in place. Therefore, we did not identify negative trade-offs between

adaptation of the local environment and openness for adaptability pathways (Boschma, 2015). Rather, the relationships seem to be mutual and enabling (Hu and Hassink, 2019), showing a strong interconnection between direct adaptation measures via the conservancy institution and agricultural livelihoods and future adaptability pathways where tourism and agriculture sectors are closely connected through joint projects, even within conservancies. Hence, fostering regional diversification and recognising sectoral linkages and interdependencies is necessary to capture the regional economy as a whole and create synergies for regional resilience (Breul et al., 2021; Hu and Hassink, 2019; Mtapuri et al., 2021).

Collective, local governance institutions, such as the conservancy, can have the capacity to maintain value capture and distribution in times of crisis for short-term adaptation measures. They can also use their resources for future-oriented, cross-sectoral development projects that can induce long-term adaptability, as our case study has shown. Additionally, the funding scheme implemented by the Namibian government to support the operations of conservancies largely replaced the value captured from the tourism GPN before the pandemic (Kalvelage et al., 2020). This indicates a new role the state can fulfil during a major crisis (see for instance Dallas et al., 2021), acting as shock absorber, but also raising questions on the sustainability, dependencies, and inclusiveness of this role that could be the subject of future research.

7.6 Conclusion

The COVID-19 pandemic has severely disrupted the tourism GPN which manifests in regions where tourism businesses operate and capture value, such as the Zambezi region. Empirically, this study emphasised the possibilities of adaptation and adaptability in conservancies depending to a large extent on their linkages to the tourism GPN by showing how value distribution can induce regional resilience. Conceptually, we thereby showed the role of local institutions in constituting a synergetic relationship between adaptation and adaptability through value distribution and value capture from GPNs. These processes are shaped by the position of regions within the global economy through GPN links, determining the possibilities of adaptation and adaptability for long-term transformation. Combining GPN components with regional resilience facilitates "understanding more about how regions can encourage 'transformative development from below' and thus diversity, modularity (…)

and connection with the outside world in ways that expand their options for adjustment rather than constrain them" (Christopherson et al., 2010: 8).

We found a re-orientation of local institutions brought about by the decline of tourism income, disruptions in the benefit distribution scheme of the conservancies and the resulting restructuring of agricultural activities towards local and domestic value chains. Simultaneously, conservancies are able to collect private capital from tourism businesses, donor money and government funds to keep their operations running and their dependence on tourism reviewed the need for regional diversification and, consequently, an orientation towards agriculture. Opportunities for adaptation and, thus, short-term recovery lie in the expansion of agricultural activities and food production in conservancies. Moreover, local initiatives for domestic tourism can be a buffer to cope with the absence of international tourists (Rogerson and Baum, 2020). Opportunities for adaptability that can initiate long-term transformation lie, for instance, in building stronger linkages between regional actors in all sectors for a diversification of income sources and livelihood activities through cross-sectoral projects. The restructuring of agricultural value chains, where local producers are increasingly targeted by private supermarkets and lodges, can potentially engender a transformation in the agriculture sector that is synergetic with growth in tourism.

These findings can inform various case studies that aim to analyse regional resilience as an outcome of connections to global markets and local institutions, for instance, in the form of collective action and social networks and thus refine the regional resilience concept. Hence, now and in the aftermath of the pandemic, more studies are needed on resilience building in regions that are coupled to or decoupled from GPNs, specifically examining value capture and distribution by local institutions. As this study only provides a snapshot, and many effects of the pandemic are yet to become visible, long-term quantitative and qualitative panel studies could be useful to trace transformative pathways through adaptability. Moreover, it was beyond the scope of this study to address the crucial question of 'resilience for whom' and, thus, the possible exclusionary effects in the process of resilience building as, for instance, highlighted by Cretney (2014). The question who benefits and who is left out in transformative processes should, therefore, be addressed in future studies.

Based on the empirical insights into the processes of regional resilience during COVID-19, we support a dialogue between GPN and regional resilience literature (Gong et al., 2021). Resilience literature can benefit from the clear operationalisation of the adaptability-adaptation relationships through value capture and distribution to overcome the oft-

mentioned fuzziness of resilience in research and policy making. Moreover, regional resilience can be a meaningful category in GPN research to examine uneven development, dark sides, or disarticulation (Bair and Werner, 2011; Phelps et al., 2017) in times of multiple crises in a future-oriented, constructive manner. The dynamic perspective of relationships between a region's capacity to adapt and transform addresses recent calls in economic geography to include an EEG perspective in GPN studies (Yeung, 2021) in order to combine "the internal dynamics of regional change and the extra-regional/transnational network" (1005). By joining these forces, pathways to more resilient economies can be found which has particular importance for vulnerable or rural African regions.

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8 Synthesis

The integration of small-scale farmers into global value chains or production networks does not always improve livelihoods and regional and socio-economic inequalities often remain. Regional value chains represent alternatives for rural locations and their local actors to avoid the 'dark sides' of global integration, which this dissertation's case study shows. More inclusive localised development pathways towards resilient economies and livelihoods, in addition to neoliberal approaches that promote global value chain integration (e.g. World Bank 2020), can, under certain conditions, be achieved through regional value chain integration.

Against this background, this dissertation investigated RVCs in rural areas as a complex outcome of institutional and sectoral linkages to shed light on the potential and limits for regional economic development, specifically for the case of conservation areas. This dissertation, thereby, aimed to understand the evolution, governance, and regional development outcomes of regional agricultural value chains, examined by the example of an emerging horticulture RVC in a peripheral region of Namibia. The case study facilitates the expansion of the conceptual understanding of RVCs and their links to the local economy and global value chains or production networks.

In this concluding chapter, the empirical findings and conceptual approaches are merged and jointly discussed in order to form a synthesis. Firstly, the main findings of all four empirical chapters are summarised and structured along the four research questions (8.1). Secondly, the dissertation's main conceptual contributions derived from these findings are outlined and connected to current debates in economic geography (8.2). Since there are clear limits to the questions that can be addressed in this dissertation, a research agenda is sketched out that could be the subject of future studies. The outcomes of this study on regional development potentials through RVCs can inform policy making in Namibia and beyond. Chapter 8.3 derives practical implications along two areas of intervention: place-based or endogenous policy making and distributive governance. Finally, some concluding words regarding the overarching aim complete this dissertation (8.4).

8.1 Summary of empirical chapters

In the following section, the main findings with regard to the research questions are summarised and structured along subsections of overarching topics used to operationalise the research questions.

I. How do agricultural RVCs evolve and are governed in peripheral, rural regions, and how may underlying institutional dynamics explain their evolution?

The shift from arm-length trade where farmers produce for subsistence and exchange on local markets, to an organised RVC depends on multiple factors. The case of the Zambezi region has shown that these are constituted both by bottom-up, informal institutions such as collective action and local networks and top-down, formal institutions in the form of industrial policies in agriculture and beyond.

Regional value chain structure and evolution

Within the last few years, horticulture in the Zambezi region has slowly developed from a subsistence structure with family gardens to a consolidated value chain that contributes to the region's economic growth and livelihood upgrading. The RVC structure is still rather short with few linkages to the domestic market and to neighbouring countries. Most steps are located within the administrative boundaries of the Zambezi region. Exceptions are, firstly, the state as a main buyer of fresh produce to supply public facilities that are spread throughout the county. Secondly, improved seeds are occasionally purchased from a Zambian company that can either be bought in Windhoek or in a neighbouring region in Zambia, both regions are seldom accessible for small-scale farmers.

Several economic factors have contributed to the evolution of a coordinated horticulture RVC. The case study has shown that these factors differ in the emerging and consolidation phase of the RVC evolution (Chapter 4). In the emerging phase, only a few pioneer farmers with entrepreneurial drive within a regional association of horticulture producers (ZAHOPA) managed to train farmers within the association to grow horticultural products and thus diversify their crops. Market access was named as the major constraint in this development phase. Most activities concentrated on collective action within ZAHOPA and were reliant on strong social networks within communities and trust among the farmers.

Besides these bottom-up endeavours, top-down agrarian policies further accelerated the integration of small-scale farmers into regional supply networks through a Market Share

Promotion. This protectionist policy aims to strengthen the competitiveness of local producers as imports for certain monitored crops were banned for certain periods, thus forcing regional lead firms to purchase from farmers within the region. As the unforeseeable implementation of this policy caused immense insecurities in the market for fresh produce, supermarkets established contracts with local farmers and implemented private standards that were sustained even when borders were reopened for cheaper imports. The consolidation phase kicked off with the appointment of a market access facilitator by the horticulture association NAHOP in 2018. This crucial intermediary took over a coordinative function to bridge between producers and buyers and translate between upstream and downstream chain actors with regard to quality, quantity, standard requirements and pricing. GVC/GPN studies have emphasised the role of facilitative intermediaries (Coe 2021). They are who make a network 'work' through coordinating between firms and extra-network actors (Coe 2021, 45). Within the RVC in the Zambezi region, intermediaries are rare: only one market access facilitator exists as well as three trading companies for horticulture farmers in Zambezi. Moreover, there is no fresh produce storage hub or market to coordinate supply.

Civil society, private, and public governance forms

The governance of the horticulture RVC is constituted of a complex set of actors and institutions on multiple levels. They can be categorised as public, private, and civil society/social governance (Pasquali, Godfrey, and Nadvi 2020; Torfing 2020).

Within RVCs, collective action plays an important role as it also reflects the non-market dynamics within chain governance, such as cultural and social factors of small-scale farmers (e.g. Adger 2003; Paul et al. 2016; Hulke and Revilla Diez 2020), besides commercial, intensified, or large-scale production (see also Fischer and Qaim 2012 for a Kenyan case study). The case study in this dissertation has shown that these collective actions are best able to form value chains according to local needs, but depend on trust, social networks, and the entrepreneurship of pioneer farmers. As the consolidation of the RVC largely relied on collective action within ZAHOPA and their market access facilitator, the case study has shown that civil society governance can take on the role of intermediaries or the state when these are absent or malfunctioning in a peripheral region. This civil society governance merged with private governance carried out by regional lead firms in food procurement, for instance through establishing local standards. The strong communication between up- and downstream actors streamlined supermarket requirements and producers' capacities. Through knowledge exchange, producers in the RVC managed to adapt to the contextual

conditions and gained access to regional markets. Thereby, value chain actors' needs are adjusted to establish achievable private standards.

This indicates the capacity of private actors to determine coordination within the RVC, considering not only firm interests but also social networks and local conditions. On the one hand, private governance is strongly driven by market requirements and chain actors, e.g. tourism businesses and regional food supply lead firms such as regional and international supermarkets. On the other hand, because of the peripheral context and insecure institutional environment through the irregular implementation of the MSP, these private actors also take into consideration environmental, cultural, or social factors within the region. As the RVC is rather short and is based on spatial proximity between most chain actors, there is a sense of 'being in the same boat' and, thus, fosters a mutual understanding. This results in social proximity (Agrawal, Kapur, and McHale 2008) and place-specific governance within the RVC that is mutually constructed by private and civil society actors and, thus, essential for knowledge creation and market access (Chapter 4).

