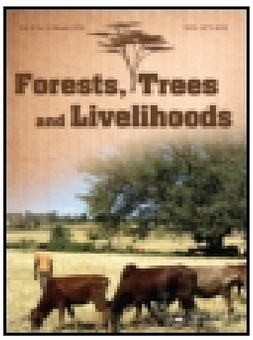

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Diversity of governance arrangements for indigenous natural products in communal areas of Namibia

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ABSTRACT

In several countries, it has been observed that development of policies and regulations for non-timber forest products (NTFPs) rarely follows a systematic approach. This paper characterises the diversity of governance arrangements for accessing and marketing indigenous natural products in communal areas of Namibia. Applying concepts from environmental governance, two main types of governance arrangements for accessing NTFPs are distinguished, i.e. community-level self-organised governance and network governance between the state and local communities. Application of the theory of global value chain governance reveals three main types of governance arrangements for accessing NTFP markets. These are: (1) market value chains for coordinating access to informal domestic markets, (2) captive value chains and (3) quasi-hierarchical value chains for accessing global markets. The arrangements for accessing resources and markets are further integrated into three main modes of NTFP governance in Namibia, i.e. network governance with high degree of state involvement; network governance with low degree of state involvement and active involvement of local communities and civil society; and a community-based self-organised governance at local level with dominance of local authorities. Considering this differentiated governance approach, there is scope for the development of an integrated policy framework that recognises NTFPs based on the different governance arrangements.

KEYWORDS

Non-timber forest products; indigenous natural products; governance arrangements; actor constellation; institutional configurations; access to market; access to resources

Introduction

During the last decades, many tropical countries have developed policies, laws and strategic actions that address management and trade of non-timber forest products (NTFPs) (Laird et al. 2010). In various countries, it has been observed that the main challenge facing decision-makers in developing policies for NTFPs relates to the diversity of interests of stakeholders involved in the management, use and trade of these products (Laird et al. 2010). This diversity reflects the multiple commercial, social and conservation objectives of using NTFPs (Laird et al. 2011). Due to this diversity, the governance of NTFPs is fragmented and

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often embedded in different sectors such as agriculture, forestry, wildlife and involving policies for industrial organisation and development. Considering the complex nature of governance arrangements for NTFPs, literature shows that there is a dilemma as to whether an integrated or species-specific approach should be undertaken in governing NTFP resources (Laird et al. 2011). In order to better understand this dilemma, there is a need to systematically characterise the governance arrangements for different types of NTFPs. Such characterisation can contribute to policy development by identifying issues that require further policy attention.

One of the countries in which NTFP development has received specific attention is Namibia. The government of Namibia has recently developed policies and regulations for what locally are called indigenous natural products (INPs). The various policies and regulations in Namibia pay special attention to INPs with high commercial values (Wynberg 2010; Cole 2014). The policies for promoting INP production are aimed not only at income generation and poverty alleviation, but also at biodiversity conservation, diversification of agricultural systems and their adaptation to climatic change (Du Plessis 2007). In order to implement these diverse objectives, the strategic action plan for INPs in Namibia draws upon policies in the forestry, wildlife and agricultural, sectors. Through the Indigenous plant task team (IPTT), the government of Namibia explores different development models for sustainable production and commercialisation of INPs (Schreckenberg 2003, p. 43; Bennet 2014). These models are partly influenced by the notion of community-based natural resource management (CBNRM) and partly by the industrial policies of Namibia (National Planning Commission 2008).

The paradigm towards CBNRM approach for sustainable resource management was introduced in Namibia following independence in 1990. The foundations of this approach were endorsed in the policy on Wildlife Management, Utilisation and Tourism in Communal Areas that was developed in 1995 and the Development Forest Policy for Namibia enacted in 2001. The CBNRM approach aimed at devolving authority over and benefits derived from natural resources to local communities. The reform occurred at a time when empirical evidence from other countries emerged to support views that collective sustainable management of common property resources is possible (Ostrom 1990; Murphree 1993). To strengthen the participation of local communities, Namibia also enacted the Traditional Authority Act in 1995. This act empowers traditional authorities to cooperate with different organs of the central government in ensuring sustainable utilisation of natural resources.

The Namibia Industrial Policy, which is anchored in the Vision 2030 for Namibia, calls for a change from a market structure based on production and export of raw materials to a diverse, competitive and resilient market structure, which offers value added and service-oriented products. To implement this policy, a programme on small business development has been established to provide incentives for manufacturing value-added products within Namibia (Republic of Namibia 2012). Sustainable commercialisation of natural resources is one of the prioritised sectors under this policy programme. Within the agricultural sector, the industrial policy is complemented by the Namibia Agricultural Policy of 1995 and 2015, which promotes cooperative development and agro-industrial investment for value-added enterprises. The objectives of cooperative development and agro-industrial investment both encourage access to agricultural inputs, technology and expertise as well as access to markets for agricultural products. The small business and cooperative development strategies have thus provided an institutional context through which access to global INP markets could be

established by upgrading the value chain and increasing the competitiveness of Namibian producers and SMEs.

