

A fine mess: bricolaged forest governance in Cameroon

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Abstract: Value chains of Cameroonian non-timber forest products move through harvesters, processors and traders, to consumers locally and worldwide. This paper characterises six governance arrangements governing eight such chains: statutory and customary regulations, voluntary market-based systems, international conventions, project-based systems and corruption. Governance is messy with overlapping, multiple layers of institutions and actors. There are voids where no institutions govern access to resources and markets; some actors fulfil roles normally the reserve of the state. In some chains the state performs its duties, in others not, and other institutions fill the gaps. To negotiate this complexity, many actors have become adept ‘bricoleurs’. They make the best of the arrangements in which they find themselves, and creatively use capitals available, building on natural capital to construct new governance arrangements and/or remould existing ones to meet their current objectives, circumstances and livelihoods. This ‘fine mess’ makes examining the impacts on the livelihoods

of participants and their sustainability challenging. A measure of governance intensity and extensive fieldwork was thus used to research this. Results indicate strong trade-offs between natural, social and economic capital, creating winners and losers. Trade-offs between livelihoods and sustainability are most acute either when there are no governance arrangements; when arrangements do not take account of the susceptibility of a species to harvesting; or when they do not balance supply and demand. Policy challenges and opportunities include recognising and dealing with pluralism; reconciling conflicting rules; hearing the voices of silent stakeholders; learning from failures and raising chain visibility by recognising natural and socio-economic values.

Keywords: Bricolage, Cameroon, forest governance, institutions, livelihoods, non-timber forest products, value chains

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1. Introduction

Leaves and nuts from Cameroon's vast lowland humid forests; honey, bamboos and gum arabic from the savannah; and barks, honey, raffia, bamboo and cola nuts from the mountain forests have been used for centuries. These non-timber forest products (NTFPs) are of biological origin and derived from natural, modified or managed forested landscapes and wooded land and trees outside forests (Belcher 2003; Ros-Tonen and Wiersum 2005). They are used for subsistence, medicine, food, energy, tools and cultural uses. They have been traded near and far, generating cash and creating markets currently worth over 32 million US\$ annually (Ingram 2012). A forest value chain denotes the people and organisations (termed 'actors') and activities involved.

These products move and change in value and substance from the forest through harvesters, to processors, traders, and retailers to consumers in Cameroon and worldwide. The chains operate in dynamic, changing and complex settings. Whilst the harvest zones in Cameroon are characterised by persistent poverty and low levels of infrastructure, in urban areas people have been gradually becoming wealthier. Their social and economic development has increased, stimulating economic growth (de Wasseige et al. 2012). Forests are increasingly cleared for agriculture, urbanisation, infrastructure and for timber and mineral extraction (de Wasseige et al. 2012).

Livelihood benefits from NTFP harvesting and trade have been widely acknowledged, but the sustainability thereof is subject to concern (Sunderland et al. 2011). Overharvesting has been amply reported (Cunningham 2001; Ticktin 2004; Marshall et al. 2006). Governing NTFP chains for sustainability is therefore necessary to guarantee long-term livelihood security to actors involved in the chain. A livelihood is deemed sustainable when it can cope with risks and recover from stresses, shocks and when it is capable of maintaining or enhancing capabilities and 'capital' (human, economic, social-cultural, physical, political and natural), both now and in the future (Chambers and Conway 1991). Due to the diversity of products and contexts there is however no 'one-size-fits-all' solution for sustainable NTFP management (Ticktin and Shackleton 2011). This raises the question of how different governance arrangements are combined into context- and product-specific configurations and how these affect the sustainability of livelihoods, trade and resource management. This paper addresses this question for eight NTFP chains from Cameroon.

The term chain governance was coined to denote the relations and relative powers between actors along the chain (FAO 2007). Governance is defined here as the interactive process of rule-making embedded in a broader societal process based on social practices, values and principles (Wiersum et al. 2013). It comprises the mechanisms and processes by which (a) people and groups articulate their interests, (b) authority is conferred on rulers, (c) they make, enforce, modify and sanction the rules, and (d) rights and obligations are exercised (Ostrom 1990). Governance arrangements are the interplay of interactions, institutions, actors, principles, policies, mechanisms and processes (Bavinck and Kooiman 2005) and may not always be an integrated system. Institutions enable and shape individual, group and social expectations, interactions and behaviour through the rules, norms and processes that define how people interrelate and act within and outside of organisations (UNDP 1997; Bavinck et al. 2005, 2013). These institutions can change over time or space, be formal or informal, and are interlinked with knowledge, power and control.

Concepts of regulatory and legal pluralism (Wollenberg et al. 2001; Tamanaha 2008) and multilevel governance (Mwangi and Wardell 2012) acknowledge plural statutory and customary governance on different levels. The picture is however yet more complex in practice, with multiple systems shaping chain activities and different actors introducing, influencing and shaping institutions, values and norms. The term 'institutional bricolage' (Cleaver 2002) was coined to analyse this complexity. It refers to the cross-cultural borrowing of institutional arrangements and their underlying norms, values and social relationships, and the crafting of new arrangements. This leads to multipurpose institutions and arrangements that foster cooperation and advance livelihoods, individually and collectively (Cleaver 2002). The term *bricolage*¹ (Lévi-Strauss 1966), refers to making do with whatever is at hand. It has also been used for bringing together

¹ From the French for 'fiddle' or 'tinker' or to do-it-yourself, making creative use of whatever materials are available to complete a task, regardless of their original purpose.

diverse theoretical and philosophical human sciences concepts (Kincheloe 2001). Productive bricolage focuses on livelihoods as the flexible and dynamic crafting of livelihood options and associated impacts on landscapes (Ros-Tonen 2012).