Moreover, the study sheds light on the roles of the state in RVCs (e.g. Horner 2017; Pasquali, Godfrey, and Nadvi 2020; Dallas, Horner, and Li 2021). State-driven, public governance is based on the multiple roles the Namibian government fulfils, namely as buyer, producer, regulator, and facilitator (according to Horner 2017). When the nation state facilitates and regulates industrial policy, which layers on top of more informal local and regional networks, new institutions are created, restructured, and partly displaced. The establishment of AMTA and the NAB as crucial regulatory and facilitative bodies caused frictions, and uncoordinated institutional layering, as responsibilities are not clearly separated and agendas partly overlap and contradict each other. The state acts as facilitator by supporting commercialised agriculture and marketing, e.g. in green schemes which have proven unsuccessful despite immense investment by the state. The inclusion of small-scale farmers in the green scheme Kalimbeza rice led to intensification lock-in, resulting in poverty and food insecurity for the farmers (Chapter 5). Besides facilitating the domestic market in horticulture, the state also functions as a producer in the state-owned green schemes, indicating a conflict of interest within the various state agencies (Chapter 4). The state has a strong mandate as a regulator. The implementation of the MSP, in the form of closing the border to protect the domestic market, created institutional insecurity for chain actors (supermarket firms and farmers) but also triggered private governance (Chapter 4). While the NAB aims to integrate farmers into RVCs and collaborates closely with NAHOP, AMTA implements the regulation of horticulture markets through the MSP without consulting the other institutional actors

involved in the governance of the RVC. A precondition for the conversion of state policies into local collective action lies in strong coordination on national and subnational scales, stable government bodies and coordination of all institutions on multiple scales. Finally, the state as a buyer supplies public bodies with local produce, which is monitored and facilitated by AMTA (Chapter 4). The case study provides a good example to show how these multiple roles, when carried out simultaneously and rather uncoordinatedly, can have both positive and negative regional development outcomes.

The institutional framework and institutional influencing factors

The complex institutional framework in the evolutionary stages of the horticulture RVC have been laid out above (8.1). The case study revealed how institutional layering of local, space-specific institutions (such as the conservancies or collective action within ZAHOPA) with supranational and national policies can enable farmers to step up through integration into RVCs. Inclusive regional development through integrating local farmers into RVCs depends on the bricolage or conversion of state institutions into more informal local institutions to create functioning value chain governance. In the case study region, the 'hollowing-out' of state functions through the strong involvement of private and civil society actors in the governance of RVCs was decisive (Jessop 2013; Coe 2021). The state pursues market protection from outside competition that partly fails to achieve the expected benefits, causing other chain actors to take over (e.g. the considerable importance of conservancies as local institutions for value distribution, GPN coupling, natural resource use, Chapter 5). This leads to the growing importance of commons and collective action. Generally, uncoordinated layering of institutions can result in competing regulatory frameworks:

> *"(…) a great deal of production in contemporary value chains, particularly low-wage, labour-intensive work in agriculture, garments and other sectors takes place beyond the reach of regulatory coverage" (Mayer and Phillips 2017, 143).*

The case study, however, indicates that because of the close relations and proximity between chain actors, this risk can be overcome, thus showing opportunities for local development through RVCs in peripheral regions through their ability to induce bottom-up governance.

II. Which socio-economic conditions influence livelihood strategies and upgrading possibilities in agricultural RVCs?

The process of the emergence and consolidation of an RVC is accompanied with possibilities of upgrading for chain participants. This study has shown that up-and downgrading is not only found in regard to chain activities, such as investment in farming equipment, but also in regard to the overall livelihoods, which are commonly constructed based on several economic and non-economic activities. Four essential outcomes of multi-layered governance could be identified that ultimately affect livelihood upgrading: *market knowledge, private standardisation, contract establishment, and market protection* (Chapter 4). Just to give one example, knowledge transfer through the connection to supermarkets and lodges has motivated and enabled farmers to facilitate on-farm upgrading, thus stepping up. This was coupled with financial support from private businesses that were incentivised to cooperate with local farmers due to the government's market protectionist policy (Chapter 4).

Dynamic livelihood strategies

Taking a bottom-up perspective on holistic regional development that goes beyond a sector-growth perspective, the potential of RVCs must be assessed based on their impact on livelihoods (Neilson 2019). Based on the findings, there are several areas which contain high potential for improving the opportunities of agricultural value chain integration for farmers in the Zambezi region. These opportunities depend on the location of the producer, such as: close to the regional capital Katima Mulilo vs. in remote areas, close to a river vs. dry land, within conservancies vs. outside of conservancies. This finding supports the conceptual understanding of livelihood upgrading beyond individual assets and capabilities (as found in the SLF) that places more emphasis on the contextual conditions:

> *"While the people-centred approach implies a strong degree of agency held by individuals and households, it is also recognized that the possibilities for action that delineate household livelihood strategies are also powerfully shaped by regimes of access to resources and assets" (Neilson 2019, 298).*

Livelihood strategies are actively formed and dynamically adjusted by farmers according to their surrounding environment and changing institutional frameworks. The case study supports the fact that economic upgrading is not always prioritised; rather, cultural or social dimensions feature in the decision on certain strategies. Moreover, they are dynamic, aspiration-driven trajectories, in the sense of stepping up, stepping out, or hanging in (Dorward 2009). In order to maintain or enhance livelihoods, communal farmers have developed several strategies to cope with several institutional insecurities and constraints in resource use. These imply crop diversification, income diversification through off-farm

activities, and collective action such as organisation into a regional horticulture association or connecting to tourism businesses. Most predominantly however, farmers have expressed the importance of agriculture for income generation and own food security and do not want to give this up.

The conservation – tourism – agriculture nexus

Especially with regard to communities located in conservancies, there is little endogenous capacity to act and adapt to difficulties in production. Even though nature-based tourism development strategies through CBNRM are not directly linked to agricultural intensification strategies in the region, in reality both sectors overlap in contradictory and synergetic ways. Partly, visions of a growing tourism industry through nature conservation, and to intensify agriculture for domestic and international markets, collide with actual realities for farmers (Chapter 5). The study has shown that livelihood strategies are purposefully developed under these contextual conditions, revealing a large variety and continuum of approaches that can be categorised as upgrading *and* downgrading (Figure 8-1). Livelihood strategies are developed under these multiple pressures and mostly relate to the integration into RVCs in horticulture within the Zambezi region.

Conservation depicts one constraint for RVC integration. Income generated through the conservancy is distributed unequally, often only a small share is used for community benefits, limiting the Human-Wildlife-Conflict (HWC) offsets as a crucial tool to compensate farmers living with wildlife. Although on-farm upgrading/stepping up is envisioned, it is, thereby, constrained by conservation. At the same time, there is limited capacity for the tourism sector to enable stepping out as only 1.4% of the labour force are employed in tourism (Chapter 6). Moreover, even though stepping up in the agricultural value chain is partly possible, some farmers remain in a strategic lock-in of small-scale subsistence farming (Chapter 5).

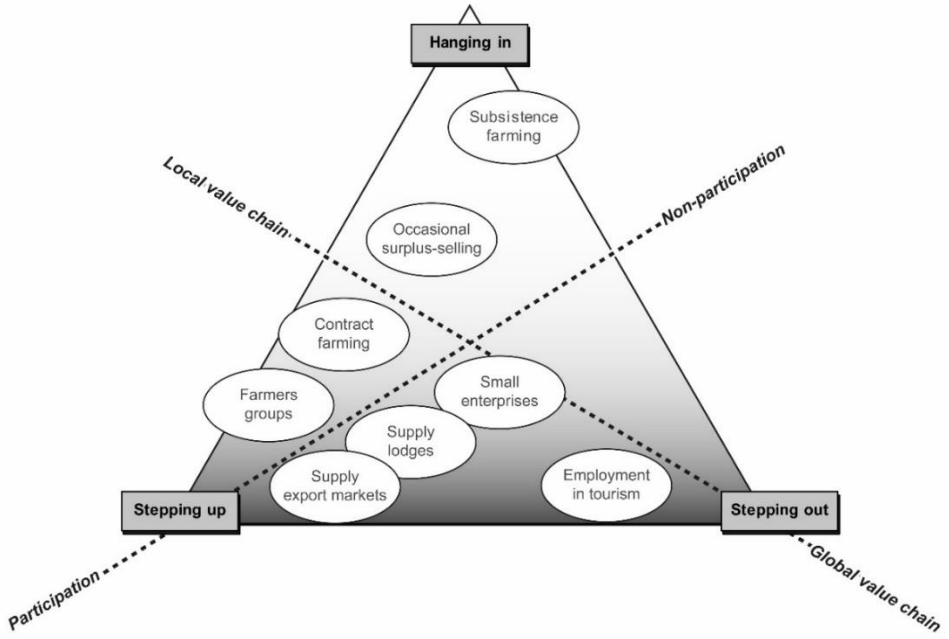

Figure 8-1. Examples of livelihood strategies with regard to local/regional and global value chain integration and participation and non-participation as a continuum. Own figure.

III. To what extent are agricultural RVCs interrelated within broader regional industrial contexts and which development outcomes can be identified from these relations?

One central argument this dissertation puts forward in the conceptualisation of RVC evolution is that regional development does not only rely on one separated sector. Instead, it is based on sectoral linkages and parallel dynamics (Chapter 6). The distinctive feature of the case study lies in the strong interrelations of nature conservation and nature-based tourism both in shaping the physical environment and asset endowment and access of farmers, as well as the institutional framework. This has two main implications in studying the evolution of RVCs in one sector in relation to the broader economic environment: the integration of distributive dynamics that link multiple economic sectors and inter-path relations.

Value distribution through conservancies

First, the dimension of value distribution must be taken into account to make value captured by one industry or sector accessible to other economic activities in the region. The case study has shown the importance of value distribution for regional resilience (Chapter 7). Only through the capacity of conservancies to govern value captured from tourism to be accessible horizontally, can residents within conservancies really benefit from the coupling of the Zambezi region with the tourism GPN (Kalvelage, Revilla Diez, and Bollig 2020). The broad

distribution of value created and captured provides employment opportunities or enables residents to develop the envisioned livelihood strategies to avoid lock-ins and thus contribute to stepping up or out. Local actors take over state functions, as the distributive governance is carried out through local institutions rather than the state (Mayer and Phillips 2017). This creates important agency for farmers to engage in upgrading activities to integrate into the RVC in horticulture.

Inter-path relations between tourism businesses and small-scale farmers

Second, regional economic development results from the interactions of various paths or industries. Considering the inter-path relations between tourism businesses and small-scale farmers has revealed important findings about both negative and positive path development (Chapter 6). On the one hand, the formation of a tourism path in the 1990s and 2000s has furthered already existing intraregional inequalities in the Zambezi region. Negative path development resulted from competing over the same scarce assets (land and water), as 78% of favourable land is allocated to tourism use in conservancies through zoning, hinting at the 'dark sides' of path developments, such as industry decline (Blažek et al. 2020). Climate change in the form of longer hot and dry periods combined with heavier rainy seasons will put even more pressure on land use in the future and thus aggravate these interrelations.

The expansion of the tourism path has, on the other hand, established path relations to the benefit of the agricultural path. The expansion of horticulture activities and the formation of an RVC can be traced back to the establishment of new markets and supply channels in the tourism sector. Moreover, extra regional financial investments of tourism enterprises in the development of horticulture farms, for instance in the form of drip irrigation or irrigation using ground water and tubs, caused path renewal through industry-specific knowledge spillovers that resulted in on-farm diversification and again acceleration of the horticulture RVC. Institutional insecurities caused by public governance, triggered private sector engagement, as tourism enterprises expressed the motivation to create reliable regional supply channels and quality standards.

IV. How can agricultural RVCs contribute to regional resilience in times of global crisis?

Answering the first three research questions based on insights from the Zambezi region sheds light on the evolution, multi-layered governance, and upgrading possibilities in RVCs located within conservation areas prior to the COVID-19 pandemic. This dissertation also

investigates changes in the RVC constitution due to the pandemic and its development outcomes caused by the immense repercussions in global value chains and production networks and how these changes play out on the local level (Chapter 7). In sum, the ability of local institutions to distribute value through the conservancies reduced the negative impacts of the pandemic in the short term. Simultaneously, the territorially embedded tourism GPN can likely contribute to long-term transformations in the region through creating stronger linkages between both sectors. The study identified the crucial role of the state in this process as a buffer or shock absorber, balancing between adaptation and adaptability to keep a region on track to becoming resilient during the acute moment of crisis.