As a result of these multiple development policies, the governance arrangements for INPs in Namibia are complex. This complexity reflects that NTFP governance is characterised by a variety of actors with specific interests in either access to resources or access to their markets (Wiersum et al. 2014). Although such complexity in governing NTFPs is common in most countries (Laird et al. 2011), little attention has yet been given towards a systematic analysis of the different arrangements in governing these products. The aim of this paper is to characterise the diversity of governance arrangements for INP development in Namibia in relation to actor's constellations and institutional configurations. In doing so, it contributes to the discussion on whether a country such as Namibia requires a comprehensive policy framework for a wide range of indigenous species or a complex set of species-specific policies, which address different categories of NTFPs.

Conceptual framework and research questions

The concept of governance emerged two decades ago in political science literature to reflect the changes in policy process from the traditional state-centric and top-down, command and control approach, towards a new multiactor and multilevel approach (Arts & Visseren-Hamakers 2012). Governance has thus been defined as 'the many ways in which public and private actors from the state, market and/or civil society coordinate public issues at multiple scales, autonomously or in mutual interaction' (Arts & Visseren-Hamakers 2012). Different modes of governance exist, each characterised by a specific combination of mechanisms and processes for decision-making and implementation (Lemos & Agrawal 2006). In each mode of governance, multiple actors interact to influence the desired actions and outcomes (Lemos & Agrawal 2006; Treib et al. 2007).

In order to understand the different dimensions of modes of NTFP governance in Namibia, we used the concept of governance as identified in the general public policy science literature as the starting point. In this literature, governance is conceptualised in terms of (1) the relationship between private and public actors in the process of policy-making; (2) the system of rules (institutions) which shape the actions of social actors; and, (3) the nature of policy instruments used in steering the policy implementation process. Considering these three dimensions of governance, Treib et al. (2007) suggest a classification of modes of governance based on institutional properties, actor constellation and types of policy instruments. Alternatively, Arnouts et al. (2010) identified governance modes on the basis of policy content (discourse), and policy organisation (rules, actors and power). These authors illustrate that in analysing governance the policy domain, the actor constellations and the institutional properties need to be considered.

Regarding policy domain for NTFPs, two main policy dimensions can be distinguished. The first dimension focuses predominantly on stimulating sustainable utilisation by considering issues such as land tenure and production systems as well as controlled harvesting systems (Pierce & Burgener 2010). The second dimension focuses on the governance of NTFP trade and value chains (Te Velde et al. 2006). The second dimension considers the different ways through which product value chains may be coordinated in order to trade NTFPs in different market structures. Such coordination does not only involve local markets, but also regional and global markets (Gereffi et al. 2005; Te Velde et al. 2006).

The actor constellations in NTFP governance consist of a variety of actor network relations. Many studies stress the diversity in governing environmental resources in the form of either traditional state centric authority or alternative forms of governance, such as self-governance, co-governance or markets arrangements (Lemos & Agrawal 2006; Treib et al. 2007; Kooiman 2008). This distinction may not only refer to the type of actors involved, but also to their relations as reflected by associated terms, such as hierarchical governance, collaborative management and self-governance by local communities and/or enterprises (Lemos & Agrawal 2006; Treib et al. 2007; Kooiman 2008; Arnouts et al. 2010). Also, in the value chain governance approach, NTFP governance may be categorised based on the type of actors involved and the actor relations in coordinating NTFP value chain. Coordinating access to a value chain depends on the producers and manufacturers ability to meet, and/or codify product specifications (Gereffi et al. 2005; Te Velde et al. 2006). In this context, a distinction is made between a captive (or hierarchical) value chain, a relational (or network) value chain and a market value chain (Humphrey & Schmitz 2000; Gereffi et al. 2005; Te Velde et al. 2006). Although this categorisation emphasises the relationship between different actor categories, it also implies that there are different types of actor networks.

Regarding institutional configuration, a distinction is made between governance arrangements that are based on legally binding and rigid rules, such as product quality standards, or those that are based on soft and flexible rules, which allow local actors to adapt rules to local circumstances and interests (Treib et al. 2007). External authorities enforce rigid and legally binding rules, such as product quality or manufacturing standards and procedures, while flexible rules are enforced at local level.

Using the above conceptual framework, the following research questions are addressed:

(1) Which actor constellations and institutional configurations for accessing INP resources have emerged in Namibia?
(2) Which actor constellations and institutional configurations for accessing INP markets have emerged in Namibia?
(3) What main modes of governance are reflected in these dual governance arrangements?

Research design and methods

Selection of case products

Seven indigenous species were purposively selected with the aim of covering a range of products with different characteristics, in terms of production systems (wild, domesticated or cultivated) and value chain market structure (Table 1). The selection also took into consideration the geographical location of the products, as well as the land tenure systems under which the products are found. On the basis of these criteria, the following species or groups of species were studied: *Harpagophytum* spp. (devil's claw), *Sclerocarya birrea* (marula), *Strychnos* spp. (monkey orange), *Commiphora* spp., *Ximenia* spp. (sour plum), *Imbrasia belina* (mopane worms) and *Citrullus lanatus* (Kalahari melons). Some of these species, notably devil's claw, have received much policy attention and are subject to complex governance arrangements. Other species such as mopane worms are mostly governed by customary-based informal governance arrangements.

