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Production networks and borderlands: Cross-border yarsagumba trade in the Kailash Landscape

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ABSTRACT

To date, the role of borderlands in global production networks is an under-researched topic. In this study, we take the production network of the highly valuable non-timber forest product *ophiocordyceps sinensis* (yarsagumba) as a case to study the trans-border connectivities of state and non-state actors in the borderland of India, Nepal and China located within the rural Kailash Landscape. We present the results of an in-depth qualitative study on the informal trade networks through which non-state actors transport yarsagumba from India to Nepali markets, and on the related governmental marketing mechanisms for non-timber forest products in India and Nepal. By looking through the lens of borderland studies we focus our analysis on the power and embeddedness of state authorities and non-state actors on both sides of the border within these legal and illegal trade networks and relate the findings to the function of borders as both material and institutional demarcation lines. Our case study shows that state authorities and non-state actors are closely enmeshed with each other, using or bypassing state regulations for their own benefits. This reproduces a 'licit' but illegal cross-border trade system. Besides economic interdependencies, social relations between actors are crucial for building trust between business partners who deal with high product values and cash flows outside formal regulatory spaces or between different regulatory spaces across state borders. We conclude that the power and embeddedness of actors in the production networks enable a network dynamic that undermines the function of the border as a line of separation.

1. Introduction

In the remote border region of the Kailash Landscape in India and Nepal, the local population is highly dependent on the collection and trade of *ophiocordyceps sinensis*, locally known as *yarsagumba* or *keera ghaas*,¹ as a source of income (Negi et al., 2016). Yarsagumba is currently the most valuable non-timber forest product (NTFP) in the region with prices ranging from 8000 to 14,000 USD per kg on the local market (Pant et al., 2017; Pouliot et al., 2018). It is found in the high alpine grasslands and used in traditional Chinese and Tibetan medicine (Winkler, 2008). In ayurvedic and other types of traditional medicine in Nepal and India, in contrast, yarsagumba is hardly known or utilized, and therefore not in high demand (Negi et al., 2016). Consequently, the product is traded from the Himalayan Mountains in India and Nepal to China.

In the late 1990s the demand in China for yarsagumba increased tremendously, which led to an enormous rise in prices (Linke, 2017;

Winkler, 2008; Yeh and Lama, 2013). This price trend triggered a 'gold rush' in the Himalaya, which led to an unprecedented upsurge in the number of collectors (Cannon et al., 2009; Shrestha and Bawa, 2014; Winkler, 2009). The sudden run of collectors on the yarsagumba collection sites led to uncontrolled collection and to conflicts about access (Pant et al., 2017; Wallrapp et al., forthcoming). At the same time, a well-organised trade network developed, consisting of several levels of intermediaries linking the remote mountain areas of India and Nepal to the global market (Shrestha and Bawa, 2013). The network builds on existing kinship, cultural, social and economic relations across the region, which have been established over centuries (Bergmann, 2016; Shneiderman, 2013).

In terms of quantities, Pouliot et al. (2018: 65) calculated that around 384.1 kg² of yarsagumba was collected in the collection sites of Darchula District, Nepal, in the 2014-15 season, with a local value of approx. 4.7 million USD. However, the official amount of traded yarsagumba in Darchula District registered through the official state

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¹ In Tibetan language yarsagumba is called *yartsa gunbu*, which means 'winter worm – summer grass' (Winkler, 2008). Yarsagumba is an endoparasitic complex formed by the fungus *ophiocordyceps sinensis* and the host larva of different moth species (Negi et al., 2016).

² There is an uncertainty of several kg in the calculated and estimated figures (see Pouliot et al., 2018).

authority, Api Nampa Conservation Area (ANCA), was 850 kg in 2015 (DNPWC et al., 2018). How does this apparent surplus come about? Negi et al. (2016) show that an estimated production of 350–600 kg of yarsagumba per year takes place in the Kumaon Region in India, just across the border. This surplus can therefore be explained by the local population in the Kumaon Region's preference for a trade network through Nepal to sell their yarsagumba harvest. Thus, yarsagumba collected both from within ANCA, Nepal and from the Kumaon Region, India is traded in Nepal. Why is this the case? And what role does the border play in this regard?

In this study, we take the global production network (GPN) concept and link it to concepts from the emerging field of borderlands studies (Van Schendel and Abraham, 2005; Gellner, 2013; Ghosh, 2011; Goodhand, 2005; Grillot, 2016; Harris, 2013; Nordstrom, 2000; Shneiderman, 2013; Titeca and Flynn, 2014). To be more precise, we take a non-state-centric perspective (Gellner, 2013; Scott, 2009) studying the cross-border trade from both sides of the state border (Baud and Van Schendel, 1997). We further analyse the cross-border interactions 'from below' by focusing on the perspectives of the local population and of relevant local state actors (cf. Doeveenspeck, 2011; Korf and Raeymaekers, 2013; Jones, 2012).

While yarsagumba is traded from the Himalayan Mountains of India and Nepal via several towns and cities into China, in our case study, we focus only on the production network in the rural Kailash Landscape. The production network consists of three processes interrelated with each other. Firstly, the governmental marketing system for NTFPs in India is legal, but disadvantageous, for Indian collectors and traders. Secondly, their preferred informal trade route to sell their yarsagumba harvest runs from India through Nepal, and is discussed in depth here. Thirdly, the legalization process through the Nepali governmental mechanism is used for yarsagumba harvested both in India and Nepal. We analyse in detail the power and embeddedness of state authorities and non-state actors on both sides of the border within these processes and relate the findings to the function of a border as line of separation. We argue that actors in borderlands question, negotiate, subvert and re-enforce borders. At the same time, borders influence the configuration of production networks in borderlands. With this in-depth case study we show the importance of linking the concept of GPN with findings from borderland studies to better understand micro-level power structures and the embeddedness of actors in production networks in borderlands.