Literature capturing and making explicit how different governance arrangements occur and interact over time, place and for different forest products and their markets, is scarce. In particular there is no method to measure the strength or intensity of different configurations of (plural) governance arrangements. Such a method can illustrate contrasting impacts of governance arrangements, as well as the nature of competing claims over access to NTFP resources and markets, and measure these in both a qualitative and quantitative way. This is important, because, as Ribot and colleagues (2006, 1878) state, “the multiple, competing and sometimes violently conflicting claims over forests resources (...) eviscerate the ability of any authority to protect [them]”.

Against the context of poverty and forest degradation, and the conceptual notions above, the aim of this paper is to disentangle the ‘fine mess’² of the arrangements governing eight NTFPs value chains originating in Cameroon. In doing so it aims to contribute to critical institutionalism theory (Cleaver 2012) that seeks to illuminate the complexity of institutions in everyday life, their formation, and the interplay between traditional and modern, formal and informal arrangements.

2. Methods

Case studies of eight NTFP chains were conducted in Cameroon between 2004 and 2010: eru (*Gnetum* spp.), apiculture products originating from the African bee (*Apis mellifera adansonii*), pygeum (*Prunus africana*), cola nuts (*Cola* spp.), bush mango (*Irvingia* spp.), raffia products (*Raphia* spp.), bamboos (*Yushania alpina* and *Oxytenanthera abyssinica*) and gum arabic (three *Acacia* spp.). These chains were selected from a list of over 700 NTFP species identified based on literature review, trade data, and observation in markets and key respondent interviews from harvesters to consumers in the major production areas. Criteria guiding the selection of chains included (i) high economic and social value, (ii) having local, national and international chains, (iii) having different types of arrangements and (iv) having Cameroon’s major ecological zones represented. The latter include the Afromontane forests in the Northwest and Southwest regions, the Sudano-Zambezian savannah forests of Adamaoua and Extreme North regions, and the Guineo-Congolian lowland humid forests in the Southwest, Centre, Littoral and East regions (Figure 1).

² Silent, silver screen actors Stan Laurel and Oliver Hardy coined the catchphrase “This is another fine mess you’ve gotten us into”. Similarly NTFP chain actors often have little or no voice in formal governance and act to create their own ‘messy’ arrangements that work well for them. ‘Fine’ in Cameroonian pidgin means ‘good’ or ‘well’. The phrase implies both negative and positive impacts simultaneously.

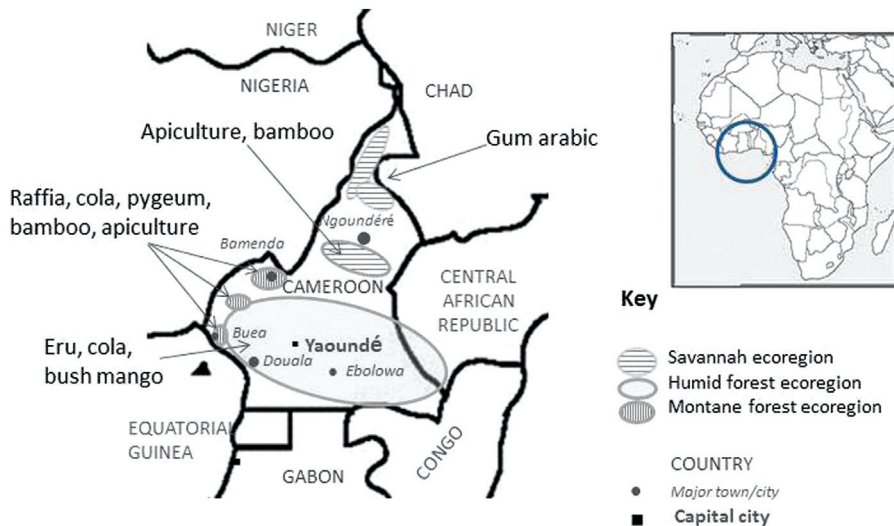


Figure 1: Research sites of NTFP chains in Cameroon.

In-depth data on the eight chains was gathered through semi-structured interviews with 2,113 direct actors (harvesters, processors, traders, retailers, their associations and consumers) and 82 indirect stakeholders (customary and regulatory authorities; research, nongovernmental, civil society, project, multilateral and bilateral organisations; convention and certification agencies; and service providers). The interviews covered product characteristics, sources and uses, actors, activities, values, governance arrangements, livelihoods and sustainability aspects. A literature review, situational analysis (adapted from Steenburgh and Avery 2010) of ecological, socio-economic and entrepreneurial operating contexts and prevailing governance arrangements, and trade data helped increase data validity. Impacts were assessed using value chain analysis (Kaplinsky and Morris 2000) and participatory action research (McNiff and Whitehead 2002). Botanic inventories and assessments allowed an assessment of the resources and sustainability of harvesting. Quantitative data from the surveys and interviews was processed using SPSS.

A review of governance indicators (Graham et al. 2003; Hyden et al. 2008; Ribot et al. 2008; Ibrahim Foundation 2010; Kaufmann et al. 2010; World Bank 2010) and institutional design principles (Ostrom 1990; Scott 2001; Agrawal and Chhatre 2006; Cox et al. 2010) yielded twelve indicators (Table 1). Based on the results of interviews, situational analysis and value chain analyses for each chain, six governance arrangements were identified and scored, with their existence and intensity rated along a continuum from strong (10) to non-existent (0) (Table 1). In between the five scores are gradations where some, but not all of the criteria were

Table 1: Existence and intensity scoring of governance arrangements.