Adaptability through tourism-agriculture linkages

Conservancies largely depend on tourism income – in 2017, 98% of their financial capital was captured from the tourism GPN through lodge payments and hunting quotas (NACSO 2017). The insights gained on the impact of international tourism disruption during the COVID-19 pandemic emphasised the interdependencies between local economic development and the tourism sector through using cross-financing by tourism businesses and tourists. Interestingly, despite the vulnerability of conservancies and their residents in times of crises, tourism businesses have shown strong perseverance. This indicates their territorial and institutional embeddedness within conservancies as local institutions to govern the assets created through tourism businesses on the ground, showing little risk of decoupling (Horner 2014). This direct effect is coupled with adaptability triggered by accommodation establishments, where investments target the development of the RVC in horticulture to establish sustainable local supply channels. The resulting expansion of agricultural activities also functions as adaptation, providing direct marketing possibilities for farmers to cope with the immediate impacts of the pandemic.

Taking these dynamics into account, the links between tourism businesses, conservancies' distributive function and small-scale farmers can induce adaptation and potentially foster adaptability at the same time. Strong linkages between regional actors in all sectors have the potential to coordinate resilient transformation, diversification of income sources, and livelihood strategies through cross-sectoral projects and collective action.

Adaptation enables adaptability through government funding

An enabling relationship between adaptation and adaptability is achieved when "local actors involved in adaptation consciously mobilize resources to facilitate adaptability" by using "place-specific resources" (Hu and Hassink 2019, 13). This was clearly found in collective

forms of governance, such as the conservancies, which can use their resources for future-oriented, cross-sectoral development projects that can generate long-term adaptability, building on means to cope with and overcome an acute crisis. However, the study has also shown how crucial the state is in enabling conservancies to maintain this role. The Ministry of Environment, Forestry and Tourism (MEFT), with the help of international donors for nature conservation, was able to compensate conservancies for around 80% of the annual income they had generated through private businesses prior to COVID-19 (Chapter 7). Thereby, the state functions as a shock absorber or buffer during the crisis through filling the financial gap.

Moreover, it reveals the importance the national government places on the development of the tourism sector as opposed to agriculture, as no comparable compensation scheme existed for the losses that farmers faced in losing markets, accessing inputs, or facing novel hygiene standards due to the pandemic. The fact that conservancies redistributed that money horizontally through benefit sharing (e.g. short-term cash pay-outs, support of community gardens) and that tourism businesses partly sustained their supplier linkages shows how private and civil society governance based on close proximity and social networks are more effective for broader regional resilience than top-down financial injections. It also stresses the importance of economic diversification and cross-sectoral linkages in a location marked by multiple land uses, complex and often agriculture-based livelihoods, and intraregional inequalities.

8.2 Conceptual contributions and future research agenda

Due to the chosen research design based on a single case study approach (see Chapter 3), the findings are context-specific and limited in regard to their generalisability. Nonetheless, this dissertation applies a novel analytical approach and conceptual framework which feeds from three broader literature bodies in economic geography that can be applied to various settings in order to assess regional development through global market integration and ultimately RVCs. First, the livelihoods approach, second GVC/GPN approaches, and third EEG (Figure 8-2). The upsides and shortcomings of these approaches have been discussed in Chapter 2.

This section elaborates on the usefulness of combining the concepts' various perspectives and how the findings contribute to theory advancement.

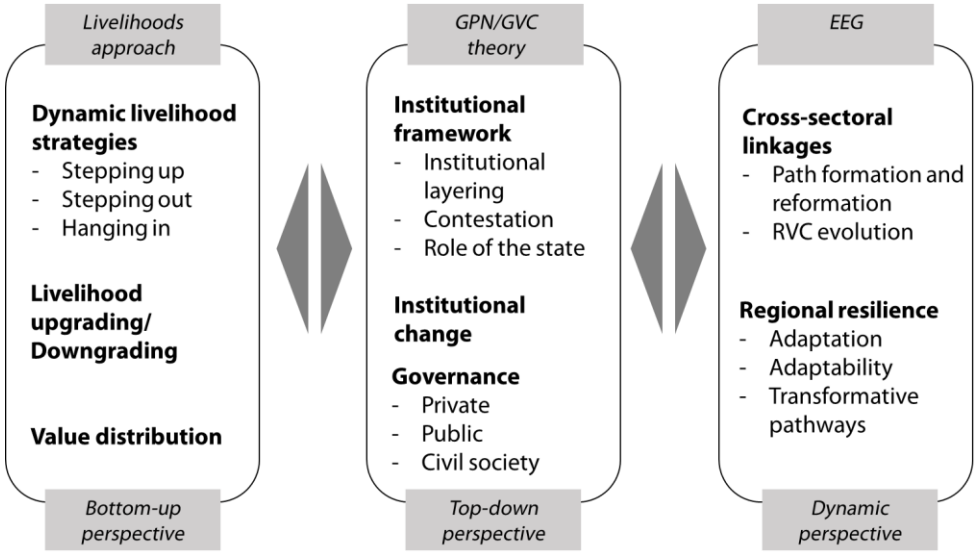

Figure 8-2. Conceptual approaches and components from the livelihoods approach, GPN/GVC theory, and Evolutionary Economic Geography (EEG), own figure.

Based on the dominance of global value chains and production networks and its recognition in research and policy making, several lines of criticism have emerged regarding the actual explanatory power for uneven regional development, their inclusionary bias and firm- and sector centrism that culminate in empirical and conceptual engagement with regional value chains (see Chapter 2). The inclusionary bias in GVC/GPN studies, claiming that non-participants, peripheral locations, and indirect spillover effects are overlooked (Bolwig et al. 2010; Bair and Werner 2011a), is addressed by explicitly including local and regional economic actors that are not directly coupled to a GVC/GPN. Based on a bottom-up perspective that engages with farmers and their livelihood strategies, collective action that specifically targets the integration of farmers into regional food supply chains was identified.

As the RVC in horticulture is fairly local and has few linkages to international food supply, the local chain actors and dynamics in regional development linked to the RVC would have remained hidden in 'classic' GVC/GPN studies as farmers in the Zambezi region would be what has been framed as non-participants, as visualised in Figure 8-1 (Bolwig et al. 2010). Especially in rural, agriculture-based localities, the promoted optimism to integrating into economic globalisation partly contests the initially critical scholarship on the uneven development that GVC/GPN research claimed to provide (Bair et al. 2021).

By including an EEG perspective to value chain studies, a dialogue that has only recently flourished (Boschma 2021; Gong, Hassink, and Wang 2021; Yeung 2021), "the internal dynamics of regional change and the extra-regional/transnational network" (Yeung 2021, 1005) can be accounted for. The conceptual framework of this study does exactly this, allowing the phenomenon under study to be examined from multiple angles. An EEG perspective that goes beyond a firm-centred, single-sector approach makes it possible to study economic dynamics within a region that is not tied to global lead firms in one sector but might be linked to global lead firms of another sector. Examining these indirect linkages can unravel important dynamics in regional development based on multiple economic activities. Particularly in case studies on natural resources or agri-food studies, where resources are territorially embedded and tend to remain at the regional level, this perspective is relevant (e.g. Bridge 2008; Irarrázaval 2022).

As extensively discussed in Chapter 2, this dissertation addresses recent advancements in EEG by examining not only the positive outcomes of new paths entering a region, but also considers negative path developments (Blažek et al. 2020). The dynamic evolution of new paths in a region, as outlined in Chapter 6, hence needs to be examined through its relationships with the existing economic structure in order to understand variegated regional development outcomes.

Converting these various perspectives into the conceptualisation of RVCs has two main implications. First, when RVCs evolve, they tend to emerge not from scratch and in isolation from the already existing regional economic structure. In other words, RVCs are likely to be connected to or affected by the institutional framework and economic environment already in place. These influences could either be local or they could be connected to global industries that are already coupled to the region. Second, relationships between the RVC and other economic activities in the region can accelerate and support the development of the RVC if they provide the scope for spillovers and multiplier effects. Or they can hamper the development of the RVC due to a competitive relationship over scarce resources: "negative trajectories in one region or industry are often closely intertwined with positive trajectories in other regions and industries" (Blažek et al. 2020, 1456).

Derived from conceptual advancements in the broader areas of livelihood strategies, GPN/GVC theory and EEG and informed by the findings, the grounded approach of this thesis based on inductive-deductive theory building adds to four aspects in the conceptualisation of RVCs: (1) RVC governance: institutions, their layers and interactions;

(2) RVC evolution: inter-path relationships; (3) upgrading in RVCs: dynamic livelihood strategies; and (4) assessing regional development.

RVC governance

Examining RVCs through the lens of institutions from an evolutionary perspective offers a novel approach to disentangling the multi-layered political economy that ultimately constitutes value chain governance. It provides an empirical example of multiple parallel governance forms and interactions to understand RVCs in an agricultural setting. The empirically grounded analytical approach can inform future studies on the governance of RVCs, their types, or development outcomes by examining the institutional processes that drive change, based on top-down and bottom-up dynamics and actors.

The interlayering of private and public governance forms in value chains have been addressed, for instance through the private and public constitution of standards (Bartley 2011), how trade, investment, and labour regimes on the national, regional, and global level shape the organisation of the apparel industry in South Africa (Pasquali, Godfrey, and Nadvi 2020), or the role of the nation state in governing labour in GPN (Alford 2016). Such assemblages of 'polycentric governance', as recently framed (Pasquali, Barrientos, and Opondo 2021), allow to describe the complex organisation of regional economies that build on a more diverse set of actors functioning on multiple levels. Although these advancements consider layering of governance forms, they tend to overlook the power of social or civil society governance for regional development (Torfing 2020). Moreover, the actual institutional processes and interactions in polycentric governance have not been fully understood. To study the influence of institutions on the development of RVCs, it is necessary to take into account various simultaneously operating and partly contradictory institutions related to all three forms of governance. Within RVCs, top-down state influences layer on top of bottom-up initiatives or local networks more so than in GVCs/GPNs. In regional networks, civil society governance has the capacity to mediate and orchestrate the way a chain works in accordance with the needs of regional or local actors. Opposed to more pronounced hierarchical power structures and private governance in GVCs/GPNs, RVCs therefore transfer power to the local level.

It has recently been emphasised that

> *"[F]uture research on how strategies of different actors' structure and restructure the interrelated and multiscalar institutional underpinnings of states and GPNs may thus more clearly focus on differences within and*

> *between state institutions and take into account the underlying power relations and interrelationship between state and firm strategies on different regional scales in shaping GPN dynamics" (Grumiller 2021, 453).*

This dissertation has combined interrelations between state and private institutions in shaping and organising value chains with a third set of institutions, namely local institutions which are collective action based and civil-society driven (Torfing 2020). This third dimension has proven to be of explicit importance in studying RVCs and, thus, constitutes an important contribution for future studies on regional networks in economic geography.

RVC evolution

RVCs evolve under complex, multi-scalar conditions and various extra-regional and intra-regional influences. To examine the evolution of RVCs, a clear conceptualisation of the actual geographical scope of the networks and links is necessary but has so far remained fuzzy and inconclusive (Scholvin et al. 2021). The understanding of RVCs in this study is more specific than commonly found. It implies that all value-adding stages of the chain are located within an administrative region, including the fact that most actors in the chain are also located in that region. Nevertheless, the case study has shown that several links to the domestic market, to neighbouring countries, or to GVCs/GPNs do exist, connecting the region to supra-regional actors, as the case study has shown. Including these links is crucial to understand why RVCs evolve and which development outcomes they trigger. This openness to a broader network that feeds into the regionally bounded RVC is necessary to avoid container thinking but rather to apply a relational perspective (Glückler and Panitz 2016).