2. Conceptual framework

Over the last two decades two main approaches to analysing the relationships between production, trade and consumption of products have developed: the global value chain (GVC) approach by Gereffi et al. (2005) and the GPN approach by Hendersen et al. (2002). The GVC approach primarily follows a linear understanding of production networks and puts the main emphasis on the analysis of power relations between companies in their respective institutional contexts (Coe et al., 2008; Pauls and Franz, 2013). In comparison, the GPN approach expands beyond the linearity of the GVC approach to understand international production and trade as a highly complex and dynamic process, incorporating all kinds of network configurations as well as formal and informal arrangements. In this study, we apply the GPN concept.

Hendersen et al. (2002) distinguish three analytical categories: value, embeddedness, and power. Aspects of the value of yarsagumba are dealt with in other studies on the region (Pouliot et al., 2018; Pyakurel et al., 2018; Shrestha and Bawa, 2013) and therefore will not play a role in our study. Embeddedness and power relations, in contrast, are the focus of our work. We understand actors' embeddedness in GPNs as being characterised by their personal relationships to other network actors, their opportunities to gain access to resources via these relations as well as their related personal obligations and dependencies (Keck, 2016; Li, 2007). We take power to describe the ability of actors

to influence other actors in their doings as well as to define, enforce and revoke the prevalent system of rules and regulations (Hendersen et al., 2002; Neilson et al., 2014).

As the GPN approach underlines, production and trade networks are bound by and take place within institutional settings that together build regulatory spaces determining the socio-economic situation of the involved actors. Regulatory spaces may be either generated by states as governmental institutions or may be socially produced through customary rights, social norms, belief systems or culturally shared understandings. These regulatory spaces determine actors' daily routines, their enabled or constrained access to resources, and their in- or exclusion in the community and markets. While the 'state' as sovereign is crucial in shaping these regulatory spaces, other actors play an important role as well (cf. Pauls and Franz, 2013). Jones argues that "rather than understanding sovereignty as unitary and all-encompassing, it is better conceptualized as multifaceted, partial and conflicted" (2012: 3). Despite the expansion of the sovereign state over the past century, there are many loosely administered places within a state territory, where the authority of the state is weak or non-existent. Even at the borders of a state, where the performances of sovereign authority are often the most conspicuous, the territorial control of sovereigns is incomplete leading to informal networks and activities, for example in our case, the yarsagumba trade. State laws are constantly questioned, negotiated, subverted and re-enforced by state and non-state actors on the margins of the state, particularly in borderlands (Ghosh, 2011; Goodhand, 2005).

To date, the role of borders in GPNs has been an under-researched topic. Borders demarcate the state's sovereign territory. They can be seen as political divides that gradually emerged worldwide with the onset of modern statehood (Van Schendel and Abraham, 2005). Borders are key elements in the maintenance of territoriality and the boundary of state sovereignty, the principle through which people and resources are controlled and governed (Paasi, 1999). They are separation lines between 'us' and 'them' and 'here' and 'there' (Newman, 2006). Yet, while many people conceive borders as static and impervious, borderland studies have presented plenty of evidence that borders are rather highly fluid, permeable, and in part even connectional entities (Gellner, 2013; Paasi, 1999). Borders are constructed through the action of state authorities and non-state actors on both sides of the border (Newman, 2006). They "create political, social and cultural distinctions, but simultaneously imply the existence of (new) networks and systems of interaction across them" (Baud and Van Schendel, 1997: 216).

Against this background, we introduce the term 'borderlands' to describe these spaces at the margin of states (Scott, 2009). Borderlands are social, economic and geographical spaces on both sides of a border defined by the creation of opportunities and constraints during interactions across borders (Chan and Womack, 2016). In our case the borderland of the Kailash Landscape is formed by the triangle where India, Nepal and China meet. People living in borderlands are often acquainted with different institutional settings, and may be skilled users of more than one language and currency for daily interaction and exchange. They can be active 'border-crossers' who make use of such skills to either challenge or comply with given rules of a particular regulatory space and respect or ignore state sovereignty, whichever is more profitable for them in order to improve their livelihoods (Chan and Womack, 2016; Doeveenspeck, 2011).

From a non-state perspective, people involved in cross-border networks often consider certain activities to be legitimate, though the state deems these same acts illegal. These activities are accepted in the eyes of the 'border-crossers' – a common phenomenon, for which Van Schendel and Abraham use the term 'licit' (2005: 4). Especially in borderlands, legal restrictions are often accompanied by socially sanctioned practices such as smuggling. While this may have the effect of driving these practices into illegality, it does not eliminate them nor does it necessarily force them into obscurity. Hence, informal networks develop, which often build on patterns of mobility, trade and exchange

as well as on cultural and kinship networks that have been in existence for centuries (Van Schendel and Abraham, 2005). They are often based on specific codes of conduct, opaque power relations, and rules that are orally passed on. Trustworthiness, credibility and reputation are key in these informal networks (Keck, 2016; Nordstrom, 2000), especially when it comes to trade across borders (cf. Grillot, 2016; Tong, 2014).

In borderland studies, scholars highlight the multi-functional role of state actors in cross-border networks. Nordstrom emphasizes the interweaving of state and non-state actors across borders by introducing the term 'extra-state,' which she uses to underscore the fact that while these networks are not comprised by states themselves, neither are they entirely distinct from, or opposite to states – they work both through and around formal state representatives and institutions. States and these networks exist simultaneously ... each presenting different forms of authority and politico-economic organisation (2000: 36).

By taking up this notion of the 'extra-state,' we include in our analysis the informal as well as legal processes for marketing NTFPs in India and Nepal to understand the different hats state authorities wear within the cross-border network of yarsagumba. Yet, clear distinctions between legal and illegal, between state and non-state, and local and international often are not possible to draw in borderlands (Korf and Raeymaekers, 2013). State and non-state actors have several roles and are interlocked and enmeshed with one another, which forms specific configurations of production networks in borderlands.