Indicators	Score				
	Strong 10	Clear 8	Moderate 5	Weak 2	Non-existent 0
1. Existence of an institution and rules/norms known and named	Well known by all actors; clearly stated	Stated by majority of actors	Named, some rules known	Not clear, few rules discernible	Not stated or known
2. Boundaries of rights known by chain actors	Well known and stated by all actors	Known by most	Known to some	Little known	Not known
3. Monitoring and compliance with rules	Frequent	Occasional	Infrequent	Low	None
4. Frequency of use of sanctions and enforcement	Frequent	Occasional	Infrequent	Low	None
5. Use of conflict resolution mechanisms	Well-used	Occasional	Infrequent	Little used	Not used
6. Use of individual and collective action to develop and modify rules	Well-used	Occasional	Infrequent	Little used	Not used
7. Nesting horizontally (within a particular scale) and vertically (value chain)	Well-nested, both horizontally and vertically	Partially horizontal and vertical	Some horizontal/ and/or vertical	Low horizontal or vertical	None
8. Level of accountability and dependence on actors	High level	Moderate	Low	Minimal	None
9. Moral grounding and (democratic) legitimacy of power	High level	Moderate	Weak	Very weak	No
10. Location of decision making clear to actors	High level, clear to actors	Known	Uncertain	Vague/unclear	No
11. Longevity of institution	Long lived	Long to medium term	Medium to short term	Temporal	None
12. Participation of actors	Frequent	Occasional	Infrequent	Low	None

met. The scores for the indicators were averaged for each governance arrangement and summarised diagrammatically to enable product comparison across chains (Figure 2). A panel of academics and practitioners (see acknowledgements) verified the scoring method and results, which were subsequently adjusted taking their feedback into account.

Three of the indicators in Table 1 (no. 1, 3, and 9) were used to measure the legitimacy of the governance arrangement. Legitimacy is defined as acknowledgement of the existence of a governance arrangement, belief in its moral grounding and compliance with rules, which is associated with reduced costs of enforcement and compliance (Kooiman et al. 2005). The average score of the three indicators for each governance arrangement in a chain provides a basis for ranking their legitimacy.

3. Results

The following six types of governance arrangements were found to exist in the chains.

3.1. Statutory arrangements

Statutory frameworks are well-known governance arrangements. In the 1990s international agencies, particularly the World Bank, pressured the government to promote laws incorporating forest products and services other than just timber.

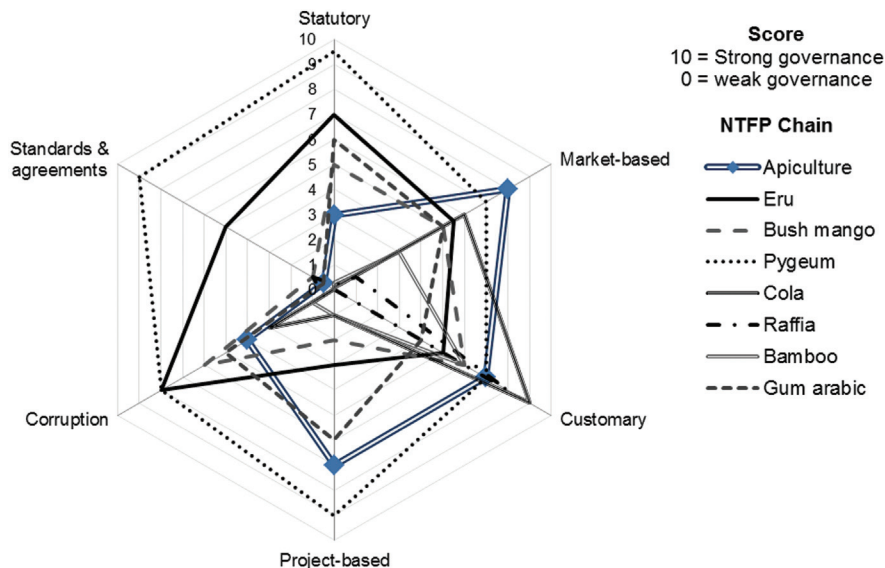


Figure 2: Intensity and presence of governance arrangements in eight NTFP chains from Cameroon.

These processes culminated in the 1994 Forestry and Wildlife Law 94/01 and its implementing Decree 95/53-PM of 1995. Up to sixteen special forestry products (*produits spéciaux forestiers*)³ have been listed annually since 2006,⁴ around 13 of which are NTFPs. These products represent “a particular interest to Cameroon” and so are regulated through annual demand-based agreements (*gré à gré*) and quotas, exploitation permits, export authorisations and transport waybills (*lettre de voiture*). However well-intentioned, the 94/01 law was developed without adequate or meaningful consultation with people using and trading NTFPs. It has since proved largely ineffectual and often undermines the objectives it sought to achieve (Mvondo-Assembe 2009). Despite provisions to define harvesting and inventory norms, none have been implemented. The statutory framework is poorly defined, illogical, inconsistently applied and randomly enforced. This results in a few highly traded products being strongly regulated, such as pygeum, and a few that are regulated occasionally, such as eru and bush mango. Most NTFPs are not regulated, including the well-known and ancient trade in cola, bamboo and raffia (Laird et al. 2010). Since 2010 the 1994 law has been subject to an extensive consultation process for its revision, only now nearing completion.