Upgrading in RVCs

The construction of stepping up livelihood strategies targets integration into the RVC and results in livelihood upgrading – either through more stable income, higher income from crops, or a better positionality within the chain and, thus, a feeling of agency and empowerment. All of these factors contribute to smallholder households' livelihoods, as this case study has shown. Through this, the dissertation refines the idea of relational improvement through value chain integration as an important counterpart to solely economic factors. Although this has been emphasised, studies that apply such an understanding on livelihood upgrading remain limited (Glückler and Panitz 2016; Krishnan 2017; Neilson 2019).

Based on these insights, a refinement of livelihood upgrading trajectories needs to include a relational and aspirational perspective. The term 'livelihood' does not only imply economic

security; it refers to a complex network of social, financial, cognitive, physical and aspirational components that are dynamically adjusted according to the individual as well as the context the individual is embedded in (Scoones 2009; Aring et al. 2021). It is, thereby, deeply contextualised, dynamic, and multi-faceted. In order to assess how certain livelihood strategies are developed, their territorial, economic, and institutional embeddedness must be regarded from a bottom-up perspective, which this study has shown.

Finally, livelihood upgrading is closely linked to collective action through local institutions. These have the capacity to shape private driven governance according to their requirements, thus allocating power dynamics away from lead firms towards a more equal horizontal level. It thereby adds to studies on how local lead firms shape value chains or production networks, for instance through low entry barriers, or fitting standards via local actors that function as 'standard makers' rather than 'standard takers' (Strambach and Surmeier 2018), which has proven successful for instance in the South African tourism sector.

Assessing regional development

A final component to which this dissertation contributes is a refined understanding of regional development and uneven development outcomes linked to value chains or production networks to ultimately assess how RVCS can contribute to more inclusive structures. Especially in food systems based on smallholder farming, links to GVCs/GPNs cause burdens for producers as they have to fulfil global standards and face price pressures (e.g. Ouma 2010; Strambach and Surmeier 2018; van Berkum 2021). For the specific case of horticultural produce, not only the physical-ecological environment, such as soils, climate, water, and land access determine where and how an RVC is constituted at the upstream level. To ensure the freshness of the produce, transportation, and trade conditions, the downstream part in the form of distribution determines the territorial scope of an RVC. Hence, RVCs can offer higher value capture possibilities in the agriculture sector due to shorter and more direct network structures and less danger of exploitation (Chapter 4). Despite the territorial dimension, the positive development potential of RVCs is based on stronger embeddedness in social networks of actors originating from the same region in which they operate and might ultimately contribute to more direct value capture. Economic networks can generate income and job opportunities in the same region, potentially reducing poverty and uneven development (Scholvin et al. 2021).

Value can be created, enhanced, and captured by lead firms and be used to orchestrate the organisation and outcomes of global value chains or production, thus creating power

structures where local actors often do not participate in networks (Coe and Yeung 2015). To understand how created value can be made accessible to regional actors on a broader scale, the study highlights the important fourth type of value, namely value distribution and the key role of local institutions in distributing value horizontally (Fold 2014). Conceptualising regional development through distributional power can help shed light on how the benefits of GPN coupling "spill over to the region more generally, that is to those who are not directly plugged in" (Coe 2021, 134). Value distribution and the capacity of local institutions (such as the conservancy) to govern the distribution has high potential to include prior omitted livelihoods, such as subsistence farmers, and allows the actual capture of inclusive development outcomes (Lamb, Marschke, and Rigg 2019).

Productive linkages can be created among chain actors and institutions from various sectors located within one region through civil society governance closely coordinated with private and public governance. Thereby, regional development is constituted according to the needs of local actors (Coe 2021). These, however, need to withstand external crises to sustainably contribute to economic growth in regions based on few links to global value chains or production networks and are more reliant on regional production and consumption systems. Interestingly, the study on the impact of COVID-19 on the regional economy has shown that RVCs, through strong territorial and institutional embeddedness, can contribute to generating transformative pathways to regional resilience (Chapter 7). Therefore, the study stresses that regional development needs to be understood not only through horizontally spread outcomes, e.g. through value distribution, but also as temporally spread in terms of its capacity to induce regional resilience through adapting to shocks and innovatively transforming according to future risks.

Future research agenda

Derived from the main findings and conceptual advancements this dissertation brings forward, there are important aspects that were not addressed that could be subject of future research. There are three broader fields I would like to highlight that conceptually, empirically and methodologically inform a future research agenda: territorialisation in RVCs, environmental impacts, and a multi-sited panel study on regional food systems.

The first research area relates to the dynamics of territorialisation within RVCs. Territorialisation broadly refers to processes of (re-)structuring and governing space as well as the resources and people within it (Rasmussen and Lund 2018). The processes of territorialisation can be related to the coupling of a region with GPNs in order to make use

of regional assets (Coe and Yeung 2015). This can cause certain territorial structures and regional development outcomes, which in GPN/GVC studies have been increasingly researched in terms of the role of hubs or nodes in coupling regions with GPNs (see Breul, Revilla Diez, and Sambodo 2019 for an example on the oil and gas sector). In extractive or resource-based industries, territorialisation according to the need of a GPN often collides with other factors shaping space such as nature protection (Kalvelage et al. 2021). How regional economic networks feature in processes of territorialisation could be a relevant building block to understand land-use conflicts and exploit the potential from regionalised economies. Through this, types of RVCs in relation to their territorial scope and links to outside actors could be better categorised to further conceptualise RVCs (Scholvin et al. 2021). Moreover, as resource-based commodities are naturally linked to their surrounding environment, future studies would benefit from an interdisciplinary approach that reflects socio-economic factors with environmental conditions and outcomes (see Kiesel et al. 2022 for an example of the maize value chain in Namibia).

Studies on the territoriality in GPNs have identified spatial inequalities of so-called 'growth poles' or successful hubs within the global economy, coupled with 'left behind places' (Ezcurra and Rodríguez-Pose 2014; Coe and Yeung 2015; Breul, Revilla Diez, and Sambodo 2019; MacKinnon et al. 2021). In a study of 22 emerging economies in the global South, Ezcurra and Rodríguez-Pose (2014) show that the inequalities caused by trade openness are greatest in poorer countries. Regional growth takes place in core regions, while regional and social inequalities are fostered in more peripheral regions. Global integration can thus contribute to the formation of 'left behind places' (MacKinnon et al. 2021) unable to capture value from global value chains or production networks. Taking this into account could, furthermore, contribute to understanding the 'dark sides' of path development (Blažek et al. 2020).

Transferring the notion of hubs and nodes in GVCs/GPNs to territorialisation in RVCs could be a meaningful contribution to studying food systems. This dissertation's case study has indicated the importance of the regional capital and hub in food supply chains – Katima Mulilo – for the organisation of the RVC in horticulture (Chapter 4). Growing demand and changing diets in cities is accelerated through ongoing urbanisation, which has major implications for rural development (WFP 2021). This stresses the importance of urban-rural linkages in regional food systems, a subject that could be further investigated:

> *"As southern African is projected to have the strongest urbanization trend on the continent, this makes it a decisive factor for WFP. Important questions arise about the role of WFP in all aspects of these rapidly changing urban food systems and their significant inter-linkages with rural production of food" (WFP 2021, 4).*

Secondly, the impact of food production has immense implications for the environment and, thus, should be regarded not only with regard to economic and social upgrading (Barrientos et al. 2016) but also through the lens of environmental up-and downgrading (e.g. Goger 2013; Ponte 2019). There is still a need to conceptualise environmental implications in (global) value chains and production networks which will gain even more importance in the future due to the global climate crisis. How RVCs change the impact of production – consumption systems on the natural environment, not only in agriculture, could potentially inform climate change mitigation and adaptation (Bair et al. 2021).

Thirdly, future research on the evolution and outcomes of RVCs could apply some methodological improvements. This study provides important insights into a newly emerging RVC and its implications for current regional development. However, a long-term perspective is missing. Panel studies could reveal long-term impacts and transformative pathways triggered by the emergence of a new path in a region, such as the RVC in horticulture in the Zambezi region coupled to the tourism sector (Chapter 7). It was not possible to fully address especially the long-term effects of COVID-19 on regional resilience in the design of this study, for instance, how sectoral linkages can enable adaptability in the long term (Hu and Hassink 2019; Gong, Hassink, and Wang 2021).

In addition, future studies could incorporate the notion of subjective wellbeing as a dependent variable to determine the effects of economic development on livelihoods. This rather alternative indicator, beyond monetary factors, asks people about their happiness, life satisfaction, sense of agency and control, and experience (e.g. Conceição and Bandura 2008; Dolan, Layard, and Metcalfe 2011). Allowing space for subjective feelings in economic geography studies has recently been addressed, for instance, through the notion of aspirations and their role in livelihoods and economic development (Mausch et al. 2018; Aring et al. 2021). Thereby, revisiting the effect of RVC integration (as opposed to GVC/GPN integration) on subjective wellbeing could bring forward new perspectives on 'beneficial' development outcomes (i.e., social welfare, subjective wellbeing, sustainable development, Gaitán-Cremaschi et al. 2019) from a bottom-up viewpoint.

Finally, a comparative, multi case study approach could be useful in future research. This would allow the Namibian case to be reflected on as a newly emerging, relatively local RVC in a peripheral area with a more established, commercialised, and regionally integrated RVC (e.g. in the East African context) in another setting. This could, in turn, detect common features of RVC evolution in conservation areas, stress the role of the state, place-specific institutions, and thus the domestic political economy in a more generalised manner (Gong and Hassink 2020).

8.3 Policy implications

This dissertation feeds into the debate on various policy interventions in African countries, revolving around market protection, trade liberalisation, regionalisation, and food security and sovereignty. In view of these trends, some policy implications can be drawn from the results of this study. In general, the findings on the emergence of a horticulture RVC have shown that integration into global value chains or production networks should not be seen as a blueprint for regional economic development, especially in relative peripheries. Rather, it is a matter of participating in regional networks that have the potential to benefit the broader rural population. In this context, the study offers insights into some specific influencing factors that indicate two areas of intervention: firstly, policy making according to place-based, endogenous approaches that link to the contextual conditions of a region and, secondly, value distribution to create a synergetic relationship between various economic paths. By elaborating on both areas, the general potential of RVCs for inclusive regional development can be furthered, informed by this dissertation's findings.

Despite acknowledging the exclusionary effects caused by economic fragmentation, global value chains or production networks "are associated with structural transformation in developing countries, drawing people out of less productive activities and into more productive manufacturing and services activities" (World Bank 2020, 3). The case study of regional development in the Zambezi region, where local farmers are directly and indirectly affected by the coupling of the region to the tourism GPN, has shown that negative path relationships between two sectors can increase discontent and limit peoples' possibilities for livelihood upgrading. It has, however, also revealed how the development of an agricultural RVC can benefit from linkages to other sectors, such as tourism. This study of the nature-conservation – tourism – agriculture nexus provides a useful and necessary empirical example of a peripheral area that has few links to the global economy and reveals the danger of the

'dark sides' of global integration, such as the creation of enclave economies, and the exclusion of local actors (Coe and Hess 2011; Phelps, Atienza, and Arias 2017). This indicates a development strategy that focuses on more promising regional networks for an inclusive, resilient economy.