Taking findings from borderland studies into consideration, we use the concept of GPN as our main analytical tool to understand the role that the border – both as a material and institutional demarcation line – plays for the production network configuration and its actors in the borderland of the Kailash Landscape.

3. Study area and data collection

3.1. Study area

The Kailash Landscape encompasses the border region of Darchula District in Nepal, the Kumaon Region, Uttarakhand State in India and Pulan County, Tibet Autonomous Region (TAR) in China. The mountainous area is geopolitically sensitive and disputed borders have led to high military presence in India and China and to restrictions on movement of people and goods over the last decades. The area has long been characterised by great economic, social and cultural interactions across the borders, which are declining more and more due to political and socio-economic changes (Bergmann, 2016; Harris, 2013; Shneiderman, 2013). In former times, the Rang community – known as Shauka in Nepal – had the exclusive rights for the trans-Himalayan trade through the Kailash Landscape via the mountain valleys from the Gangetic plains to the Tibetan Plateau (Bergmann, 2016). With the increase of Chinese dominance on the Tibetan plateau in the 1950s and the Indo-China war in 1962, their customary rights for transhumance and movement of goods and people were restricted, the Indo-Chinese high mountain passes closed, and trade reduced (Bergmann, 2016).

Between China and Nepal, the Tinker pass (see Fig. 1) remained open. The Lipu Lekh pass in India re-opened in 1992 as an important pilgrimage route to holy Mount Kailash in the TAR, China and for limited commodity trade. Currently, trade to China is allowed up to 30 km into Chinese territory, to the next market town, Puran/Taklakot in Pulan County. In the last years, more and more regulations have been drawn up for this traditional border market limiting the flow of commodities and volume of trade (He et al., 2018).

In contrast, the border between India and Nepal is described as an 'open' border (Gellner, 2013). People and everyday goods can move freely in small quantities without formalities across this border. Several treaties have legalised these activities and have regulated customs duties and state border controls over the last decades (Kansakar, 2001). Apart from the political borders between the countries, physical boundaries such as the Mahakali River between Nepal and India or high

mountain passes between India and Nepal and the TAR in China, have always presented obstacles to the movement of goods and people across the region. This has channelled the 'border-crossers,' but never halted these activities.

The closure of trading routes from India to the Tibetan plateau in the 1960s has changed the economic status of Indian communities in this region tremendously over the last decades. In both India and Nepal, out-migration of young people and whole families has led to barren agricultural fields and the extinction of entire villages in the high mountain ranges (Bergmann, 2016). Over the last decades, the collection of NTFPs, especially yarsagumba, has become one of the key income sources for most of the households in these valleys (Negi et al., 2016; Pouliot et al., 2018).

3.2. Data collection

The empirical fieldwork was conducted in four valleys of the Kailash Landscape: two valleys of ANCA in Nepal – Mahakali and Chameyilia valleys – and two valleys in the Kumaon Region of India – Darma and Johar valleys. The empirical research mainly comprises qualitative data collected through key informant and in-depth interviews and focus group discussions between 2014 and 2017. The interviewees included government officials on the central, state and district levels, local leaders, community members, traders and collectors from various backgrounds with different gender and age. In total 13 focus group discussions with community members and traders were organised in 2016 and 2017, 30 representatives of local authorities and 62 community members were interviewed, and 20 interviews with representatives of higher state authorities and regional experts were conducted. Due to the sensitive content of the interviews in an internationally disputed border region, no further details on the backgrounds of the interviewees are provided.

As some aspects of the study were difficult to discuss openly with stakeholders, participatory field observation was conducted as an important complementary source of information. Additionally, for both India and Nepal, relevant policies, guidelines and directives were studied and reviewed with stakeholders.

For the data analysis we chose the content analysis following Mayring (2015). The interviews were translated from Hindi or Nepali into English and transcribed afterwards. Field notes were taken in order to document other observations, focus group discussions and informal conversations. Following fieldwork, the texts were categorized and coded according to defined units of analysis. The results are interpreted and discussed in the following.

4. Results

The collection and trade of NTFP, particularly of yarsagumba, is the main livelihood source for the people in this region and dominates all socio-economic systems in the borderland. Although some parts of the cross-border network activities are illegal according to Indian and Nepali law, all participants within the system, including state and non-state actors, know the 'rules of the game' and are interwoven within the wider network.

We trace the product flow of yarsagumba from the Indian collectors to the international wholesalers in Kathmandu, Nepal. The Indian governmental marketing mechanism is not the preference for Indian collectors and traders to sell their harvest. Instead, the informal trade network and the subsequent legalization process in Nepal offer Indian actors better prices with fewer bureaucratic struggles. The borderland context enables a lucrative and well-functioning informal trade network formed by strong dependencies and economic and social relations between state and non-state actors across the border.

We present our findings in three sections according to the main processes in the production network: (1) the Indian governmental marketing mechanism relevant for all NTFPs in India, (2) the informal