3.2. Customary arrangements

The *de jure* reality is that forests are largely customarily governed. This makes people living in and using forests, according to formal regulations, squatters on government-owned land and forests (Alden Wily 2011). These forests are subdivided by clan, family and individual ownership. Use rights are governed through complex systems of short and long-term leases, loans, gifts and inheritances, which may differ depending on which ethnic group dominates access to the resource. These customary norms determine who owns resources and may access them; where and in which quantities harvesting may take place; and who benefits and how. Although customary use rights differ across Cameroon, in general harvesting NTFPs on land held by a clan or family may take place only with the family's permission. On communal lands any member of a community can harvest products for subsistence use, but for high value products for sale (such as pygeum, eru and bush mango), approval is generally required from the chief or village council. Outsiders often require permission to harvest and in kind or cash compensation before or after harvesting. In some communities, conflicts occurred when such proceeds were not used to benefit the wider community.

3.3. Market-based governance

Market-based governance refers to institutions controlling demand and supply transactions in chains and the interactions between actors. An example is the

³ Article 9 of 94/01Law.

⁴ Decision N° 0336/D/MINFOF 6 July 2006 ‘Setting the List of Special Forestry Products representing a particular interest to Cameroon’.

creation of unions and associations that regulate access to markets by making membership conditional for market access. Other examples include traditional *tontines* or *njangi* groups that provide access to credit. Harvesters and retailers in the eru, bush mango and honey chains, and many harvesters engaged in such groups. At transnational level examples found were voluntary certification schemes in the honey chain such as the Geographical Indication (GI). This is a voluntary scheme, regulated by EU Directives, which promotes the quality and authenticity of products based on their geographical location and culture.

3.4. Standards and agreements

Another governance layer is formed by international standards incorporated into national law and voluntarily complied with by states, which generally become obligatory for chain actors. They are dynamic and reflect species status and social-economic and political developments over time. They include the IUCN Red List of Threatened Species, which has triggered conservation actions from NGOs, governments and researchers (Thompson 2009). The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is an international agreement between governments, to which Cameroon acceded in 1981. Legally binding on its parties, it provides a framework for implementation within national legislation. The Convention on Biological Diversity was ratified by Cameroon in 1994. It aims to conserve biological diversity and ensure fair and equitable sharing of the benefits arising from the utilisation of genetic resources for countries and communities, establishing a system for access and benefit sharing. These rules are enshrined in a National Biodiversity Strategy and Action Plan, developed and heavily supported by donors. Pygeum, eru and honey were addressed, but despite studies and recommendations, regulations enacting the convention have not been implemented.

3.5. Project-based arrangements

Cameroon has become a donor darling and playground for experimentation by projects and programmes (Topa et al. 2009). These collaborative activities are planned to achieve a particular aim, constituted by teams within or across organisations to accomplish particular tasks within a specific timeframe. They are funded by governments, international charities, development and not-for-profit organisations through grants or loans to implementing organisations. Projects have ranged from product-specific, short-term activities to decades of interventions covering large geographical areas. Each donor and implementer has its own objectives and associated rules, which added layers of governance arrangements and significantly influenced NTFP governance in the study areas (Sharpe 1998; Abbot et al. 2001; Owono 2001; Brockington and Igoe 2006; Ingram et al. 2011). Projects compensated for deficiencies and voids in state services, particularly in protected areas. When projects were active for long periods, the state had little incentive to engage in governance in these areas. Projects created new institutions

– some building on customary rules, new formal regulations and protected areas. By doing so, they aided new NTFP value chains and actors and stimulated innovations in harvesting, cultivation, processing and commercialisation.

3.6. Institutionalised corruption

Corruption – defined as the exercise of power for private gain – is the manifestation of a lack of respect of both the corrupter and corrupted for rules governing their interactions. When corruption results in malgovernance or misgovernance, it creates another governance arrangement than that intended (Pillay 2004). ‘Dash’, a Cameroonian pidgin term for bribery, was found to create separate arrangements governing chains, shadowing and nested around statutory and customary structures. It was often run in parallel by the same governors (Angwafo 2014). Corruption in practice ranged from additional payments ‘to get things done’ in business, to elites engaging in state and power capture, and as a deliberate strategy of clientelism by state officials and traditional authorities. Corruption persists despite periodic anti-corruption campaigns in forestry and state affairs, initiated by powerful international institutions (Topa et al. 2009) or state elites. When formal regulations and bureaucracy were unknown, unclear, or unenforced, this created openings for corruption. When corruption becomes institutionalised, it operates as another governance layer (c.f. Schure 2013). As elites also often have traditional roles, customary rules were also corrupted. Whilst frequently expected, corruption was often unpredictably applied, affecting how, when, where, and at which costs transactions take place in chains. This concerned access to markets (transport to markets and ports, and obtaining market places) and access to resources (obtaining land titles, permits and waybills; operating without such permits, and harvest in protected areas).

3.7. Governance arrangements in eight NTFP chains

This section highlights how these governance arrangements operate in the chains.

Eru: The leaves of two similar forest lianas found in the humid forest ecoregion provide a nutritious and popular vegetable increasingly traded across Central Africa and globally in the last twenty years. The majority is wild harvested with around 80% of harvest from open-access primary and secondary forests. Since 2005 eru has been classed as a Special Forestry Product (see statutory arrangements section). In 1995 eru was declared as an endangered species and a ban was considered but never implemented. However trading and exporting without permits is common. Customary rules requiring permission in open access forests vary by village. Around 40% of traders, exporters and retailers were union members, with strong rules governing market access, prices and practices. Although IUCN Red data listed, this listing has not impacted trade. Projects promoted cultivation and processing over the last 20 years, with little impact. Corruption is rife in issuing permits and during transport within Cameroon and to Nigeria, valued at up to 25% of costs.