Table 1. The characteristics of indigenous species selected for the study.

Species	Market structure	Production system	Biology and phenology
Harpagophytum procumbens and H. zeyheri (devil's claw)	International market	Large populations gathered in the wild in open access areas, conservancies and community forests	Perennial herb growing as a vine creeper on the ground
	Trade through a community-based organisation or middlemen	Also collected in commercial farms where it grows as a weed	Taproot and secondary root tubers are harvested
	Buyer-driven value chain (Cole & Bennet 2007)		
Sclerocarya birrea (marula)	International market	Mainly domesticated in farming units	A tree bears fruits, which are shed seasonally when ripe
	Trade through a producer association and a cooperative		
	Buyer-driven value chain		
Strychnos cocculoides and S. spinosa (monkey orange)	Only domestic market, No producer association or trade cooperative	Mainly domesticated in farming units	A tree bear fruits, which are shed seasonally when ripe
	Product sold in raw form	Few products are collected in community forests and open accessed forests	
Commiphora wildii	International market	Large populations located and gathered in the wild in communal conservancies	A shrub that excretes resin during the hot season
	Trade through a community-based organisation		
	Relational value chain		
Ximenia americana, and *X. caffra* (sour plum)	International market	Large populations are gathered in the wild in open accessed woodlands	The shrub sheds fruits when ripe
	Trade through a producer association and a cooperative		
	Buyer-driven value chain		
Imbrasia belina (mopane worms)	Only domestic market	Large populations gathered in the wild in open accessed woodlands	Adult worms are harvested, often indiscriminately, leaving no pupae for regeneration
	No cooperative or producer association		
	Sold in raw form		
Citrullus lanatus (Kalahari melon)	International market	Mostly growing through seed dispersal by domestic animals	Annual melon usually grown as feed for domestic animals. Increasingly also used for oil production
	Trade either through a producer association and a cooperative or thorough private SMEs	Increasingly purposefully planted or cultivated in farming units for oil production	
	Buyer-driven value chain		

Selection of study areas

The study focused specifically on the communal areas of Namibia. These areas were selected because they typically display a great diversity of institutional arrangements for accessing INPs and their markets. As detailed in the National Land Tenure Policy for Namibia, communal areas are characterised by both multiple forms of land tenure systems and different agro-ecological zones. INPs derived from these ecological zones are characterised by different types of production systems, and they are used for different products involving a variety of value chains. Eight political regions were purposefully selected for their differences in terms of indigenous species presence and of nature of the user groups (formal or informal): Kavango west, Kunene, Ohangwena, Omusati, Oshikoto, Oshana, Omaheke and Otjozondjupa, (Figure 1). The first six regions are located in the northern communal areas of Namibia, while Omaheke and Otjozondjupa are located in the central parts of Namibia.

Within each region, one to three study communities were selected; overall 12 communities were involved in the study. In order to obtain comprehensive data, each product featured in at least two communities. Table 2 summarises the study regions, communities and their associated species and products.

Methods of data collection and analysis

Four methods of data collection were used in order to allow for the triangulation of information. Firstly, in order to provide an explorative view of each product, focus group meetings were held with primary producers who either gather INPs from the wild, or in their agricultural farming units. The producers were drawn from producer associations or primary processor organisations (PPOs) as profiled by the Millennium Challenge Account-Namibia (MCA-N) for INPs (MCA-N 2010). Since *Strychnos* spp. and mopane worms are not listed under the MCA-N profile of PPO, study communities for these species were identified with guidance from the Directorate of Forestry in the Kavango west region (for *Strychnos* species) and the Uukwaluudhi Traditional Authority in the Omusati region (for mopane worms).

The focus group discussed the major characteristics of each product in terms of production areas, production systems, processing techniques and technologies, as well as trade and market structures from the downstream to upstream level of the value chain. In total, 12 focus group meetings were organised, the number of people in each group ranged from 2 to 12, and altogether, 69 people were involved. After the discussions, the main results were recorded in field notes.

Secondly, interviews were conducted with key informants who are involved in facilitating the INP activities of each study community. The 47 key informants (between one and six in each community) included traditional leaders, INP traders/exporters, government officials, officials of local non-governmental organisations (NGOs) and international development agencies, and members of community-based organisations, e.g. resource management committees and traditional authorities. The interview used a semi-structured questionnaire to guide the discussion. Interview discussions focused on the different formal (policies and laws) and informal institutions applicable to INP management and trade. The interviews and some focus group meetings were recorded using an audiotape, transcribed and later analysed by coding different aspects of institutional arrangements with the aid of the computer programme Atlas ti.7.