8.3.1 Place-based policies, neo-endogenous development, and territorial collaboration

In the case study, the emergence and consolidation of the horticulture RVC largely relied on endogenous endeavours, collective action, and private sector engagement. State interventions, such as the MSP or the green scheme program, which aimed to protect the domestic market and commercialise small-scale farmers, did not materialise as expected (Chapter 4). How the emergence of a synergetic relationship between multiple institutions can be achieved through targeted, functioning policies is, therefore, a crucial question. In order to streamline public, private, and civil-society governance forms, institutions on multiple scales must be converted to avoid contradictory regulations and organisation within value chains.

> *"For upgrading interventions in rural spaces to represent a transformative approach to livelihood improvement, lead firms and development agencies would need to adopt a more nuanced understanding of the social and economic identity of the rural actors engaged in upgrading interventions" (Neilson 2019, 306).*

This can be achieved through three practical approaches: place-based policies, neo-endogenous development, and territorial collaboration. They all aim to factor in context-specifics, local actors' needs, and already existing social and economic networks.

First, acknowledging grassroots developments, *place-based policies*[8] "outline the advantages of multi-actor and decentralized governance structures to cope with local conditions, by fostering bottom-up developments, while top-down policies by the central government are reduced" (Kiesel et al. 2022, 138). This means engaging with multi-actor, multi-scalar social structures as well as political systems regional assets into consideration (Sonnino, Marsden, and Moragues-Faus 2016; Treakle 2019). For the case of agrarian policies in areas marked by nature conservation, a national strategy that neglects specific land-use conflicts and does not

[8] For a detailed interdisciplinary analysis of agrarian policies in Africa and specifically the Zambezi region, as well as the potential for place-based policy making in the maize sector, see Kiesel et al. 2022.

regard priorities in other sectors cannot function. This was partly visible in the Zambezi region, stressing the need for adjusted policies that consider regional specifics (Chapter 5 & 6). Due to environmental factors, such as limited access to water and arable land, and growing numbers of large wildlife creating a conflict of interest, as well as changing climate conditions, agricultural expansion is 'naturally' confined; therefore, the government's vision of developing the region into the country's food basket is simply not a fit for the development possibilities. A place-based approach would help close this gap by supporting local farmers' groups, provide inputs and training to increase yield on small fields, and create access to regional markets.

Second, a key concern in policy making that specifically includes 'left behind places', so-called "hotspots of discontent" (MacKinnon et al. 2021), is the integration of the economy, the livelihoods connected to it, innovation, and the strengthening of social infrastructure (ibid.). Such an intersectional, *neo-endogenous development* approach takes a bottom-up, holistic perspective to avoid processes of peripheralisation resulting from rural – urban migration, lacking infrastructure, little connection to knowledge networks, funding schemes, and services. Therein, local actors and communities are seen as best suitable to develop strategies according to their needs and asset endowment. Similar to the methodological approach of subjective wellbeing, this approach leaves local actors to articulate their definitions of 'development' and demands government interventions that are in accordance with these definitions (ibid.). Similar to critiques on subjective wellbeing, however, this could result in a fragmented mixture of local policy interventions that might contradict each other or it could cause conflicts between local actors pursuing different agendas.

To avoid this, it is therefore necessary to acknowledge the heterogeneity of local 'communities' in CBNRM policies (Vehrs, Kalvelage, and Nghitevelekwa 2022). Few studies have indicated that conflicts within conservancies can occur due to their endogenous social structure, assembling local authorities and often various ethnic groups (Kumar 2005; e.g. Fabricius 2011). Without acknowledging this heterogeneity,

> *"the CBNRM concept, with its stereotypical idea of a homogeneous community, is not able to access local realities and that these dissonant relationships between conservancy members cannot be used to create positive experiences with community conservation that will legitimize CBNRM practices in the future" (Vehrs, Kalvelage, and Nghitevelekwa 2022, 8).*

A neo-endogenous approach that factors in social infrastructures, networks, and conflicts could potentially support conservancies through accounting for the requirements and perspectives of all its residents, not just certain, more powerful groups. As this analysis has shown, the perspective of small-scale farmers within conservancies is often neglected in CBNRM policies, causing growing discontent with the conservancy institution and a feeling of being left behind.

Third, *territorial collaboration* depicts another regional development approach to even out unequal value capture from industries in certain hubs, such as cities compared to their rural surrounding (Turok and Habiyaremye 2020). China, for instance, initiated a solidarity program between prosperous coastal mega cities and rural western regions of the country. Through establishing social and physical infrastructure in the rural hinterlands, certain steps in manufacturing or agricultural processing could be transferred to poorer regions, spatially reordering domestic value-adding activities in a more inclusive way (ibid.). Such a distributional approach helps reducing territorial inequalities, which are especially high in Namibia. The Growth Corridor concept (e.g. Dannenberg, Revilla Diez, and Schiller 2018) could be one specific infrastructural initiative that allows economic hubs and nodes to be linked with rural peripheries in order to foster such a decline in territorial inequality. It is assumed that a transport corridor – such as the Walvis Bay-Ndola-Lubumbashi Development Corridor (WBNLDC) crossing the Zambezi region – can transform into a growth corridor with broader development outcomes, including the emergence of social infrastructure. A study on the impact of the WBNLDC on tourism development in the Zambezi region suggests such improvements, albeit still on a limited scale (Kalvelage, Revilla Diez, and Bollig 2021). If the provision of hard infrastructure, such as roads, internet connection, electrification, or water access could be linked to the corridor, rural – urban migration could be reduced and the integration of remote farmers into RVCs achieved.

As shown, transferring these approaches to the case study of could potentially enhance regional development. The variety of stakeholders both in conservation and agriculture often act as political 'silos', requiring harmonisation in the form of integrated land-use planning that is designed in a place-sensitive, participatory way (Kiesel et al. 2022). Equally important is the communication of such policies to the local level, meaning to farmers in the villages and to rural communities in order to close the gap between top-down visions and the needs and aspirations on the ground.

One means to achieve that could be to support existing local networks such as the collective actions within the local horticulture association or the local trader association. Such organisational structures improve the farmers' negotiation power, input sourcing, and marketisation. Here, the importance of (1) training schemes for horticultural production and marketing and (2) investments in small farms and access to funds need to be emphasised and could help the farmers to implement sustainable agricultural value chains and, ultimately, stable income and wellbeing. Rural farmers (3) need to be connected to the markets, such as in the regional capital town Katima Mulilo, through facilitative intermediaries in the RVC, a building block that has so far been missing.

Moreover, the integration of small-scale farmers into policy making in other industries, such as tourism and nature conservation, is crucial to acknowledge their importance for the regional economy without being transferred into commercialised, large-scale agricultural systems such as green schemes, but rather to remain small and autonomous (Dorward 2009; Hazell et al. 2010). The harmonisation of existing development policies could help to mitigate negative inter-path relationships. Especially the current dynamics in adapting regional development strategies to the disruptions caused by the COVID-19 pandemic, the chance to 'build back better' by acknowledging the endogenous development potential (Martin 2021) has been exemplified with this dissertation's case study.

8.3.2 Value distribution: Turning competing into synergetic inter-path relationships

The second crucial outcome of this case study concerns the necessity to horizontally distribute generated value by linking globalised industries (such as tourism) with local economies (such as smallholder farmers). Through this, policies can induce integrative rural development and contribute to the inclusion of formerly excluded, or non-participating, local actors. Functioning economic networks within the region can improve people's livelihoods through capturing and distributing value from global industries (Chapter 6 & 7).

Distributive regionalism (Christopherson and Clark 2007; Coe 2021) is one approach to implement value distribution in policy making, rather than relying on local institutions or private sector engagement. Its benefits can be summarised as:

> *"(…) distributive regionalism is predicated on the idea that regional success can only be measured in terms of the quality of life for all regional citizens, not only those employed in "innovative" global industries. In our formulation, the ability to effectively combine an investment orientation*

> *with good distributional outcomes requires a central focus on the workforce and on the region as a labor market" (Christopherson and Clark 2007, 138).*

In contrast to this is the idea of investment regionalism to induce regional development purely through regional innovation and competitiveness to provide "infrastructure for firms with global markets in the expectation that the investment will lead to regional job growth" (Christopherson and Clark 2007, 143). Combining the infusion of extra-regional investments with distributive regionalism, as the study of inter-path relationships between the tourism and agricultural sectors in the Zambezi region (Chapter 6) has shown, can have positive development outcomes. Thereby, "[s]trategic policy interventions, such as supporting networking among the actors of different paths or promoting regional value chains to foster complementary market relations, could activate these synergies" (Breul, Hulke, and Kalvelage 2021, 18).

The crucial mechanism of value distribution also becomes clear when looking at its impact on generating regional resilience. Processes of regionalisation need to be included in strategies on global value chain and production network integration in order to achieve resilience, as the latest *UNCTAD World Investment Report* stresses:

> *"Resilience and sustainability will shape the investment priorities of firms and governments. For firms, the push for supply chain resilience could lead to pressures in some industries to reconfigure international production networks through reshoring, regionalization or diversification." (UNCTAD 2021, xii).*

For the Namibian case, the immense importance of small-scale agriculture for food production and as a livelihood strategy means that policies need to focus on food RVCs rather than coupling to the global food industry. Functioning development interventions in the agricultural sector need to take into consideration regional specifics and links to other sectors. Caused by the severe impacts of the pandemic on the Namibian economy as a whole, an alarming decline in food security is visible:

> *"This trajectory of the COVID-19 pandemic has tremendously crippled the already stressed Namibian economy. According to the Consolidated Approach for Reporting Food Insecurity Indicators (CARI), 36 per cent of the total population-nearly 290,000 people-are food insecure (21 per cent moderately and 15 per cent severely food insecure)" (Amesho, Ahmadi, and Lucero-Prisno III 2020, 4).*

Domestic or regional value chains in the food sector, therefore, need to become a core interest of the government. Not only strengthening domestic food security through import subsidies and protectionist policies needs consideration: access to food on the micro-level, especially in peripheral, remote communal areas of northern Namibia needs to be discussed and restructured as the case study has shown. This might underline the crucial role of self-sufficiency, subsistence, and local and regional value chains decoupled from international trade or development aid in order to reduce external dependencies – a discussion that is currently gaining momentum in the Global North and Global South alike (Clapp 2016; Morris, Plank, and Staritz 2016).

8.4 Conclusion

To conclude, despite the rising phenomenon of RVCs and their potential for economic development, there is limited empirical evidence on their dynamics and outcomes. In agriculture-based, peripheral locations, economic development often takes place beyond global integration, thus requiring further attention in economic geography scholarship. Moreover, regionalisation has been further aggregated by the COVID-19 pandemic and disruptions in trade linkages. This dissertation has shown that links to global value chains or production networks in such peripheries or marginalised economies often indirectly affect the scope of action of the small-scale farmers residing in these locations. Despite these global links, the RVC emergence in horticulture in the case study region has proven more inclusive and revealed alternative dynamics through the support of bottom-up developments and local initiatives as opposed to malfunctioning industrial policies.

Through an integrative perspective combining GPN/GVC theory with a livelihoods' perspective and EEG, special emphasis could be placed on institutional dynamics for economic development without excluding the agency of and influence on the people themselves – a perspective that is seldom applied. Thereby, this dissertation provides an example of how to integrate rural livelihoods, institutions on various scales, and global links for potential resilient, inclusive development in peripheral, rural locations. It stresses the need to pay more attention to the perspective of local actors, in addition to top-down policies, in order to safeguard the embeddedness of the new pathway into the existing economic structure of a region and to contribute to broad livelihood upgrading. Under certain socio-economic and institutional conditions, inclusive agricultural RVCs and their access to value from global value chains or production networks can reduce inter- and intra-regional inequalities.

The study of RVCs and their contribution to regional resilience can be transferred to other regions of Africa as well as other sectors in order to generalise this dissertation's case study-specific findings. Ultimately, such research can guide practical strategies and policy makers to build a future for small-scale farmers that focuses on their livelihoods, which can not only reduce rural poverty but also secure global food supply in a more sustainable way.