Apiculture: The production of bee-based products such as honey, wax, propolis and by-products (creams, cosmetics, medicines and wines) was statutory unregulated until 2007. Laws relating to processing existed but were not enforced. Traders developed standards with the government to allow exports for companies and products with a permit. Voluntary in name, compliance is essential to enter the European market. Quality standards have been discussed in the chain since 2008, but have not been formalised. Customary rules were weak in the savannah ecoregion, in contrast to the many rules governing access and forest management in the montane ecoregions. Since 2006 market-based governance arrangements have been introduced. Organic and fair trade certification was set up in the savannah ecoregion by a Cameroonian company, Guiding Hope. The African Intellectual Property Office, CIRAD, Guiding Hope and the Kilum Ijim White Honey Association set up geographic indication in the montane Oku forest. These initiatives resulted in rules governing the chain from harvest to retail. In the montane ecoregions 41%, and in savannah ecoregion 21% of beekeepers were members of project-initiated groups, often engaging in processing and trading. At least fifteen projects over the last two decades have supported collective action, hive building, processing, forest regeneration and setting up community forests. Many traders bribe government agents to minimise bureaucracy and transport costs, and to secure access to government support.

Pygeum: This tree's bark is used locally in the montane ecoregion where it grows for medicines, and is exported internationally for use in health products and pharmaceuticals. The timber is used for fuel and carving and the flowers are melliferous (honey-producing). A plethora of local and national regulations have covered bark harvest since 1974, and it is a special forestry product. Customary regulations govern access to forests, combined with collective and hybrid arrangements such as community forests. However, these were generally weakly enforced and some of the worst cases of overexploitation have been in community managed forests (Ingram and Nsawir 2007; Ingram 2014). The bark



Photo 1: National meeting of beekeepers in Cameroon, Ngaoundal, Adamaoua region, August 2010.

is IUCN Red listed and CITES Appendix II listed, as possibly threatened with extinction unless trade is controlled through annually agreed quotas and long-term management plans. Despite years of projects and programmes providing evidence, inventories and techniques, the government's failure to implement such plans led to a three-year trade suspension in 2007. High demand and value has led to increased cultivation over the last 40 years. Stakeholders along the chain then collaborated to develop a national management plan and conduct inventories, supported by more projects. Despite all the regulations and arrangements illegal over-exploitation was rife from 2000 to 2007, exacerbated by corruption and the newly formed community forests, which eased access to resources and markets.

Cola: The pink and white nuts are given as tokens of hospitality, chewed as a stimulant and used in cola-based drinks. Around 90% of harvest in the montane ecoregions is from cultivated or actively managed trees,⁵ and 10% from montane secondary, gallery and community forests. Statutory regulations do not address cola nuts. Customary arrangements dominate, arising from at least two centuries of high economic and cultural value. Strong ethnic ties link traders from the montane ecoregion to the Extreme North region where the nuts were traded. These informal, trust- and market-based arrangements enable long distance, trans-national trade, dispute settlement, financial support and information sharing. Corruption was common with traders and transporters paying bribes at roadblocks and border crossings.

Bush mango: The nuts from this tree found in humid lowland forests are pressed for their oil, sold dried or processed into a paste. They are used locally as medicine and food, being the main ingredient in popular sauces in Cameroon and neighbouring countries. They have been increasingly exported to the USA and Europe for use in weight-loss aids and cosmetics. On average 41% is harvested from farm-fallows in the humid ecoregion; the remainder is from secondary and primary lowland forests. Although not classed as a Special Forestry Product, bush mango has been covered by agreement permits. Customary tenure and ownership dominate governance arrangements. Market-based arrangements were common, with well-known trading norms. Projects changed harvest rules in the Takamanda National Park, introducing new co-management arrangements. Most traders do not know or have difficulty obtaining permits and operate illegally. Corruption at checkpoints and border crossings by police, forestry, customs, council, trade and quarantine officers is prevalent, amounting to 24% of costs.

Raffia products: different parts of raffia palms provide over 30 construction, food and cultural products. Most are traded on a small scale, except palm wine which has a vibrant local trade. Raffia has been domesticated for centuries in the montane ecoregions, where it is managed in riverine gallery forest areas. Around

⁵ See Wiersum et al. (2013) for definitions of arrangements controlling access to resources.

80% of products in the chain are harvested from customarily owned land and 20% from privately owned land. Access is thus primarily governed by customary arrangements, whereas access to markets is not officially regulated and subject to well-established market rules.

Bamboo: Montane alpine and savannah bamboos is used and traded locally as the source of numerous tools, utensils, construction materials (including beehives) and fuel. Most (57%) bamboo was naturally regenerating, 6% was planted, and 37% originated from natural generation and planting. There was no statutory regulation addressing bamboo. However, Alpine bamboo has been subject to prefectural orders forbidding harvesting young shoots, updated and enforced by project and customary rules. In the montane ecoregions traditional regulations predominated, less so in savannah. Voluntary, market-based arrangements commenced in 2011 in the savannah ecoregion as beekeeping groups sought to replant and protect bamboo groves.

Gum arabic: Resin from three species is used locally, and the trees also provide fuelwood and animal forage. The gum is also exported for use in foods, paints and pharmaceuticals. Around 96% originates from open access savannah and the Waza National Park, and 4% from enriched forest plantations set up by state projects. Around 3% of harvesters belong to groups and four major exporters belong to a trade association. In 2006 an *interprofession*⁶ was set up by projects to bring actors together to address quality, price and availability problems. Although listed as a special forestry product, a substantial proportion is exported illegally. The legal status of the now unmanaged, degraded plantations is ambiguous. Despite projects working to make customary harvesting in the park legal and create adjacent community forests, these agreements have not formally been implemented, and the same applies to sustainable harvest and management guidelines.