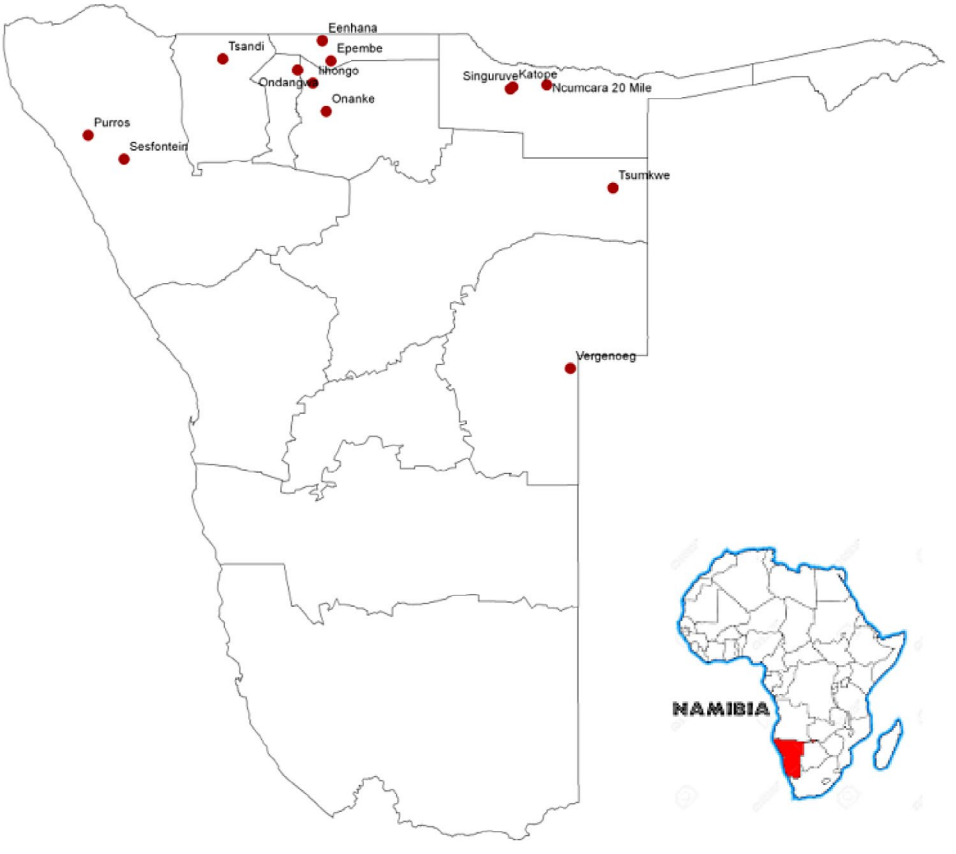

Figure 1. Location of study areas for the different kinds of INPs.

The third method of data collection consisted of direct field observations of the actual practices involved in the management, use and trade of INPs. All study sites were visited during the period when either harvesting, monitoring and inspecting, processing, or trading of the selected INPs, took place.

The fourth method of data collection consisted of content analysis of policy documents. This method was used to provide an understanding of the formal institutional context of INPs in Namibia and to confirm the information from the focus group discussions, interviews with key informants and field observations.

Governance arrangements for accessing resources

When considering the variation in INP governance in Namibia many respondents made an initial distinction in respect to whether or not the species is legally protected to assure its sustainable utilisation.

Most non-legally protected species (often characterised by non-destructive harvesting methods) are managed through a mode of self-governance that mainly operates at a local/community level and employs self and locally initiated rules and procedures. In this paper, we adopt the name 'community-based self-organised governance', because the actors

Table 2. The selected study communities, indigenous natural products (INPs) and their associated uses.

Study communities	INP species involved	Main INP products
Kavango west region		
1. Ncamukara community forest	*Strychnos cocculoides and S. spinosa*	Fruits: food, local brews
2. Nkurenkuru (Katope and Singuluve)	*Harpagophytum zeyheri* *Strychnos cocculoides and S. spinosa*	Roots: herbal medicine Fruits: food, local brews
Kunene region		
3. Puros conservancy	*Commiphora wildii* and *C. virgata*	Resin: essential oils,
4. Sesfontein conservancy	*Commiphora wildii* and *C. virgata*	Resin: essential oils, a cosmetic ingredient
Ohangwena region		
5. Eenhana	*Ximenia americana,* and *X. caffra*	Fruits: lipid oil, a cosmetic ingredient
Omaheke region		
6. Vergenoeg community	*Harpagophytum procumbens*	Roots: herbal medicine
Omusati region		
7. Tsandi/Uukwaluudhi community	*Imbrasia belina*	Food: source of protein
Oshikoto region		
8. Epembe	*Ximenia americana,* and *X. caffra*	Fruits: lipid oil, a cosmetic ingredient
9. Onanke	*Imbrasia belina*	Food: source of protein
Oshana region		
10. Iihongo association	*Sclerocarya birrea* and *Citrullus lanatus*	Food: edible oil Cosmetic: oil as cosmetic ingredients
11. Ondangwa	*Sclerocarya birrea* and *Citrullus lanatus*	
Otjozondjupa region		
12. Nyae Nyae and N#a-Jaqna conservancies	*Harpagophytum procumbens*	Roots: herbal medicine

involved are mainly located at local level and not at distant levels, e.g. government or markets. The legally protected species are usually accessed, managed and traded through a network form of governance. This network form of governance may constitute various hybrid forms (Lemos & Agrawal 2006, p. 311) often referred to as co-governance (Kooiman 2008). The term co-governance is, however, somewhat ambiguous as it may be interpreted as involving collaborative governance. We thus hereafter use 'network governance', which is characterised by different degrees of public and private actor involvement, and by the use of legally binding regulations, standards and procedures, as well as customary rules, norms and beliefs.