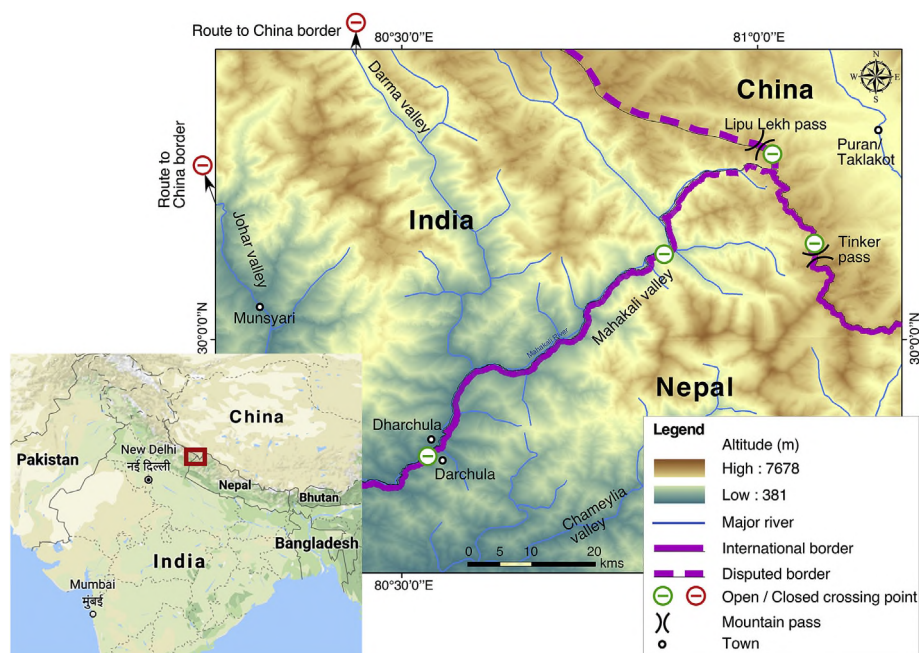


Fig. 1. Map of the borderland of India, Nepal and China in the Kailash Landscape (detailed map: own source; overview map: map data 2018 google).

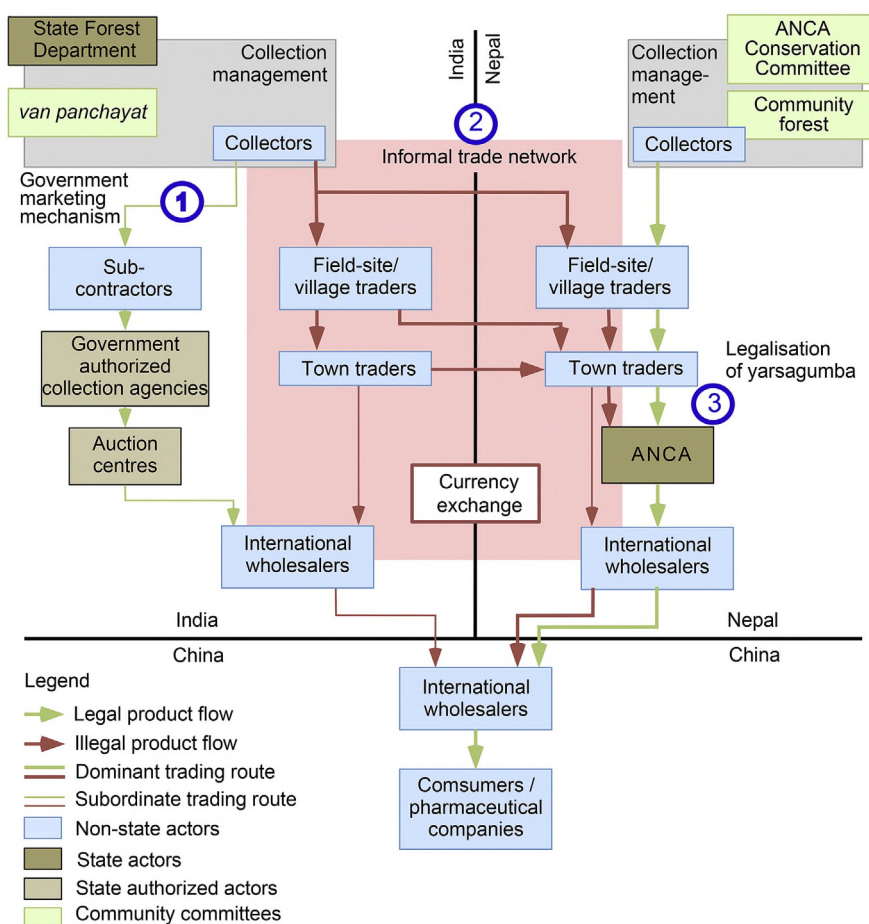


Fig. 2. Trade network of illegal (red) and legal (green) product flows of yarsagumba in the Indian/Nepali borderland with relevant state and non-state actors. No. 1 (left) outlines the product flow of yarsagumba using the governmental marketing mechanism in India, no. 2 (middle) the informal trade network from India to Nepal and no. 3 (right) the legalization process in Nepal. The thick arrows show the dominant, the thin arrows the subordinate trading routes. (For interpretation of the references to colour in this figure legend, the reader is referred to the Web version of this article.)

trade network between India and Nepal, and (3) the legalization process of yarsagumba on the Nepali side. The fourth section presents less utilized trading routes for yarsagumba in the region. Fig. 2 summarizes our findings regarding the legal/illegal product flow, the relevant actors and the dominant and subordinate trading routes in the borderland of the Kailash Landscape.

4.1. The governmental marketing system for yarsagumba in India (no. 1 in Fig. 2)

The governmental marketing mechanism for NTFPs and medicinal and aromatic plants in Uttarakhand State, India, is regulated by the State Forest Department (SFD) of Uttarakhand (Pauls and Franz, 2013). In order to sell any cultivated or collected NTFP or medicinal and aromatic plants, the SFD authorizes agencies, like the *Kumaon Mandal Vikas Nigam* and the *Bhesaj Sangh*, to function as intermediaries between local harvesters, government authorities and traders. These agencies ensure the documentation with the *van panchayats* (local forest management committees) and control the product quality. After completing the required process, the products are sold at SFD-organised auctions to registered companies or wholesalers. The prices are fixed in advance by the SFD based on the quality of the products and market prices. This system is applied to all cultivated and collected NTFPs and medicinal and aromatic plants in the state authorized for sale.³ Yet, Indian collectors of yarsagumba do not usually trade their collected products via these channels (Negi et al., 2016). Only up to 8 kg of yarsagumba were auctioned in the years between 2008 and 2012 (CHEA, 2015).

Although governmental regulations are in place for the sale of NTFPs, there are gaps in the regulatory system for the collection and trade of yarsagumba in India (Caplins, 2016; Negi et al., 2016; Wallrapp et al., forthcoming). In India, commercial collection of yarsagumba is legally permissible only in *van panchayats*, however, collectors harvest yarsagumba wherever possible - within state forests or protected areas - regardless of property rights and legal status (Negi et al., 2016). But even for yarsagumba collected within *van panchayats*, the sale and marketing mechanisms are not clearly drawn up. A forester from the region stated:

To catch them [yarsagumba collectors and traders] under which act? We can't do anything. I requested my senior to give a clear answer but that was not possible (Interview April 2017 – English translation, original language Hindi).