3.8. Scoring the governance arrangements

The scoring system enables the governance arrangements and their intensity to be made explicit. Figure 2 illustrates the ‘fine mess’ of arrangements in the chains. Not all arrangements were equally present in each chain and there were variances in intensity between arrangements. These differences occur despite the NTFPs being subject to the same national regulatory framework and business operating environment. However, the socio-economic context is different in each ecoregion, so that the geographical origin of the resources and market location explains some differences – particularly in customary arrangements. Product values and characteristics, and chain history also explain some of the differences. Economic, and to some extent socio-cultural values, influence the number and type of governance arrangements, with high-value chains having more arrangements and a greater intensity of arrangements governing access to resources and to markets.

⁶ Chain platform organisation recognised by the government.

All chains had multiple, plural governance arrangements. However their intensity varied widely. The pygeum, apiculture and eru chains were the most intensely governed chains. Whilst there were no absolute voids, there were voids of specific arrangements. For example, Figure 2 makes visible that there were no formal regulations in the bamboo, raffia and cola chains. The intensity and pluralism reflect the specific ecoregion and socioeconomic context, product values and characteristics. Regulatory, project and market-based systems arrangements were combined, with legitimation for new arrangements often sought by juxtaposing them with pre-existing customary arrangements. Actors bricolaged new arrangements by adapting and reshaping customary and voluntary arrangements. Alternatively, they circumvented statutory arrangements by bribery. These processes occurred as direct and indirect actors responded to changes in the social context, and in product value and demand, largely to secure access to resources and markets.

The pygeum, eru, bush mango and gum arabic chains were regulated under the special forestry products permitting system. These statutory governance arrangements were scored highly as their institution, rules and boundaries were known and they were horizontally nested. They were largely seen as having accountability and moral grounding due to their statutory nature, which also makes the location of decision-making clear for most actors. However, a paradox emerges with strong scoring arrangements being dysfunctional due to limited monitoring and generally low compliance. Rules are generally weakly and arbitrarily enforced with few sanctions. This reduces the total score for the latter three chains.

Location- and culturally specific customary regulations governed all the chains. They predominantly regulate access to resources. They tended to be stronger in the remote areas. They have become weaker with improved access to markets, immigration, decreased dependence of forest-adjacent communities on forest resources and increasing pressure (and conflicts) over these resources. Few customary regulations governed markets (which products can be sold and how). The markets were often in different geographical locations with different governors.

Voluntary and market-based arrangements were pervasive in all the chains. They affected prices, activities, types and timing of transactions, and quality. They generally focussed on access to markets, using mechanisms to enhance access or control by specific actor groups and/or enhance their power, whilst limiting or excluding access for others.

Involuntary standards covered half of the chains. In the pygeum and apiculture chains they enhanced and legitimated statutory and project-based governance arrangements. Overall, however, they tended to be poorly known.

Project rules, due to the highly geographically specific projects activities, were only recognised by a few actors, many mistaking them for statutory regulations. They were strongest in the pygeum, apiculture and gum arabic chains.

Corruption influences all chains, varying in intensity by chain. In the high volume, high value and highly statutorily regulated chains such as pygeum and eru, corruption flourished in parallel to formal laws. It also occurred where no

statutory framework operates, such as the cola chain, due to its systemic nature in Cameroon and the countries to which the chain flows. In raffia and bamboo chains it is relatively low.

Most of the arrangements did not cover the whole value chain. Control of access to resources and access to markets were generally separated. Harvesting, market sales, transport and export were governed by different arrangements and actors. Only the pygeum and the apiculture chains had coherent arrangements governing the entire chain, due to regulatory changes and organic certification respectively.

Legitimacy scores are illustrated in Figure 3. Customary arrangements have the highest levels of legitimacy compared to other arrangements and were most prevalent in rural, forest areas. These arrangements excluded access to resources on the basis of social-cultural capital and personal characteristics such as sex, age, familial and societal status, allowing actors meeting certain conditions to benefit. Customary traditions are less legitimate in urban areas, for migrants and 'outsider' harvesters. Voluntary, market-based arrangements score second highest as legitimate. This can be explained as collective arrangements are mostly controlled by direct actors, such as in the eru and honey chains. Unions and associations restrict access to markets on the basis of membership. They benefitted those involved by securing their access to resources and/or markets, enabling higher and more stable prices. Statutory regulations have the third highest level of legitimacy. Legitimacy is diminished by corruption and exclusion due to low knowledge about rights, for example, concerning subsistence harvesting and permits. However, arbitrarily enforced statutory laws are viewed as illegitimate, serving a small group of elites, a view shared by Mvondo-Assembe (2009). By using their social and political capital, actors benefitted financially from their knowledge of rights and procedures, resulting in higher incomes and avoiding corruption.

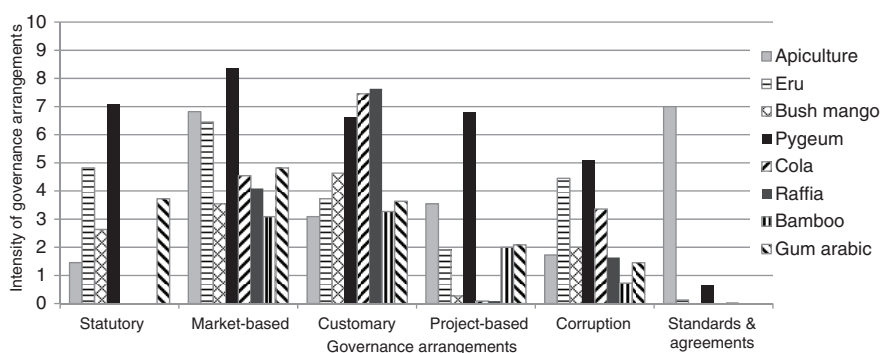


Figure 3: The legitimacy of governance arrangements.