Community-based self-organised governance

Of the seven INP cases studied four involve non-protected species, i.e. *Commiphora* spp., *Ximenia* spp., mopane worms and Kalahari melon seeds. Depending on the specific nature of a species, and the land tenure in which the species is collected, there may still be several differences in respect to their precise governance arrangements. *Commiphora* resin is mainly collected from formally designated conservancies and community forests where a management committee authorises access to resources. Communal conservancies and community forests are new institutional structures emerging in communal areas, which grant local communities collective rights to wildlife and plant resources, respectively. Although these

institutional structures only provide rights to resources and not to land ownership, in some communities, they are perceived as a mean to secure communal land tenure (Legal Assistance Centre 2006; Bollig 2013). In communal conservancies, in the Kunene region, the harvesters of *Commiphora* resin are registered by the conservancy management committee under a user group association. User group associations for resin harvesting have been locally initiated, and there is minimal involvement of the central government, through the general support of the CBNRM institutional programmes in these areas.

Ximenia spp. and mopane worms are mainly collected from 'open access areas' (commonage land). The production and management of *Ximenia* spp. and mopane worm is under the control of the traditional authority. There are some local forms of controlled harvesting for mopane worms, but none for *Ximenia* spp. of which harvest method is non-destructive. In addition, the communities of the Ohangwena and Oshikoto regions, where *Ximenia* is collected, are located in remote areas with limited road infrastructure, making access difficult to outsiders. These characteristics make strict control of *Ximenia* harvesting irrelevant.

The harvesting of mopane worms often involves collecting all mature worms, which threatens the sustainability of the production. Some communities, such as the Uukwaluudhi in the Omusati region, have thus established customary based harvesting permits, which specify conditions and methods for harvesting these worms. Woodland inspections are conducted by community residents to ensure compliance with these customary rules and the traditional authority administers the revenue that is generated from the permit fees.

Although governing access to mopane and *Ximenia* does not involve government officials, the establishment and implementation of this self-organised INP governance received political support: For instance, the mopane worm management committee in the Uukwaluudhi traditional community reported that the customary-based permit system was discussed and approved by the central government.

Kalahari melon grows in farming units located in communal areas. It is characterised by yet another form of self-organised governance arrangements. As this INP is produced in farming units that are culturally perceived as private lands, exclusion of external harvester is relatively possible as compared to open access areas of communal lands. Individual farmers collect melons within their farm units and extract seeds, which they sell either to trade cooperatives or to small and medium-sized enterprises (SMEs) that further process and sell Kalahari melon oils to international markets.

Network governance

Whereas unprotected indigenous species tend to be regulated by a system of community-based self-organised governance, network governance is predominant for legally protected species. The three legally protected species, i.e. devil's claw, marula and *Strychnos* spp., are all accessed and managed with the involvement of both government officials and local people. However, these species are subject to a varied degree of involvement from public actors and distinct hybrids of network governance can be distinguished.

The level of intervention by public actors is high for devil's claw, which is considered as being subject to destructive harvesting. One key informant asserted during the interviews that 'the only, real issue regarding sustainability is mainly around devil's claw, because many of the other species we deal with', such as marula, Ximenia or Commiphora, 'fall under a non-destructive harvesting method.' Devil's claw is used in the manufacturing of herbal

remedies, pharmaceutical products or veterinary medicine. The species is found in community forests, communal conservancies, private commercial farms, resettlement farms and open access areas. Its harvesting involves digging and removal of the secondary tuberous roots, which makes the species susceptible to destructive harvesting. The increasing commercial demand for devil's claw, especially in 1998 and 1999, coupled with unsustainable harvesting practices has made this species very vulnerable to overharvesting and raised concerns from the international community regarding its overutilisation (Hamunyela 1999, p. 10). As a result, the need for re-institution of the binding and mandatory permit system that was abandoned in 1986 was recognised. A formal harvesting permit, which regulates the harvesting, purchase and export of devil's claw tubers, was then re-introduced in 1999. The permit requires that devil's claw harvesters and traders are registered with the Ministry of Environment and Tourism (MET) and that they submit annual reports on the quantities of tubers harvested and sold, respectively.

In addition, the Nature Conservation Amendment Act (Act No.5 of 1996) requires that devil's claw harvesting applications be approved by a local legitimate community-based organisation (CBO). This approval should be given at local level before MET issue the actual harvesting permit. A CBO may either be a traditional authority in open access areas, an elected management committee in communal conservancies and community forests, or a local trust (e.g. in Bwabwata National Park where there are people residing in the park). These legal requirements show a high degree of application of mandatory policy instruments. This form of network governance is thus characterised by a dispersed locus of authority located at local, national and international levels.