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Appendix

Appendix A: Supplementary material

Table 0-1. List of interview partners and focus group discussions.

Method	Sector/Organisation	Location	Date
FGD	Farmers	Dzoti conservancy	25.09.2018
FGD	Farmers	Dzoti conservancy	25.09.2018
FGD	Farmers	Dzoti conservancy	26.09.2018
FGD	Conservancy management board	Mayuni Conservancy	11.10.2018
FGD	Farmers	Mayuni Conservancy	12.10.2018
FGD	Farmers	Mayuni Conservancy	12.10.2018
FGD	Conservancy management board	Bamunu conservancy	16.10.2018
FGD	Farmers	Bamunu Conservancy	16.10.2018
FGD	Farmers	Bamunu Conservancy	17.10.2018
FGD	Farmers	Masokotwani	18.10.2018
FGD	Farmers	Masokotwani	18.10.2018
FGD	Farmers	Masokotwani	19.10.2018
FGD	Conservancy management board	Sikunga Conservancy	23.10.2018
FGD	Farmers	Sibinda	25.10.2018
FGD	Farmers	Sibinda	25.10.2018
FGD	Farmers	Sibinda	26.10.2018
FGD	Farmers	Sikunga Conservancy	30.10.2018
FGD	Farmers	Sibinda	30.07.2019
FGD	Farmers	Masokotwani	01.08.2019
FGD	Farmers	Bamunu conservancy	06.08.2019
FGD	Farmers	Sikunga conservancy	01.08.2019
FGD	Farmers	Mayuni conservancy	30.07.2019
GA	Farmer (individual)	Wuparo conservancy	27.09.2018
GA	Farmer (individual)	Bamunu Conservancy	19.10.2018
GA	Farmer (ZAHOPA)	near Chinchimane	18.06.2019
GA	Farmer (ZAHOPA)	Singalamwe, Kwandu	19.06.2019
GA	Farmer (ZAHOPA)	Kongola, Mayuni	19.06.2019
GA	Farmer (ZAHOPA)	Kongola, Mayuni	19.06.2019
GA	Farmer (ZAHOPA)	Kongola, Mayuni	19.06.2019

GA	Farmer (individual)	Masikili, Salambala	17.06.2019
GA	Farmer (ZAHOPA)	Lusese	17.06.2019
GA	Farmer (ZAHOPA)	Lusese	17.06.2019
GA	Farmer (ZAHOPA)	Salambala	17.06.2019
GA	Farmer (ZAHOPA)	Silonga, Wuparo	18.06.2019
GA	Farmer (ZAHOPA)	Malihela, Wuparo	18.06.2019
GA	Farmer (ZAHOPA)	Batubanja, Bamunu	18.06.2019
GA	Farmer (individual)	Katima Mulilo	02.10.2018
GA	Farmer (individual)	Sibinda	19.09.2019
GA	Farmer (individual)	Sibinda	19.09.2019
GA	Farmer (individual)	Masokotwani	18.10.2018
GA	Farmer (individual)	Sikunga Conservancy	30.10.2018
GA	Farmer (individual)	Katima Mulilo Farmers Market	02.11.2018
GA	Farmer (ZAHOPA)	Katima Mulilo	17.06.2019
GA	Farmer (individual)	close to Sikunga	11.09.2019
GA	Farmer (individual)	Sibinda	19.09.2019
GA	Farmer (individual)	Sibinda	19.09.2019
GA	Farmer (individual)	Sibinda	19.09.2019
Interview	Conservancy chairman	Impalila conservancy	05.10.2018
Interview	Conservancy enterprise officer	Bamunu Conservancy	12.10.2018
Interview	Conservancy chairman	Mayuni conservancy	01.09.2019
Interview	Agra	Windhoek	07.11.2018
Interview	WBCG	Windhoek	12.11.2018
Interview	Agra	Windhoek	11.06.2019
Interview	MAWF	Katima Mulilo	01.10.2018
Interview	AMTA	Katima Mulilo	22.10.2018
Interview	MET, CBNRM warden	Katima Mulilo	23.10.2018
Interview	Regional Council, Planning & Development	Katima Mulilo	23.10.2018
Interview	MET, CBNRM warden	Windhoek	07.11.2018
Interview	MAWF	Katima Mulilo	13.09.2019
Interview	Regional Council Zambezi	Katima Mulilo	16.09.2019
Interview	MAWF	Katima Mulilo	16.09.2019
Interview	AMTA	Katima Mulilo	21.06.2019
Interview	KAZA	Kasane	04.10.2018
Interview	NAU	Windhoek	09.11.2018

Interview	NAB	Windhoek	13.11.2018
Interview	NNFU	Windhoek	13.11.2018
Interview	Nahop	Windhoek	16.06.2019
Interview	Nahop/ZAHOPA	Katima Mulilo	05.06.2019
Interview	Nahop/ZAHOPA	Katima Mulilo	10.09.2019
Interview	NAB	Windhoek	23.09.2019
Interview	NAB	Windhoek	23.09.2019
Interview	GIZ	Katima Mulilo	01.10.2018
Interview	Environmental Investment Fund	Katima Mulilo	29.10.2018
Interview	IRDNC	Katima Mulilo	29.10.2018
Interview	WWF	Windhoek	08.11.2018
Interview	Nacso	Windhoek	12.11.2018
Interview	Nacso	Windhoek	11.06.2019
Interview	Nacso	Windhoek	11.06.2019
Interview	AgriConnect	Katima Mulilo	21.06.2019
Interview	Gondwana lodge/Mubala Camp	Katima Mulilo	11.09.2019
Interview	Agri Gro	Windhoek	24.09.2019
Interview	Spar	Katima Mulilo	22.06.2019
Interview	Kamunu supermarket	Katima Mulilo	20.06.2019
Interview	Shakar supermarket	Katima Mulilo	20.06.2019
Interview	Katima Mulilo open market	Katima Mulilo	20.06.2019
Interview	PicknPay	Katima Mulilo	20.06.2019
Interview	Vendor Spar 1	Katima Mulilo	12.09.2019
Interview	Vendor Spar 2	Katima Mulilo	12.09.2019
Interview	Vebdor Spar 3	Katima Mulilo	12.09.2019
Interview	Vendor Shoprite 1	Katima Mulilo	12.09.2019
Interview	Vendor Shoprite 2	Katima Mulilo	12.09.2019

Focus group discussion guideline

1. General question round

- Age, household (size), where are you from, how long do you live in the village?
- What crop do you produce/grow?
- What is your plot size?

2. Livelihood wellbeing perception

- How would you describe wellbeing/having a good life to you personally and within the community?
- Do you feel you have achieved wellbeing, are you satisfied with your living situation or do you wish for changes? What changes/why/why not? What is missing?
- What do you need in life to achieve and maintain a good living standard for you (and your children/family) (wage labour vs. subsistence/income vs. in-kind)?
    a) in farming
    b) outside farming
- What changes do you wish for your children/the next generation in this community in the future? Why?
- What do you consider as progress for this community? How should the community develop in the future?

3. Agriculture and farming

- How important is agriculture/farming in this community/culture and why?
- Do you focus on staples (maize/mahangu) or vegetables/garden crops? Why? What are the advantages of each?
- Is crop production an important income source? What other income sources are important?
- What are you doing with surpluses in production? (Amta, local market, informal trading, sharing…)
- Do you **strategically** aim for surpluses or do you **purposely** produce just for your demand? Why?
- How can you access inputs (fertilizers, seeds, water…) and land?
- How are prices negotiated at the different buyers (local buyer, neighbours/AMTA/Katima supermarkets…)?
- Do you know about conservation agriculture? Are you practicing it? What are the advantages of it compared to traditional farming (slash and burn)?
- What is better for the future: intensification in farming/export production or subsistence/local market production? Why? How can this be achieved?
- Which sector should develop further: agriculture or tourism? Are the two uses of land contradicting/conflicting?

4. Institutions/collective action

- What has changed since the establishment of the conservancy in this community?

- Do you work collectively in this village? If yes, how does it look like?
- Are there farmer's associations in this communities? What is happening there? (give examples)
- What is the role of the indunas and the chief? How does this community decide on land-use?
- Can everyone participate in decision-making processes? Where can you not participate? Why?

Semi-structured interview guideline for the conservancy management boards

- How is this community connected to other government bodies, NGOs, other communities etc.?
- How are decisions made in the conservancy?
- What is the role of the traditional authority?
- What are most pressing problems/conflicts in the community and how can they be mitigated in the future (farming/non-farming)?
- What is the potential of farming in this community?
- What is better for the future: intensification in farming/export production or subsistence/local market production? Why? How can this be achieved?
- Which connections do you have to tourism businesses, how important are they for the development of this conservancy?
- How are tourism businesses, community members and the conservancy connected?

Semi-structured stakeholder interview guideline

- Potential of agriculture in Zambezi region (subsistence or commercial agriculture)
- Potential of tourism in Zambezi region
- Connection of the two value chains: value distribution, value capture
- Function of the corridor (hubs, nodes, peripheries) and potential to even out inequalities
- History of strategic coupling: how was the corridor developed/negotiated?
- Revenue sharing policies
- Stages/gradations of participation and non-participation in the sectoral development of agriculture
- Future developments/plans/visions/anticipations
- Pending issues, conflicts for regional development in general

Interview guideline for retailers/distributers

- General business information
  What type of distributer?
  - Local supermarket:
  - Domestic supermarket chain:
  - International supermarket chain:
  - Public body supplier:
  - Vendor:
  - Open market:

- Responsibilities & main tasks
  - Share of revenues due to local produce/share of local produce
  - Total revenues of FFV:
  - Revenues through local producers:
  - Costs for sourcing externally:
  - Costs for sourcing internally:
  - Product range sourced locally

- Supply and distribution
  - Where and how do you source your produce?
  - Which actors are involved in the value chain?
  - How do you organise transport?
  - How are contracts developed with local producers, how are prices negotiated?
  - How is the demand concerning local produce?

- Institutions and networks
  - How are government directives/laws and regulations influencing your company's decision making?
  - What is the role of associations/unions?
  - What is the advantage of selling local produce compared to imported goods?
  - What are the challenges?
  - What is needed to develop connections to local producers?
  - What is the role of private middle men?
  - What is the role of AMTA? How is this business affected by the new directive?
  - How is the Market Share Promotion affecting the business?
  - Regarding all the actors involved, who has the main governing power/decision-making power
  - What is the future of FFV in Zambezi region?

Go-along interview guideline farmers

- General business information
  - What type of farmer (full-time, surplus-seller)?
  - What types of crops, irrigation?
  - Land size?
  - Income and various sources?

- Supply and distribution
  - Where and how do you source your inputs?
  - Which actors are involved in the value chain?
  - How do you organise transport?
  - How are contracts developed with buyers and distributers, how are prices negotiated?
  - To whom are you selling? How much are you consuming?
  - Where is your market located?

- Institutions and networks
  - What is the main constraint in agricultural/horticulture production?
  - How are government directives/laws and regulations influencing your decision making in farming?
  - What is the role of associations/unions like Nahop/Zahopa? What is the benefit of working together?
  - Are you a member of a cooperative? What is its function?
  - If you are farming by yourself, what is hindering you to join an association?
  - What is the advantage of selling vegetables compared to dry crops?
  - What is needed to develop connections to buyers/Markets?
  - What is the role of private middle men?
  - What is the role of AMTA?
  - How is the Market Share Promotion affecting your agricultural activities?
  - Regarding all the actors involved, who has the main governing power/decision-making power?
  - In conservancies: How are conservancies affecting your agricultural activities?
  - What is the future of FFV in Zambezi region?
  - Would you produce more if you knew you could sell? What is hindering you to produce more?