On the one hand these unclear regulations leave room for interpretation for SFD representatives as well as for the collectors and traders. On the other hand, this gives state authorities power over local collectors and traders. This power to enforce regulations is demonstrated by sporadic arrests when yarsagumba is sold openly (Interview with a trader in India, May 2017). Consequently, to avoid arrests and for the personal benefit of state and non-state actors, payment of bribes and requests for personal favours are common practices.

Due to pressure by influential local leaders, the SFD has made several attempts to improve the marketing system for yarsagumba in the last years by authorizing *van panchayat* leaders to hand out certificates of origin for collected yarsagumba and thereby to allow the sale of yarsagumba from specific collection sites via the auction system. Nevertheless, this system has provoked critique:

... the government always offers lower prices, so why should somebody sell for that amount? Nobody was interested in selling for that amount. And the other system is well established (Interview with community member in Munsiyari, India, January 2017 – English translation, original language Hindi).

As this quote indicates, the local population considers the

bureaucracy of the marketing system, the low prices and the time-consuming procedures to be too complicated and inappropriate. They criticize their own inability and lack of power to influence the governmental system and the unwillingness of state authorities to address their concerns. The dominant role of the SFD and the governmental marketing system, which is disadvantageous for the local population, force them to look for alternative ways to sell their products. The availability of the Nepali NTFP trading system across the border displays such an alternative for the sale of yarsagumba collected in India.

4.2. The informal trade network across the border from India to Nepal (no. 2 in Fig. 2)

4.2.1. The product flow of yarsagumba from India to Nepal

Indian yarsagumba collectors usually sell their harvest to traders when they return to their villages. Each village in the upper Kumaon Region in India has a specific site in the high mountainous area where they collect yarsagumba during the collection season. Governance systems consisting of government institutions and communal norms regulate the access to and management of the yarsagumba collection sites.⁴ The Indian collectors mainly meet the yarsagumba traders when they return to their villages from the collection site, and less often in the site itself or in other trading hubs. During and after the collection season, village traders either from India or Nepal visit the villages frequently to negotiate prices with the collectors and to check the available quantities. After the purchase of products, they cross the border to Nepal (see Fig. 2, no. 2, dominant trading route).

Yarsagumba traders from India and Nepal prefer unofficial border crossing points instead of the official one between the towns of Dharchula, India, and Darchula, Nepal (Fig. 1). A bridge across the Mahakali River, which forms the border between India and Nepal, connects the two towns. Police and customs clearance points on both sides control the movement of goods and people. A bit further up the river from Dharchula along the border, several 'rope bridges' are installed to enable the local people to cross the river (see Figs. 3 and 4). These are unofficial border crossing points.

According to the treaties signed between the two countries, the free movement of people and commodities in small quantities is legal. Only commodities moving across the border in bigger bulk, including medicinal aromatic plants and NTFPs, require legal documents and customs declarations (Kansakar, 2001). Community members from both sides use 'rope bridges' frequently for daily activities, such as getting to markets, having easier access to road infrastructure and transportation, visiting family members or cutting fodder for animals. As 'rope bridges' are used for everyday activities, police and border control units from both states do not regularly check the movement of people and commodities across them. People in the region are active 'border-crossers' aware of the conditions, regulations and ways around these. As a trader from the region states:

If herbs are transported, people do not have papers. But, they do not transport them in large bulk. They carry them in small packages and try not to get caught [by police or border controls] (Interview with trader from Nepal, April 2017 – English translation, original language Hindi).

On the Nepali side, some teashops along the border function as trading hubs during the yarsagumba collection season. There, village traders from India and Nepal meet Nepali 'town traders' and exchange their products and cash. Some town traders are registered in the governmental ANCA office for the collection of yarsagumba. There, they are issued legal documents for transportation of yarsagumba within Nepal. Afterwards, town traders transport the sealed and cleared yarsagumba packages to Kathmandu. In Kathmandu the packages are

³ For more details on the governmental marketing system in Uttarakhand State, India, see Pauls and Franz (2013) and Caplins (2016).

⁴ For more details about the governance systems for collection of yarsagumba in the Kailash Landscape see Wallrapp et al. (forthcoming) and Pant et al. (2017).



Fig. 3. The Kailash Landscape with the Mahakali river as the border between India and Nepal (own source May 2017).



Fig. 4. A 'rope bridge' over the Mahakali River (own source May 2017).

resold to international wholesalers for export to China. On the Chinese side, the main trading hubs for yarsagumba from Nepal are Shigatse and Lhasa, or yarsagumba is flown directly from Kathmandu to Guangzhou and other major Chinese cities (He et al., 2018; Linke, 2017; Yeh and Lama, 2013).

One additional challenge for the cross-border network is the currency exchange from Nepalese Rupees (NPR) to Indian Rupees (INR), as most of the money comes from international wholesalers from Kathmandu in cash in NPR. Withdrawing large amounts of cash is difficult in India, especially after the demonetisation of all INR 500 and INR 1000 banknotes in November 2016. The Government of India declared the banknotes invalid, aiming to curtail the shadow economy and counterfeit cash being used to fund illegal activities. In 2017, however, the informal cross-border exchange and cash payments related to yarsagumba trade continued as before. The currency exchange between NPR and INR is organised through different traders and a separate system, which will not be further addressed in this article.

4.2.2. *Embeddedness and power of the actors in the informal trade network*

Collectors, village traders, town traders, international wholesalers and state authorities from both countries are all relevant actors in the informal trade network from India to Nepal. In our analysis, we have identified different aspects regarding the embeddedness and power of actors in the network: the network structure, the time-delayed cash transfer in relation to the product flow, the social ties and business

relations between actors and the local knowledge of actors. These aspects are interrelated with each other.