The regulation and public involvement for Marula and *Strychnos* products is more passive. Pending the finalisation of the regulations for the Forest Act No. 12 of 2001 these species are formally protected under the old Forest Act No. 72 of 1968 and Forest Ordinance of 1952. Notwithstanding these binding regulations, the species are characterised by a low degree of state intervention. The NTFP production from these trees is characterised by a non-destructive harvesting method because harvesters collect already fallen fruits. Moreover, many fruits are collected under trees that have been preserved or raised in farming units, where production is controlled by the individual farmers. Given these characteristics, the government regulations primarily relate to the control of cutting trees rather than to fruit harvesting. The involvement of the central government is thus very limited, although the governance arrangements for marula and *Strychnos* can formally be typified as network governance.

In conclusion, two main governance arrangements for accessing INP resources may be distinguished: self-organised governance and network governance with either a low or high degree of state involvement.

Governance arrangements for accessing INP markets

Governance arrangements for accessing INP markets also show differences. The variation in these arrangements largely depends on the product demand in the market, as well as on the capacity of the INP supplier to meet product quality specifications demanded by different market segments. Moreover, these arrangements are also related to the 2001 Strategy and Action Plan for Promoting Indigenous Fruits in Namibia. Under this action strategy, the commercial viability of a particular product – function of its quality specifications and of the existing demand of the product – determines the type of investment support that a product

receives from the government through the IPTT. In this respect, two main types of markets can be distinguished, i.e. domestic and international. The domestic and international markets do not only differ in respect to their formality, but also in relation to the value chains involved. Whereas products sold on domestic markets mainly involve raw products, exported products are often subject to some form of semiprocessing. These different INP value chains involve quite different actor constellations and institutional configurations, and the relations between suppliers and buyers may be governed or coordinated through either a market, a captive or quasi-hierarchical value chain.

Market value chains for accessing informal domestic markets

Out of the seven INPs covered in this study, mopane worms and *Strychnos* fruits are mainly sold on informal local markets across the country by primary producers. While *Strychnos* fruits are sold raw, mopane worms are processed with traditional methods such as drying or smoking under hot ash. There is no quality regulation for these INPs and their value chains are therefore not hierarchically regulated by either the state, or by any domestic lead firm.

Captive value chains for accessing international markets

In contrast to mopane worms and *Strychnos* fruits, the other INPs studied are often subject to some form of semiprocessing. The case of devil's claw is a classic example of a captive value chain model (Cole & Bennet 2007). Namibia supplies about 95% of the world's market for devil's claw products (Republic of Namibia 2010). However, the buyers are in a relatively powerful position in the value chain as they possess the technical skills and knowledge to further process the locally produced dried devil's claw slices to conform to the product specifications of manufacturing companies, which further process devil's claw into endproducts, often for international markets.

Due to this high commercial demand, and to the threat of destructive harvesting practices, the devil's claw trade is strictly regulated and the government, assisted by NGOs, is stimulating product standardisation, e.g. through organic certification. In addition, importers (mainly in Europe) require Namibian exporters to comply with the European Pharmacopoeia (Ph. Eur.), which specifies the level of *harpagoside* content in devil's claw materials, and requires that devil's claw materials are sourced in line with the Good Agriculture and Collection Practices (GACP) for medicinal plants as formulated by the World Health Organisation. These GACP standards were formulated following consumer concerns on the sustainability of plants that are harvested from the wild for herbal remedy industries.

Until 2014, the Namibian producers of devil's claw were not organised into a trade association, which meant they were unable to negotiate for a better price of the sliced devil's claw tubers. Value-added products from devil's claw, such as powdered and compacted capsules and devil's claw tea, are produced in Namibia on a small-scale-level targeting domestic and regional markets. However, a stable international market for such value-added products has not yet been secured, and most international importers still require that Namibia exporters supply devil's claw in its semiprocessed form as sliced and dried tubers. Consequently, in terms of value addition, the processing companies have no incentive to provide external support and investment to the Namibian devil's claw primary industry. The relationship between the Namibian exporters of sliced devil's claw and the importers is

therefore far from a mutual or interdependent relationship. There are thus no signs of a transition from the existing captive value chain of devil's claw to a network type of value chain.

Quasi-hierarchical value chains for accessing international markets

Other INPs that are manufactured and traded on formal markets are characterised by relational value chains. In these cases, there is an increasing cooperation between the public sector, NGOs and private sector for setting standards and assisting producer cooperatives in improving their technical know-how. Within these relational value chains, the power on standard setting and decision-making is often still concentrated amongst processing companies and external NGOs. Consequently, we characterise these arrangements as involving a quasi-hierarchical value chain arrangement.

These arrangements may take different forms. A first example involves marula oil, which is produced by the Eudafano Women Cooperative (EWC). This oil is mainly sold to Aldvia, a processing company that supplies Body Shop International (BSI) with cosmetic oil ready for formulations. This value chain is characterised by community fair trade arrangements between the EWC and the BSI in order to stimulate value addition and provide secure access to niche markets for marula (as well as Kalahari melon) oil. This arrangement was supported by various national and international development organisations which provided both technical and financial support to EWC to gain access to markets that would otherwise be inaccessible.