Covid-19 add-on project

Structured interview guideline for farmers

Block A: General structure of the value chain: governance/power, upgrading/downgrading

Background information

1. Number of years in business & types of products grown:
2. Are you farming on your own or are you a member of a farming group/association? Please name the group/ association:
3. A. How much of your produce did you sell within the last 12 months, so from May 2020 to May 2021?

	Total quantity (estimate)	**Share of produce sold compared to total produce**	**NET income**
Crop1:			
Crop 2:			
…			

B. How much of your produce did you sell in the year before, so from May 2019 to May 2020?

	Total quantity (estimate)	**Share of produce sold compared to total produce**	**NET income**
Crop1:			
Crop 2:			
…			

Supply areas/marketization

1. Who are the main buyers of your produce? (location, and scale) Where do you sell to?
2. Do you organise transport by yourself? Yes / no
3. How much do you have to pay for transport?
4. **If not mentioned:** Have you ever sold your products to tourism/leisure facilities such as lodges, restaurants, hotels?

   If yes: Do you still sell to lodges, restaurants? What is the benefit of selling to lodges, restaurants?

   If no: What hinders you from selling to lodges?
5. What are the purchasing conditions set by the buyer (variety, quality, pricing, other)
6. Who decides on the price and how do you negotiate about the type and quality of the products you sell?
7. How do you inform yourself about the market needs, produce, and quality?
8. What would be necessary to improve your market knowledge?

Quality management/standards

1. What rules, regulations, and standards do you need to comply with to sell your produce?
   A. By the government:
   B. By the conservancy:
   C. By private businesses (traders, retailers, buyers):
   D. Other:
2. Have there been major changes in the rules/regulations within the last 12 months/?

   If yes: How have these changes affected farming activities?

Access to land

1. Who controls access to or quality of land and other natural resources for farming?
2. Do you receive any support for farming from the conservancy? Please explain.

Upgrading strategies

1. What strategies do you currently apply to improve your access to markets and your income/improve your businesses?

a. Change the crop variety from dry crops towards horticulture
b. move your farm to more fertile land
c. get another job outside of crop farming
d. join an agricultural association/farming group
e. increase land for crop farming
f. decrease land for crop farming
g. install an irrigation system (e.g. pump from river, borehole, dig a hole..)
h. use improved seeds
i. use chemical fertilizers or pesticides
j. other:

2. What strategies have you applied <u>in the past (before the pandemic) to improve your access to markets and your income/improve your businesses</u>?
   a. Change the crop variety from dry crops towards horticulture
   b. move your farm to more fertile land
   c. get another job outside of crop farming
   d. join an agricultural association/farming group
   e. increase land for crop farming
   f. decrease land for crop farming
   g. install an irrigation system (e.g. pump from river, borehole, dig a hole..)
   h. use improved seeds
   i. use chemical fertilizers or pesticides
   j. other:
3. What strategies do you <u>plan to apply</u> in the near future?
4. Do you want your farming business to grow, to become more competitive and commercially oriented/sell more? **Why? / Why not?**
5. Do you know the Market Share Promotion policy in Namibia? (*if not, explain*). Has the MSP (border closured induced by the government) <u>improved</u> or <u>constrained</u> your access to markets? **How?**
6. Do you receive any support from the conservancy or a private business or NGO? **Please explain**.
7. Are there other kinds of support and regulations you would need from the government to improve your livelihood in horticulture?

Matrix: Linkages					
	Why do you have a connection? What is the purpose of this relationship?	How important is the connection for you on a scale from 1 to 5? *(1=very important; 5=not important)*	How often do you have contact? *(infrequent; annually, very frequent; daily, weekly)*	How formal is your relationship? *(personal, informal/verbal agreements, written contracts, formal membership)*	How much trust do you have in this relationship on a scale from 1 to 5? *(1=full trust, 5= no trust)*
1. Farmer group/ ZAHOPA/NAHOP farmers					
2. Government (MAWLR/ AMTA/NAB)					
3. Extension officers					
4. Local trader, retailer					
5. Lodges/tourism businesses					
6. Conservancy					

Block C: Covid-related changes during the path 12 months

1. Would you evaluate the situation regarding the horticulture sector and your own farming activities as more secure or less secure than before the pandemic? Why?
2. Can you explain specific mechanisms/measures developed by the government due to the pandemic that affected your activities in the horticulture sector? How did they affect you and how would you evaluate them?
3. **If not mentioned:** Have longer import bans and closed borders helped or constrained market access of horticulture farmers in the Zambezi region? How?
4. Which new opportunities emerged within the last 12 months for you personally (not just in the agricultural sector)?

Structured interview guideline stakeholder

General information

1. What position do you hold in your organization?

2. What are key roles/duties your organization play in the development of agriculture in the Zambezi region?

3. What are the key activities of your organization related to agriculture in the Zambezi region, e.g. to support farmers and distributers or to support value chains? Which measures are in place on the local/regional level?

Block A: Covid-related changes during the path 12 months

1. How did the pandemic affect the value chain in horticulture in Namibia and the Zambezi region?
2. How did Covid-19 affect the key activities of your organization listed above?
3. How did the different phases of the Covid-19 pandemic and the measures against it affect your key activities (e.g. strict lock down – 1; eased restriction -2).

Name & describe phase	Activity/coping measure	Effectiveness/difficulties
…		

4. Please name investments/funding schemes that were developed to support agriculture development, including the actors and organisations responsible:

Investments/funding schemes	Actors/organisations	Scope of investment

5. Did the fundings and investments that were made to cope with the impact of the pandemic reach the people or are you aware of an investment backlock?
6. Would you evaluate the situation regarding the horticulture sector as more secure or less secure than before the pandemic? Why?

7. Can you explain specific mechanisms/ measures developed by the government due to the pandemic that affected the horticulture sector? How did they affect you and how would you evaluate them?
8. **If not mentioned:** Have longer import bands and closed borders helped or constrained the consolidation of value chains in the Zambezi region? How?
9. Which new opportunities emerged within the last 12 months for the development of horticulture, especially from the perspective of producers?
10. Has your organization resorted to and supported farmers or other clients to engage in alternative livelihood activities apart from agriculture? Which types of activities?
11. To what extend did the pandemic stall, reverse or increase gains/benefits of the activities your organization undertook for the development of agriculture in Zambezi region?
12. Considering everything you have explained so far, can you draw a comparison of the impact of the pandemic and the success of it's mitigation to other regions of Namibia or Southern Africa? Would you say this region is doing relatively well or relatively poorly? Why?

Block C: Looking to the future

1. In addition to the current problems already mentioned: What are the possible future challenges for the development of horticulture in Zambezi region? Are they the result of the current situation or are they new problems?
2. In your opinion, have horticulture value chains in the region reached their full potential to improve people's livelihoods? **Why? / Why not?**
3. How can the agriculture sector be optimized to improve the impact on people's livelihood, such as reducing poverty, improving wellbeing?
4. What should or will be done to address the challenges and constraints?

What needs to change…

   a) Among the people within the people within the conservancies compared to outside.
   b) At the political level: in the legislation and the relevant ministries?
   c) About the external support by NGOs etc.?
   d) The rural farmers?
   e) Distributors such as supermarkets?

5. Which actors/actor groups are most necessary/most important to induce the changes needed?

a) Role of the state role of private sector engagement
b) Role of farmers/ association
c) Any new actor?

Structured interview guideline for horticulture traders/vendors

Block A: General structure of the value chain: governance/power, upgrading/downgrading

Background information

1. Location/address/contact
2. Range of horticulture products traded
3. Quantity/ value of local products traded within the last 12 months
4. Quantity/ value of local products traded from April 2019 to April 2020
5. Are you an independent trader or member of a group/association?
   Please name the group/ association:

Supply areas/marketization

1. Do you sell products from local farmers from the Zambezi region? **Why? / Why not?**
2. How do you connect to Zambezi farmers? How do you organise transport?
3. What are your purchasing conditions (variety, quality, pricing, payment procedures, other)?
4. What are the terms of the contract?
5. How is the price/product negotiation process conducted?

Upgrading strategies

1. What key knowledge, skills, capabilities, and linkages do Zambezi farmers require to integrate into the value chain?
2. Which regulations/policies are needed for Zambezi farmers to access markets?
3. Has the MSP (border closured induced by the government) improved or constrained access to markets and the formalisation of value chains? How?

Block C: Covid-related changes during the path 12 months

1. Would you evaluate the situation regarding the horticulture sector and your own business as more secure or less secure than before the pandemic? Why?
2. Can you explain specific mechanisms/measures developed by the government due to the pandemic that affected your activities in the horticulture sector? How did they affect you and how would you evaluate them?

   If not mentioned: Have longer import bands and closed borders helped or constrained the consolidation of value chains in the Zambezi region?
   How?
3. Which new opportunities emerged within the last 12 months for you personally (not just in horticulture)?

Block D: Looking to the future

1. In addition to the current problems already mentioned: What are the possible future challenges for the development of horticulture in Zambezi region? Are they the result of the current situation or are they unrelated problems?
2. What should or will be done to address challenges and constraints?

What needs to change…

   f) Among the people within the people within the conservancies compared to outside.
   g) At the political level: in the legislation and the relevant ministries?
   h) About the external support by NGOs etc.?
   i) The private tourism businesses?
   j) Distributors such as supermarkets?

3. Which actors/ actor groups are most necessary/ most important to induce the changes needed?
   d) Role of the state and role of private sector engagement
   e) Role of farmers/ association
   f) Any new actor?

Structured interview guideline for horticulture traders/vendors

Block A: General structure of the value chain: governance/power, upgrading/downgrading

Background information

1. Location/address/contact
2. Range of horticulture products traded
3. Quantity/ value of local products traded within the last 12 months
4. Quantity/ value of local products traded from April 2019 to April 2020
5. Are you an independent trader or member of a group/association?
   Please name the group/ association:

Supply areas/marketization

1. Do you sell products from local farmers from the Zambezi region? **Why? / Why not?**
2. How do you connect to Zambezi farmers? How do you organise transport?
3. What are your purchasing conditions (variety, quality, pricing, payment procedures, other)?
4. What are the terms of the contract?
5. How is the price/product negotiation process conducted?

Upgrading strategies

1. What key knowledge, skills, capabilities, and linkages do Zambezi farmers require to integrate into the value chain?
2. Which regulations/policies are needed for Zambezi farmers to access markets?
3. Has the MSP (border closured induced by the government) improved or constrained access to markets and the formalisation of value chains? How?

Block C: Covid-related changes during the path 12 months

1. Would you evaluate the situation regarding the horticulture sector and your own business as more secure or less secure than before the pandemic? Why?
2. Can you explain specific mechanisms/measures developed by the government due to the pandemic that affected your activities in the horticulture sector? How did they affect you and how would you evaluate them?

   If not mentioned: Have longer import bands and closed borders helped or constrained the consolidation of value chains in the Zambezi region? How?
3. Which new opportunities emerged within the last 12 months for you personally (not just in horticulture)?

Block D: Looking to the future

1. In addition to the current problems already mentioned: What are the possible future challenges for the development of horticulture in Zambezi region? Are they the result of the current situation or are they unrelated problems?
2. What should or will be done to address challenges and constraints?

What needs to change…

   k) Among the people within the people within the conservancies compared to outside.
   l) At the political level: in the legislation and the relevant ministries?
   m) About the external support by NGOs etc.?
   n) The private tourism businesses?
   o) Distributors such as supermarkets?

3. Which actors/ actor groups are most necessary/ most important to induce the changes needed?
   g) Role of the state and role of private sector engagement
   h) Role of farmers/ association
   i) Any new actor?