The network structure of the yarsagumba trade in the borderland becomes increasingly condensed along the product flow, as the number of people involved in trade becomes less while the volume of yarsagumba grows. While several thousand collectors collect hundreds of pieces of yarsagumba in different collection sites in India and Nepal, only a few village traders per village or valley buy the products, pool them together and transport them in packages to town. Then, the product flow is channelled through the hands of only a few town traders in Darchula, Nepal. Along the product flow, the product can easily change ownership three to five times on the way from the collection site until it is transported to Kathmandu.

In every village and valley one or a handful of traders control and dominate the trade of yarsagumba. Traders are usually focused on a certain valley or village depending on kinship and existing personal relationships with community members and collectors. In certain areas, they demand commission for allowing other traders to get involved in the yarsagumba business. This is often combined with the fact that these traders have several functions in the communities: they often play the role of moneylenders, shop owners, local politicians and community representatives. Poorer households in India and Nepal often sell their future yarsagumba stock by taking advances or loaning money from businessmen in the villages between collection seasons. In these situations, the two parties agree orally on a certain price for the future stock. The relationship between trader and collector and the economic situation of each collector determine the bargaining power between the collector and village trader. However, poorer collectors in particular can be vulnerable to these dependencies, which may lead to distress deals allowing traders to bargain lower prices. It can lock the poor into a patron-client relationship with local traders (cf. Goodhand, 2005). But for Indian collectors, the prices are still higher than the ones offered in the governmental marketing system in India. Traders, in contrast, use their dominant position in the communities to bargain prices, concentrate the market and block competing traders.

The power structures and economic embeddedness of actors in the network depend on the timing of the product flow in relation to the cash flow. The town traders of India and Nepal are mostly located in the trading hubs or towns, but have several village traders working for them who buy yarsagumba in the villages and collection sites. Before the season starts, the town traders usually receive advances from other businessmen or international wholesalers from Kathmandu. After receiving it, the town traders distribute the cash further to village traders, who either use it to pay advances to collectors or directly to buy quantities of yarsagumba during the collection season. In this way, the town traders ensure that certain quantities are reserved for them and that village traders are bound to them. But it also means that they are bound to certain buyers, which limits their bargaining power in return. Although advances for yarsagumba are distributed within the system between the different actors, the collectors often have to wait for weeks or even months for the actual payment for their products. Only after the actual payment is made by the international wholesaler, either in Kathmandu or even in China, is the pending amount of money settled within the trade network. The cash flow does not take place at the same time as the product flow. It creates mutual dependencies between the different levels of traders and between the village traders and collectors and influences the power of actors to negotiate prices. They are entangled in the network, which determines their economic embeddedness. These dependencies are not only established during the yarsagumba collection season (end of April until end of June) in one national regulatory space, but persist over the whole year across the Indian, Nepali, and even Chinese borders.

Although the international wholesalers determine the cash flow, town traders have a crucial role in the network structure. International wholesalers have the function of investors in the system without having sound local knowledge or relationships with relevant local state and

non-state actors. They depend on the town traders to buy the quantities they want. Town traders have good knowledge of the region and good connections to village traders. In addition, they have well-established relations to local politicians, local government officials, police, other businessmen, traders' associations and traders from both sides of the border. As only Nepali traders are allowed to be issued the legalization documents, they play a dominant role in the network.

In India the unclear governmental regulations about the collection and trade of yarsagumba make Indian actors vulnerable. They fear sporadic arrests and confrontations with state representatives from the SFD or police if they sell yarsagumba openly. State authorities are present in towns and at road-junctions, but hardly come to the remote villages. Therefore, the collectors feel safe enough in their villages to sell their harvest directly to village traders there, instead of bringing their products down to the trading hubs. Trust between the different levels of traders and between the traders and collectors is crucial for the functioning of this informal cross-border network, where collectors and traders cannot rely on governmental law enforcement and are vulnerable to arbitrary behaviour by state and non-state actors.

Traders use social relations and social codes of conduct to manage risks for their business activities in this informal setting (cf. Linke, 2017). The Rang/Shauka community (52 villages) is located in the Kailash Landscape on both sides of the border in India and Nepal and are organised in the *Rung Kalyan Sanstha* (Rang Welfare Society). Yearly meetings of the Rang Welfare Society provide an open platform to share and discuss issues, develop a common understanding and resolve conflicts within the community. Coming from the same village, being from the same community or being related with each other supports the economic relations between actors in the trade network. These social relations provide the actors possibilities for building pressure within the community and for sanctioning violations against social codes of conduct through community measures.

Besides social relations between actors, the credibility and reputation of a person is important in order to be perceived as trustworthy in this kind of business. A village trader stated:

The relation has nothing to do with being Rang or not. It is about trust and business. It is about connection, friendship and knowing a person to build up trust and to make these deals with big money (Interview with village trader in Dharchula, India May 2017 – *English translation, original language Hindi*).

As the statement shows, business partners in the yarsagumba trade do not necessarily have to come from the same community, but knowing a person is crucial. Although, traders take a number of measures to manage the risks, this lucrative business is regularly affected by fraud and betrayal:

I agreed with some Nepali trader to sell *keera ghaas* [yarsagumba]. We met in a hotel. I exchanged the stock, but did not receive the money immediately, and the guy disappeared. He left his clothes on the balcony, so everyone thought that he was still in the room, but he had disappeared with the stock. I lost a lot of money that day (Interview with trader in Dharchula, India, April 2017 – *English translation, original language Hindi*).

The story of this trader indicates that, although traders build up their business relationships on the basis of social networks and the reputation and credibility of their partners, there still remains a great risk of getting cheated. According to traders, it takes several years of trust-building before a town trader is seen as trustworthy enough to be given advances by international wholesalers. The same is true for advances to village traders and collectors or exchanges of products and cash.