4. Discussion

This section discusses the implications of governance figurations for the sustainability of livelihoods and NTFP management in the eight NTFP chains in Cameroon.

4.1. Implications of plural, overlapping and segmented governance arrangements for sustainable livelihoods

Governance arrangements generally focus on only some chain activities, generally access to NTFP resources or access to markets (see Wiersum et al. 2013). This separation has both positive and negative impacts on the livelihoods of actors along the chain and for their sustainability.

Well-defined, well-known, enforced and functioning arrangements and institutions provide a clear framework allowing actors to operate with security. This is particularly important for NTFP production and trade which inherently bear risks that need to be managed. These include susceptibility to overharvesting, seasonality and fluctuating harvest volumes. These factors make it difficult to estimate sustainable harvest volumes. Customary arrangements governing access to the cola and raffia chains, market-based arrangements in the eru and bush mango chains, and project arrangements in the apiculture and bush mango chains seek to address this problem. Voluntary market-based systems such as geographic indication and organic certification, have a similar impact. They explicitly link demand with supply, controlling access and harvesting methods. They create non-tangible product characteristics and value, using sustainable sourcing as a selling point.

However, weak arrangements are counterproductive to sustainable livelihoods. For example the inconsistency and arbitrariness with which formal regulations were implemented and enforced make an unclear playing field for access to and trade in NTFPs. This encourages short-term practices and over-exploitation. Whilst profitable livelihoods were possible in the short term, as in the case of eru (Ingram et al. 2012) and pygeum (Ingram and Nsawir 2007), the increasing scarcity and vulnerability of these resources in the wild indicates that these chains are not sustainable in the longer term (Ingram 2012, 2014). Harvesters and owners respond by seeking greater control over the resource, for instance through domestication and cultivation and/or the introduction or enforcement of governance arrangements. This has been observed in the pygeum, raffia, cola and honey chains. Sustainability of livelihoods can also be undermined by project arrangements that – despite being well-known on a local level – were not well-nested and have a short-term duration. This creates uncertainty and adds to actor's costs of complying with and investing in project-based institutions, the result being that chain governance changes when projects end. Similar findings have been reported about Integrated Conservation and Development Projects (ICDPs) and REDD+ schemes (e.g. Blom et al. 2010). Project arrangements, in contrast, often complicate the institutional landscape by creating their own rules.

Unless governance arrangements ensure that the natural capital resource base is not undermined, the cases indicate that it is unlikely that long-term sustainable livelihoods and chains are obtained. Chain booms and busts occur as NTFP resources are harvested, deteriorate in abundance, become less exploited and then recuperate over time, leading to livelihood shocks and stresses. The international pygeum chain with its three-year trade suspension following high levels of harvests illustrates such negative impacts, mirroring NTFPs such as rubber (Weinstein 1983). In the apiculture, cola and raffia chains in contrast, busts have been avoided and long-term, secure livelihoods and sustainable chains have been maintained (Ingram 2014). This has been achieved through long-established customary arrangements, involving highly managed customary production systems, restricted tenure and resource access, and cultivation.

The segmented nature of how NTFP chains are governed has negative implications for sustainable livelihoods. Arrangements with vertically nested governance institutions are as important as horizontal nesting. This reflects institutional design principles (Ostrom 1990; Scott 2001; Agrawal and Chhatre 2006; Cox et al. 2010). Voluntary, market-based arrangements, as in the apiculture chain, allow better vertical integration and institutional nesting. They also explicitly try to balance demand and supply, creating more sustainable livelihoods and chains. This reflects the notion of chain of custody certification as a way of making trade sustainable (Shanley et al. 2008).

The extent to which arrangements impact livelihoods and sustainable resource management depends partly upon their legitimacy for chain actors, and thus adherence. This finding mirrors that of other studies (van Kersbergen and van Waarden 2004; Cotula et al. 2007). Repressive systems may result in high levels of compliance out of fear and high levels of enforcement rather than legitimacy.

4.2. Bricolage as a strategy to cope with fragmented governance arrangements

Participating in and complying with multiple arrangements has additional costs for direct chain actors. Many can ill-afford such costs, given the high incidence of poverty. However, the overlaps, voids and coverage of only a part of the chain activities also create opportunities. Well-illustrated by the apiculture chain, direct actors have grabbed control by vertically integrating multiple chain activities. This allows them to better control the resource, to respond to, and even create demand by introducing new products. Voids result in easy entry to chains, enabling actors to generate income and to *bricole* responses to improve their livelihoods. Overlaps mean that actors can 'shop': participating and complying with arrangements best suiting their own mix of capitals and situation, exemplified by harvesters and exporters in the pygeum chain. In the apiculture chain, actors created new market-based arrangements, as none suitable existed, or were of low intensity. The eru, pygeum bark and apiculture product chains show that institutions are created as

new strategies to reduce vulnerabilities in access to resources. They are often exclusionary, as actors seek to take control of parts of a chain and exclude others, sometimes temporarily. They do so by creating competitive advantage and/or by adding value to various assets. This is particularly the case when customary institutions control no further than local markets and are slow or not amenable to change; when products become more widely traded; or when statutory institutions are fragile, weak, unenforced and/or corrupt.