Qualitative interview: Conservancy management

1. **Introduction**
   a) What is your function in the conservancy?
   b) Since when are you engaged in this position?
   c) In general, how would you assess the acceptance of the conservancy members in regard to tourism and hunting activities?
      - Do the members prefer hunting tourism or lodge tourism?
      - Has the current pandemic changed the way community members look at the tourism sector?
      - What are (potential) lines of conflict between the conservancy board and the conservancy members?
   d) In general, how would you assess the acceptance of the conservancy members in regard to agricultural activities, specifically crop farming?
      - Are the members able to carry out agricultural activities the way they want to in the conservancy?
        If no: why not?
      - Has the current pandemic changed the way community members engage in crop farming? (increased/decreased)
      - What are (potential) lines of conflict between the conservancy and the conservancy members in regard to agriculture?

2. **Lodge & Campsite**
   a) Is there a lodge/ campsite in your conservancy?
      - If yes, what is the name of the lodge?
        1. When was it established?
        2. How many people were employed by the lodge in 2019?
        3. How many people are currently employed by the lodge?
        4. How much money did your conservancy receive from the lodge in 2019?
        5. How much money did your conservancy receive from the lodge in 2020?
      - If no, has there previously been a lodge/ campsite? What is the reason that operations have stopped?

3. **Hunting Tourism**
   a) Do you work with a professional hunter?
      - If yes, what is the name of the PH/ company?
        1. When did the PH started operating in your conservancy?

2. How many people were employed by the Professional hunter in 2019?
3. How many people were employed by the Professional hunter in 2020?
4. How much money did your conservancy receive from the Professional Hunter in 2019?
5. How much money did your conservancy receive from the Professional Hunter in 2020?

b) If no, has there previously been a Professional Hunter? What is the reason that operations have stopped?

4. Nature Conservation & Hunting

a) How has the pandemic affected the hunting sector?
   - Were you able to conduct game counts, and have you been awarded a quota by the MEFT?
   - Have you been able to sell these quotas?
   - What do you do with quotas you have been unable to sell?
   - Do you use more wildlife for own consumption?

b) How has the pandemic affected poaching?
c) Do you think commercial elephant poaching has increased in the Zambezi region/ your conservancy?
d) Do you think local hunting on plains game for food has increased as a result of the pandemic?
e) Do you think illegal fishing activities have increased as a result of the pandemic?
f) Do you think illegal harvesting of wood has increased as a result of the pandemic?
g) Do you think that the use zones are equally respected by residents?
h) Do you think agriculture/crop farming has increased as a result of the pandemic?
i) What are the challenges you face to keep up the conservation activities?

5. Finances

a) What are the criteria that guide the distribution of conservancy benefits?
   - In 2019, what is the share you spent on a) operational costs, b) conservancy staff c) development projects d) HWC offsets e) cash pay-outs to members f) other
   - In 2020, what is the share you spent on a) operational costs, b) conservancy staff c) development projects d) HWC offsets e) cash pay-outs to members f) other

b) Please describe, how the ongoing COVID-19 pandemic has affected the financial situation of the conservancy.
   - Did the conservancy receive support from any other party? (government bodies, NGOs)

- Does the conservancy consider to venture into business activities other than tourism?

6. **Outlook**
   a) What are your plans for the future?
   b) Do you receive any additional support to cope with the impact of the pandemic?
      - Which actors provide support (MEFT, MAWLR, IRDNC, NACSO, WWF, other (please name:)
      - What kind of support do you receive?
      - What would be necessary to improve the situation?

Qualitative interview: Tourism business

1. **Introduction**
   a. What is your function in the enterprise?
   b. Since when are you engaged in this position?
   c. When did you start operating?
   d. How many employees did you have when you started operating?
   e. In general, how would you assess the impact of COVID-19 on your business activities?

2. **Ecological impact**

Please describe how the pandemic has affected nature conservation in your area.

   a. Do you think commercial elephant poaching has increased in the Zambezi region/ your conservancy?
   b. Do you think local hunting on plains game for food has increased as a result of the pandemic?
   c. Do you think illegal fishing activities have increased as a result of the pandemic?
   d. Do you think illegal harvesting of wood has increased as a result of the pandemic?
   e. Do you think that the use zones are equally respected by residents?

3. **Linkages**

In order to understand the impact of the pandemic on your business in more detail, please explain briefly, how the relations with each of these actors have changed:

   a. Your employees
   b. Your clients

c. Your suppliers (food, beverages etc.)
d. Tour operators
e. Overseas travel agents
f. Relevant government bodies
g. The conservancy
h. Traditional Authorities
i. Business associations (HAN, NTB, Namibia Wetlands Group)
j. Other:

4. Food supply

a. Did you source fresh food (fruit, vegetable) from Zambezi farmers in the past?
    i. If yes: why is the benefit of sourcing locally and what are constraints, difficulties? Please explain?
    ii. Please estimate the share of fruits/vegetables you used to source from local farmers:
b. Do you source fresh food (fruit, vegetable) from Zambezi farmers now?
    i. If yes: Please estimate the share of fruits/vegetables currently source from local farmers:
    ii. If no: why not? What hinders you?

5. Enterprise size

Please provide us with some figures to quantify the changes you have described.

a. What was the number of employees in December 2019?
b. What was the number of employees in December 2020?
c. How many visitors did you receive throughout the year 2019?
d. How many visitors did you receive throughout the year 2020?
e. What was the annual turnover in 2019 (estimate or percentage of turnover from last year)?
f. What was the annual turnover in 2020 (estimate or percentage of turnover from last year)?
g. How much money did you pay to the conservancy as part of the benefit sharing agreement/contract?
h. How has that changed in the last year?

6. Outlook

a. What are your plans for the future? How can you prepare for a similar crisis in the future?
b. Anything else you would like to add?

Conservancy resident questionnaire

1. **Perception**

A) How do you evaluate the activities of the conservancy management in general?

Excellent	Good	Neutral	Not that good	Terrible

B) Has your perception of the conservancy changed because of the pandemic?

To the worse	Not at all	To the better

C) How satisfied are you with the distribution of benefits by the conservancy management?

Very satisfied	Somewhat satisfied	Neutral	Somewhat dissatisfied	Very dissatisfied

D) Has your perception of the distribution of benefits changed because of the pandemic?

To the worse	Not at all	To the better

E) Please explain your choices with a few words (2 – 3 points).

2. **Conservancy employment**

A) Are you <u>currently</u> employed by the conservancy?

Yes: What is the form of employment?

part-time	full time	

What kind of position do you have?

How much money do you make on average per month?

No: Have you <u>previously</u> been employed by the conservancy?

Yes: What was the form of employment?

part-time	full time	

What kind of position did you have?

How much money did you make on average per month?

3. Tourism Employment

A) Do you <u>currently</u> make money from tourism or hunting?

Yes:

Employed by a lodge	employed by a PH	sell products to lodges	sell directly to tourists	provide services to lodges	provide services to tourists

If employed, what is the form of employment?

part-time	full time	self-employed

How much money do you make on average per month?

No:

Employed by a lodge	employed by professional hunter	sell products to lodges	sell directly to tourists	provide services to lodges	provide services to tourists

Have you <u>previously</u> made money from tourism?

Yes:

If employed, what was the form of employment?

part-time	full time	self-employed

How much money did you make on average per month?

4. Value distribution

A) How much cash/ meat did you receive from the conservancy?

	Cash	Meat in kg
2019		
2020		

B) What other benefits did you receive from the conservancy?

i. Tractor for ploughing
ii. Electrification of the village
iii. Borehole
iv. Other community project initiated by the conservancy, please name:

5. Socio-ecological relations

	Increase greatly	Increase slightly	Stay the same	Decrease slightly	Decrease greatly
A) Do you think commercial elephant poaching has changed in your conservancy within the last 12 months?					
B) Do you think local hunting on plains game for food has changed within the last 12 months?					
C) Do you think illegal fishing activities have changed within the last 12 months in your conservancy (only those with water)?					
D) Do you think illegal harvesting of wood has changed within the last 12 months?					
E) Do you think that the use zones are equally respected by the conservancy residents within the last 12 months compared to before the pandemic?					
F) Do you think Human Wildlife Conflict has changed within the last 12?					
G) Has the offset scheme for HWC changed within the last 12 months?					
H) Would you say crop farming has changed in your conservancy within the last 12 months?					
If crop farming has increased: What kind of crops and where are the fields located?	*Type:* Horticulture crops	*Type:* Dry crops (traditional)	*Location:* Near river		*Location:* Near courtyard/village

I) How did you rate the importance of conservation and the importance of crop farming before the pandemic, how do you rate it now?

Nature conservation

Before:

Very important	Somewhat important	Neutral	Somewhat irrelevant	Very irrelevant

Now:

Very important	Somewhat important	Neutral	Somewhat irrelevant	Very irrelevant

Crop farming

Before:

Very important	Somewhat important	Neutral	Somewhat irrelevant	Very irrelevant

Now:

Very important	Somewhat important	Neutral	Somewhat irrelevant	Very irrelevant

Appendix B: Own contribution

Articles of Chapter 4, 5, and 7 were co-authored by Javier Revilla Diez (University of Cologne) as the principal investigator of the research project. The article of Chapter 5 was additionally co-authored by Jim Kairu (University of Namibia). The article of Chapter 6 was co-authored by Moritz Breul and Linus Kalvelage (University of Cologne). The article of Chapter 7 was co-authored by Jim Kairu and Lucas Rutina as principal investigators of the add-on project (University of Namibia) and Linus Kalvelage.

I have contributed to the four articles which are part of this dissertation in the following way:

- Review of relevant literature to the topic of the respective article
- Development of the conceptual frameworks in all four articles
- Development of research questions and hypotheses
- Selection of research methods
- Selection and visiting of case study areas in collaboration with local researchers and stakeholders
- Conceptualisation and modification of interview guidelines for all interviews/focus group discussions
- Sampling and contacting of interviewees/focus-group discussion participants
- Conduction of all qualitative interviews
- Conduction of all focus group discussions with assistance of local partners
- Cross-checking of transcriptions which have been transcribed by student assistance
- Analysis of the interview transcripts using the software MAXQDA
- Development of survey questionnaires
- Participation in data collection for the baseline household survey
- Data cleaning and analysis of quantitative household survey
- Independent writing of all articles (lead author for articles 1, 2, and 4)
- Revision of all manuscripts under the guidance of Javier Revilla Diez (all articles)

The quantitative survey data used for this dissertation are stored in the central database of the collaborative research centre CRC/TRR228 “Future Rural Africa”: https://www.trr228db.uni-koeln.de/site/index.php. Due to confidential agreements, the primary qualitative data from interview and focus group discussion is not publicly accessible, but can be requested from the author.

Referencing styles in chapters 4, 5, 6, and 7 follow the publisher guidelines.

Appendix C: Eigenständigkeitserklärung

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:

- Hulke, C.; Revilla Diez, J. (2022): Understanding regional value chain evolution in peripheral areas through governance interactions – An institutional layering approach. *Applied Geography* 139.
- Hulke, C.; Kairu, J.; Revilla Diez, J. (2020): Development visions, livelihood realities – how conservation shapes agricultural value chains in the Zambezi region, Namibia. *Development Southern Africa*, 1–18.
- Breul, M.; Hulke, C.; Kalvelage, L. (2021): Path Formation and Reformation: Studying the Variegated Consequences of Path Creation for Regional Development. *Economic Geography*, 1–22.
- Hulke, C.; Kalvelage, L.; Kairu, J.; Revilla Diez, J.; Rutina, P. (2022): Navigating through the storm: Conservancies as local institutions for regional resilience in Zambezi, Namibia. *Cambridge Journal of Regions, Economy and Society*, in press.

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Datum, Ort, Name