State actors on both sides of the border are aware of the informal cross-border trade. They restrict it and at the same time, they are part of it. According to traders, the state authorities in Nepal and India are reluctant to intervene in the yarsagumba trade, likely due to the personal benefits they receive from it. Arrests and confiscations of yarsagumba are rare and interlocutors suggested that they might be more related to personal power struggles between traders and government

representatives than strategic state interventions to restrict the cross-border network. Joint patrolling and information exchange between state authorities in India and Nepal are regularly conducted to enforce the border and to limit illegal cross-border activities, but this has not yet hampered the cross-border yarsagumba trade network.

4.3. Legalization of yarsagumba in Nepal (no. 3 in Fig. 2)

The collection and sale of yarsagumba is legal within Nepal and does not require documents until the products are transported across district boundaries. Only then does the trader need several permits and royalties need to be paid to state authorities, in our case to the ANCA office. Firstly, to be able to engage in trade, the trader must have a company registered in the district that is specialized in trading NTFPs. Secondly, the trader needs to apply at the ANCA office for permission to collect yarsagumba in the conservation area. Thirdly, after the collection season the trader pays a royalty for the collected yarsagumba at the ANCA office (in 2017 this was 25,000 NPR or 250 USD per kg). There, the trader also requests a transportation permit. The yarsagumba is then packed, sealed and legalised as a Nepali product.

The ANCA office regulates the trade volume of yarsagumba by limiting the harvested quantity per year. In addition, ANCA restricts the number of permitted traders in the conservation area (in 2017, there were 50 traders). The limitation of traders enforces the concentration of the yarsagumba market and forces other non-registered traders from India and Nepal to cooperate with the registered ones to trade their products. In this way ANCA and the dominant town traders can jointly influence the selection process of registered traders and channel the product flow from India and Nepal.

Since the approval of the national yarsagumba management policy by the Ministry of Forests and Soil Conservation in Kathmandu in 2017, ANCA additionally requests certificates of origin filled out by the collectors from the registered traders (MoFSC, 2017). An ANCA representative stated:

In the national directive is the point of 'certificate of origin'. That will have an effect on the Indian traders, because you need to have the certificate cards from collectors from Nepal to be able to get the transportation approval by the government (Interview ANCA representative, Darchula, Nepal, May 2017 – *original language English*).

An Indian trader responded to the same question about the certificates of origin in Nepal:

About the new rules in Nepal? Yes, I know about that certificate. I need cards to get the documents, but no problem. I will get around that (Interview Indian trader, Dharchula, India, May 2017 – *English translation, original language Hindi*).

The statement of the Indian trader shows that the Nepali governmental regulations increase the obstacles for informal network actors, but do not hinder them from continuing to use the same Nepali route. Actors in the network are adaptive (cf. Keck, 2016).

From the perspective of the Nepali state representatives the informal cross-border trade system has the advantage that the state earns revenues from the trade of yarsagumba without exploiting its own resources. Additionally, personal benefits for individual state representatives are common. Adhikari (2015) describes common corruption practices in the forestry sector in Nepal, like the payment of royalties for a certain weight of a package, while the actual weight is higher. These practices are also found in the yarsagumba trade system. The embeddedness of the state actors in the established formal and informal parts of the network enables and ensures a smooth operation of informal trade across the India-Nepal border despite the formulation of additional regulations.

In general, traders from Nepal and India accept the formal and informal process for legalization of their products through ANCA. They prefer a legalised product to reduce their risks of being arrested by state authorities in Nepal. Another reason is that the prices in Kathmandu are higher for legal products and the sealed yarsagumba packages are in

higher demand by international wholesalers than illegally transported yarsagumba (interview with trader from Nepal, August 2017).

4.4. Alternative trading routes for yarsagumba from India to China (no. 2 in Fig. 2)

The limited availability of alternative trading routes makes the legalization of yarsagumba in Nepal via ANCA even more attractive for Indian traders (see Fig. 1). Possible alternative yarsagumba trading routes such as via the closed remote Himalayan passes (Johar and Darma valleys) or via the re-opened Lipu Lekh pass from India to the TAR, China, are too risky because of the high presence of army and border police (interviews in Dharchula, India, January 2017) (Fig. 2, no. 2, subordinate trading route). The trading route from the Indian collection sites in the mountains through Indian territory to Delhi and further to China is not well established either. How much is actually transported from India directly to the TAR, China, cannot be assessed.

Another option, the route via the Tinker pass in the northern part of the Kailash Landscape from Nepal to the border market town Puran/Taklakot in the TAR, China, is only used for smaller amounts of yarsagumba. According to the ANCA warden approximately 20–30 kg of yarsagumba were transported via this route in 2016 (Interview in Darchula, Nepal, May 2017). Traders describe the route as being difficult due to poor infrastructure and increased border controls on the Chinese side. The perceived ‘easiest way’ for Indian and Nepali traders to market the collected yarsagumba from the Indian Kumaon region is currently via ANCA in Nepal.

5. Discussion

From a state-centric perspective, the Kailash Landscape is considered to be a peripheral borderland at the margins of three states: India, Nepal and China. By tracing the informal trade network of yarsagumba in this borderland we see that the region is not disconnected from, but highly integrated into and stimulated by processes associated with globalisation. The remote mountainous villages and people of India and Nepal are highly connected to international markets and depend on global demands, especially for NTFPs. The yarsagumba collection alone has an approximate yearly turnover of 10.5 million USD for the 850 kg yarsagumba collected in this region, according to the official figure of ANCA (DNPWC et al., 2018). With this high turnover and very limited other income-generating alternatives in this borderland, it is not surprising that state and non-state actors have an interest to get and stay involved in this very lucrative and functional production network.