A second example involves contractual agreements between CBOs and private companies to structure the price of *Commiphora* resin in line with the principles of access and benefit sharing as formulated in the Convention on Biological Diversity and the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilisation. A contractual agreement between the Kunene Conservancy INP trust (KC-INP) and the private company Afriplex was established to provide the KC-INP trust the right to sell *Commiphora* resin to Afriplex at a premium price that is 10% higher than the standard sale price for resin. The premium price involves remuneration to communities identified as owners of the traditional local knowledge that was used as the basis for resin commercialisation.

Other examples of creating new forms of collaboration between public and private actors in marketing INPs emerged under the MCA-N and the Ministry of Industrialisation, Trade and SME Development (MITSMED). The MCA-N has established an innovation facility through which new technologies for value addition and new business options are explored. Within the framework of a special INP project under the MCA-N, an innovation fund was established to stimulate new public–private partnership projects for developing, testing, analysing and promoting different processing techniques for INPs. This innovation facility provides support to several INP-based SMEs to obtain processing equipment and to upgrade manufacturing skills.

Likewise, the programme of equipment aid scheme and the provisions of affordable business outlets and workshops under MITSMED has been commented by various respondents. The SMEs, especially in the cosmetic industry, indicated that the programme was useful in terms of developing the competitiveness of the national cosmetic oils industry.

Main modes of governance for INPs

Our analysis illustrates the two-dimensional nature of INP governance with access to resources and access to markets being governed by a specific set of governance arrangements in the form of actor constellations and institutional configurations. The actor constellations for accessing resources can be characterised by two basic models of governance *sensu* Kooiman (2008), i.e. self-organised governance and network governance with either a low or high degree of state involvement. These arrangements can be further characterised by the institutional configuration of policy instruments used to select policy measures, the steering of policy implementation and the organisation of relationships between private and public actors. The main characteristics for accessing the seven INPs studied are summarised in Table 3.

In addition, in respect of the governance arrangements for access to markets, three main types of actor constellations can be distinguished in the form of market, quasi-hierarchical and captive value chains. Arrangements to access markets mainly depend on the ability of INP suppliers to supply products according to market specifications, and/or to codify product specifications. The main characteristics for accessing markets of the seven INPs studied are also summarised in Table 3.

As illustrated in Table 3, the governance arrangements for accessing resources and markets for specific species are often related in specific combinations. Consequently, three general modes of governance may be recognised. The network mode of governance with a high degree of state involvement combines a strongly legalised system for accessing resources with a captive value chain arrangement for accessing markets. This mode of governance is of special relevance to species that may be threatened by the method of harvesting and subject to strong conservation concerns. The network governance with a low degree of state involvement combines a relatively low level of state interest in regulating access to resources, with public–private partnership for provision of access to markets through a relational value chain arrangement. This mode of governance involves both protected and non-protected species with an established commercial value. Finally, the community-based self-organised governance mode involves informal traditional authority on accessing resources and domestic markets. This is the main mode of governance for locally collected and grown species in which products are destined for informal domestic markets.

Discussion

Our study illustrates the relevance of considering NTFP governance as involving two interacting policy domains, i.e. policies related to accessing NTFPs in different land tenure and production systems, as well as policies related to access to NTFP markets. It also shows how the governance arrangements for each policy domain are characterised by specific combinations of actor constellations and institutional configurations.

Arrangements on access to resources are largely influenced by the legal position of species in respect of their conservation and sustainable utilisation and by the different categories of communal lands in which INPs are collected. Arrangements for accessing markets vary according to differences between domestic and international product demand, and to the relations between product suppliers and buyers.

Table 3. Governance arrangements for access to indigenous species and their markets.

	Arrangements for access to resources		Arrangements for access to markets		
Mode of governance	Type of actor constellation	Institutional configuration	Type of actor constellation	Institutional configuration	Species involved
Network governance	High degree of state involvement with dominance of public actors	Access rules highly institutionalised by legal instruments Dispersed locus of authority at multiple levels	Captive value chain with domination of lead firms operating at international level	International market specifications on quality and trade coupled with commercial marketing institutions	Mostly legally protected INPs produced for international markets, e.g. devil's claw
Network governance	With low degree of state involvement and dominance of local authorities Active involvement of civil society and different market structures	Legal instruments passively implemented and prevailing customary rules	Relational value chain (quasi hierarchical) between organised producers and manufacturers, often involving non-governmental facilitators coupled with selective state activities	Market institutions coupled with development programmes of NGOs and the state in respect of SME and cooperatives development	Both protected and non-protected commercial species with industrial value, e.g. marula, *Commiphora* and Kalahari melon
Community based self-organised governance	At local level with dominance of traditional local authorities, sometimes stimulated by indirect support from the state	Flexible community norms based on customary rules	Informal market value chain involving numerous local producers and buyers	Domestic marketing institutions with informal relations between buyers and suppliers No lead firm in the value chain structure	Mainly unprotected species destined for informal domestic market, e.g. mopane worms, and *Strychnos*

Our analysis also illustrates how INP governance is often species and product specific. This demonstrates that a governance system does not only consist of a system of governance, but also of the object to be governed, i.e. the substantive component of governance (Kooiman 2008). The study thus highlights the key importance of the concerns on sustainable use and conservation as well as on product value chain relations. These concerns impact significantly on the institutional framework for accessing a resource and further determine the development of production systems in different land tenure systems. The production systems range from wild collection in open access areas to domestication in privately managed farming areas (Ros-tonen & Wiersum 2005). These different levels of management intensity are related to the different institutional arrangements in respect to access to resources.