Hence, actors make the best of the arrangements in which they find themselves, and creatively use capitals available. They build on social and natural capital to construct new governance arrangements and/or remould existing ones aiming to meet their current objectives, circumstances and livelihoods. Some direct actors, particularly harvesters and retailers, have had little or no voice in formal governance arrangements – however, when able (depending upon their mix of assets) they have acted, particularly collectively, to create their own messy arrangements. Some powerful traders, alone or also in trade associations, have had a voice in formal governance arrangements, notably in the pygeum and apiculture chains where they have worked to introduce and amend statutory regulations. They have collaborated with indirect actors such as NGOs, development organisations and researchers to support their aims. This ‘creative crafting’ of governance arrangements in weak governance situations has been reported in Tanzania and Zimbabwe (Cleaver 2002, 2012) and Bolivia (de Koning 2014).

The result of this bricolage is a ‘fine mess’ of arrangements governing these products and their chains. This seems unlikely to be smoothed into a mono-governance system anytime in the near future. Land and regulatory reforms have been slow, whilst customary rulers still cling to power in the remoter mountain tops, deep forest and remote savannah villages, and the culture of corruption and ‘big men’ remains pervasive. The effectiveness of customary laws varies significantly. It is generally strongest in remoter, less accessible, rural and forest-based communities and for high value products, and weakest when undermined by factors such as proximity to urban centres with growing populations, with high levels of cultural and social change and multiple ethnic groups (Colfer et al. 2011).

4.3. Strategies for sustainable livelihoods

The continued failure of formal, statutory institutions to enforce rules that ensure the sustainability of highly valued, traded products has been a major challenge for many actors in the chains. Actors have sought control when high value products become scarce. This could be the result of rising demand (sometimes dramatic such as in the case of eru and pygeum), deforestation, degradation and over-harvesting. Cultivation, mainly under customary and collective (community forest) governance regimes, is one of the most common strategies used. In the ancient chains such as honey, cola nuts and raffia wine, actors in the chain have increased cultivation and associated governance systems to secure

supply. However, for high-value, high-demand products, institutional designs that assure sustainable governance have barely been able to keep pace. This is particularly true for species for which their ecology, parts used and harvest method makes them vulnerable to over-exploitation. Thus the majority of the gum arabic and eru trade based on wild harvested products is unsustainable (Madi et al. 2010; Ingram 2014). Market-based, collective action has also been used by direct actors seeking to increase their power and control to ensure product quality, reduce corruption, reassure consumers, enable partnerships, access finance and technical support, control trade – ultimately to secure their livelihoods. Collective action is enabled and strengthened by shared geographic location, kinship and ethnic ties.

In general, the NTFP sector is largely invisible and direct actors largely ‘silent’ in the sense that their voice is little heard in policymaking or business circles. The ability of harvesters and traders to significantly influence business bottlenecks, such as access to formal credit and banking institutions, is weak. This finding is similar to forest product chains in other countries (e.g. Macqueen et al. 2006). However, modest changes resulted from participatory action research, development projects and collective action. These enabled harvesters and traders to have more voice and visibility in the apiculture chain. The honey chain, where actors jointly developed sector-wide standards and a new policy on honey exports, and the pygeum chain, where actors joined to counter the 2007 trade suspension, are examples. In the eru and bush mango chains, collective action bolstered the negotiating position of harvesters and traders with the government concerning permits.

5. Conclusions

This paper addressed the question of what governance configurations control eight NTFP chains originating from Cameroon and how these affect the sustainability of livelihoods, trade and resource management. The analysis showed that multiple governance arrangements are a reality. A reliance or focus upon just one system, such as statutory regulation as the main vehicle for governance is unrealistic given the current socio-political and economic context in Cameroon. Complementary, plural arrangements have filled voids by providing bundles of rights and responsibilities that govern a species, its ecological niche, and the activities in a chain. Crafting sustainable chains depends on the current patchwork of arrangements, and the ability, resourcefulness and power of actors to ‘bricole’ new governance arrangements or replace ineffective institutions, such as corruption, with more effective and sustainable ones. Project interventions have enhanced and changed actors’ power, but the intricate constellations in chains can make outcomes difficult to predict.

Institutional bricolage allows a broad exploration through different lenses that reflect the reality of these research subjects. Emerging, ‘bricolaged’ arrangements

offer glimmers of hope and opportunity that can reconcile both development/livelihood and conservation agendas. Combinations of project-based, statutory and market-led arrangements that promote, support and encourage cultivation, and build on customary knowledge and rules, have been effective in creating 'win-wins'. However, these tend to be exclusive – such as the cola, raffia and gum arabic chains – restricting access to certain ethnic groups or sexes. Information sharing, role models, capacity building and training have helped overcome this, bringing and resulting from social-cultural changes, the long term implications of which also remain to be seen. Recent experiments such as in the pygeum chain show promise. For this chain a new statutory system was developed, drawing on successful project-based institutions, building on collective action and customary rules, and borrowing from agricultural and forestry governance models. Similarly, voluntary market standards that cover the entire chain, like organic certification and geographic indication in the honey chain, seem to hold promise for achieving win-win outcomes. However, as these are still recent and embrace a small number of people, their efficacy remains to be tested.

What is clear in this 'mess' is that the outcomes and impacts of institutional design are extremely difficult to predict in the short term. Getting into the mess is essential to enhance understanding of sustainable chains and livelihoods. The findings highlight the need to understand the impact of multiple arrangements and configurations all along a value chain, and how they control access to resources and markets. This provides insights into the implications for livelihoods as well as for the sustainability thereof.

Avenues for further inquiry include refining the governance intensity scoring method, prior to testing on other chains and contexts. Improvements include getting actors to rate intensity directly, rather than implicitly drawing on interviews and explicitly on expert consultation. The language and terms used need to be formulated so as to be clear for all actors in the chains. Additional criteria to measure the level of integration of access to resources and to markets in arrangements should also be included. Refinements could be made to analysing how corruption affects the performance of governance arrangements.

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