The existence of different regulatory spaces in India and Nepal, such as the different policies for marketing of NTFPs, stimulates the informal cross-border trade network in the Kailash Landscape. The unattractive governmental marketing system in India encourages Indian collectors and traders to look for alternatives. The perceived ‘easy way’ of legalization of yarsagumba products in Nepal provides them an opportunity to sell their products for a better price and with fewer bureaucratic obstacles. On the one hand, some local people, for example traders, are skilled in navigating these different policies and can therefore take advantage of this situation. Non-state actors constantly adapt to multiple forms of national and local regulations in order not to be excluded from the production network (cf. Harris, 2013). Examples from our case are the demonetisation process in India in 2016 and the introduction of certificates of origin for collected yarsagumba in Nepal. On the other hand, non-state actors, like in our case the Indian collectors, feel powerless to influence their own state authorities to revise regulations and reform institutions to better suit their demands. As such, they command adaptive capacities, but only limited transformative ones (cf. Keck, 2016).

Along the product flow, yarsagumba transforms from an illegally collected and traded product in India into a packaged and sealed legal

product fit for transport from Nepal to China. The local population of the borderland and to some degree also the local authorities see the cross-border trade between India and Nepal as licit. They are aware that they are violating the governmental regulations, but these activities have a routine character and seem normal enough to participate in. The trade is socially accepted by collectors and traders and therefore legitimised by them (Scott, 1999).

State authorities in India and Nepal play several roles in the network dynamic and configuration. On the one hand, state authorities enforce regulations according to sovereign power through border controls and patrols, military presence and implementation of policies regulating the NTFP collection and cross-border trade. On the other hand, state authorities are also highly embedded in the cross-border network. They may interfere sporadically. Within a few hours or days, after the payment of a suitable official or unofficial fine, the violator is free again and life goes on as before. Following the arguments of Jones (2012), borderlands are territories with incomplete sovereign power. Often state actors use their power to allow themselves to operate outside the laws of the state, undermining the state's goals of regulations and order. In our case study, state authorities have not prevented or hindered the informal yarsagumba trade across the border, but rather have used it for their own personal gain.

Our findings show that in this informal setting with exchanges of high cash amounts where traders and collectors cannot rely on governmental institutions, social ties between actors are not only favourable, but even essential for non-state actors to build up their economic relations and dependencies between actors. As our two examples of Indian town traders demonstrate, actors are economically and socially embedded in the trade network. The behaviour of the actors in this formal and informal institutional, economic and social setting determines the trader's reputation and credibility as a business partner. Actors have to balance between profit, credibility and reputation to manage their own risks of fraud and betrayal by business partners, as well as of arrests by government representatives. They must also do this successfully to be considered trustworthy for their partners for future deals.

Due to their deep social and economic embeddedness in the cross-border trade network on the local level, town traders make transactions and resource flows possible. These traders mediate simultaneously between the centre and periphery, state and non-state actors and between actors across the borders. In contrast, international traders have the economic resources, but usually lack the social embeddedness and local knowledge that would enable them to be the dominant actors in the network. As such, the network relations are not spontaneous interactions, but all actors have clearly defined roles and functions and depend on each other, creating a well-established, organised and lucrative trade network operating across the border (Cf. Nordstrom, 2000).

As our case study shows, borderlands are determined by global production networks that develop through the interconnectedness across the border. Certainly, the ‘open’ border between India and Nepal facilitates the cross-border network. The alternative trading routes crossing the highly militarized border between India and China are perceived by traders as more difficult for smuggling and therefore are currently not preferred. However, even then, cross-border networks develop if the demand for the smuggled products and expected profits are high (cf. Doeveenspeck, 2011; Van Schendel and Abraham, 2005), as other studies from the neighbouring Garhwal region in India show (Caplins, 2016; Mathur, 2013). Governments have several options for reacting to these informal production networks. Either they ‘close’ the border further, which usually has limited success (cf. Doeveenspeck, 2011; Gellner, 2013; Jones, 2012), they restrict the illegal activities (cf. Goodhand, 2005), or they revise policies to provide opportunities to transform the informal network activities into formal ones.⁵ However,

⁵ In October 2018 the Uttarakhand State Forest Department in India approved

due to these well-established lucrative networks and the adaptive capacities of actors, policy revisions might not achieve what policy-makers intend them to.

6. Conclusion

By linking the concept of global production networks with key findings from borderland studies, our case study on the yarsagumba trade in the rural Kailash Landscape provides in-depth findings about the power and embeddedness of state authorities and non-state actors in the yarsagumba cross-border network. The configuration of the production network enables a network dynamic that undermines the function of the border as line of separation. The dichotomies of legal/illegal and formal/informal become blurred and regulatory spaces are re-interpreted. Actors are constrained and limited by the border, but at the same time the border provides them with new opportunities to improve their livelihoods. State authorities and non-state actors are closely socially and economically enmeshed with each other across the border, forming 'extra-state' configurations by using or bypassing state regulations for their own benefits. We conclude that these dynamics enable configurations of global production networks in borderlands, which constantly question, negotiate and subvert, but also re-enforce the border and with it the sovereignty of the state. Thus, the border has a clear effect on production networks and their immanent power relations, while at the same time production networks in borderlands strengthen the element of connectivity that characterizes borderlands.

Although the concept of GPN is very comprehensive including formal and informal arrangements, different types of actors and their embeddedness and power relations within the network, our case study shows that linking the concept of GPN with considerations of borderland studies differentiates the analysis of production networks further in terms of in-depth understanding of spatial, institutional and socio-economic dynamics in borderlands. As an outlook for further research on GPN we suggest considering the specific dynamics of borderlands as a peripheral area with demarcated territories and different regulatory spaces, but with high connectivity across borders and linkages to and dependencies on global markets. Thus, a borderland should be considered as one production and trade region including both sides of the border with different regulatory spaces.

Declaration of interest

None.

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(footnote continued)

a new regulation for yarsagumba allowing its marketing through registered traders independent from the state-organised auction system. This will reduce the power and embeddedness of Nepali traders in the GPN and strengthen the Indian collectors and traders to market their products via Indian middlemen to China directly. Yet, it is difficult to predict if traders will prefer the well-established route via Nepal or develop further alternative routes directly to China, and therefore the impacts on the current cross-border trade network remain to be seen.

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