Results from this study show that the institutional constellations at local level may be significantly altered when commercially valuable species are threatened by unsustainable harvesting methods. In such cases, governments may introduce regulations to ensure sustainable production. Consequently, as illustrated by the devil's claw case, protected species that are characterised by wild gathering tend to be governed by network arrangements with extensive involvement of government officials. In contrast, there is little involvement of government officials for semidomesticated species that are growing on farming units and not subject to destructive harvesting, such as marula and *Strychnos,* even though they are also formally protected species and may not be cut without permission. The access to these semidomesticated species is controlled largely at local level by networks involving traditional leaders and individual small-scale farmers. In this arrangement, land and resources are perceived as *de facto* private property, and government involvement is not necessary. Wynberg and Laird (2007) analysed the governance arrangement for marula in detail and concluded that government interventions are not very useful, because the existing traditional and customary rules for this species are very strong.

Our study also highlights the differentiation between governance arrangements in respect of their marketing characteristics, especially in case of internationally traded products. The presence of international rules and regulations on product quality and control of threatened species requires active state involvement. Such state involvement is also needed to control value chain relations. The access to global value chains for most of the high value INPs from Namibia is mainly coordinated through either captive or quasi-hierarchical value chains. These types of value chains have been narrowed to practices involving community fair trade, certification and benefit sharing. Most INPs with medicinal and cosmetic value are exported from Namibia semiprocessed with limited value chain upgrading and at relatively low product prices. To overcome these limitations, Namibia recently explored options for developing different forms of local investments to encourage value addition and competitiveness of the Namibia INP primary industry. These findings reflect the observations by Humphrey and Schmitz (2000) that since developing countries are often characterised by a lack of advanced technical capacity for engaging in upstream activities (e.g. product design and product definition), these countries tend to remain locked in less favourable captive or hierarchical value chains.

The global value chain literature suggests that value chain upgrading and competitiveness at a local level may be achieved through links with the external world, or by investments at a local level (Humphrey & Schmitz 2000). Links with the external world allow local enterprises to take up new tasks from international lead firms, thereby allowing local enterprises

to gain access to high demanding value chains. Our study shows that captive and quasi-hierarchical value chains in Namibia have limited options for product upgrading because it is not in the interest of importing firms to upgrade INPs within Namibia. This shows that an alternative for Namibia would be local level investment such as close interfirm cooperation, active private-public partnership, as well as donor or government funded projects for building capacity for local SMEs. These options have also been identified in value chain literature (Schmitz & Nadvi 1999; Humphrey & Schmitz 2000).

The Namibian examples illustrate how network modes of governance with minimal state involvement may gradually be further adjusted by strengthening involvement of the state acting in cooperation with international development organisations. As a result, the focus in developing INPs has gradually widened from initiatives for improving access to resources to initiatives to stimulate cooperation and linkages between local processing enterprises and development organisations in order to improve producer access to high value markets. Such improved cooperation and joint actions also provide opportunities for suppliers to access specialised experts and innovative knowledge, as well as input and services (Schmitz & Nadvi 1999).

Such new types of partnership relations and institutional configurations are still in their infancy in Namibia. Nonetheless, our study illustrates how a systematic analysis of the multidimensional nature of the modes of governance for NTFPs can assist in the identification of innovative governance models that involve new types of partnership relations for dealing with institutional problems, which may include enterprise development but also producer representation, standardisation of product quality, contractual product supply and market transparency.

Conclusion

Our study illustrates the multiple dimensions of NTFP governance systems and highlights the importance of considering both the two-dimensional nature of NTFP governance systems and its product specificity. Considering the complexity of governance arrangements, the Namibian INP policy should ideally be based on a differentiated and species-specific approach rather than a generic approach under the umbrella of either the forestry, agriculture or wildlife sectors. In fact, the IPTT, which is a multistakeholder forum responsible for coordinating INP activities in Namibia, has adopted a 'pipeline approach' (Cole (2014) in which different products in the production and marketing chain are given a differentiated and flexible support for product development. This multidimensional and product specific development approach can further be strengthened by developing a systematic overview of the diversity in the modes of INP governance and related development options. In doing so, attention needs to not only be given to improving access to resources and their production, but also to local investment to build capacity of local SMEs for value chain upgrading. Furthermore, creation of new partnership relations for accessing sustainable markets need to be encouraged in order to improve competitiveness of local SMEs.

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