Toward "Concessions 2.0": articulating inclusive and exclusive management in production forests in Central Africa

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SUMMARY

Industrial forest concessions cover about 45 million hectares in Central Africa. This paper discusses the weaknesses of the current concession model and initiatives for helping it evolve; it then proposes a new type of concession, entitled 'Concessions 2.0', adapted to the future challenges presented by the overlapping among the rights and modes of the harvesting of multiple resources. This proposed model is based on four features: (i) mapping and recognition of the customary territories within and around the industrial concession, (ii) timber revenue sharing indexed on the extension of the customary territories and contractual management agreements within the communities, (iii) allowance of commercial exploitation of non-timber resources by entitled claimers under the supervision and/or in association with the concessionaire, and (iv) inclusive governance for the management of overlapping rights over the concession area.

Keywords: Concession 2.0, community forestry, land sharing, benefit sharing, overlapping rights

Vers des Concessions 2.0: articuler gestion inclusive et exclusive dans les forêts de production en Afrique centrale

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Les concessions forestières industrielles couvrent environ 45 millions d'hectares en Afrique centrale. Cet article analyse les faiblesses du modèle concessionnaire actuel et les initiatives qui contribuent à le faire évoluer. Il propose donc un nouveau type de concession, nommé 'Concession 2.0' qui prenne en compte les réalités de la superposition des droits et des modes d'utilisation de ressources multiples. Le modèle proposé possède quatre caractéristiques: (i) la cartographie et la reconnaissances des espaces coutumiers au sein et autour de la concession industrielle, (ii) un partage des revenus de l'exploitation du bois indexé sur l'importance des surfaces coutumières incluses dans la concession et des accords contractuels de gestion avec les communautés, (iii) la possibilité d'exploitation commerciale de ressources autres que le bois d'œuvre par différents ayants droit en association et sous la supervision du concessionnaire, et (iv) une gouvernance inclusive pour la gestion des droits superposés dans l'espace de la concession.

Hacia las 'Concesiones 2.0': Articulando una gestión inclusiva y exclusiva en los bosques madereros de África Central

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Las concesiones forestales industriales cubren aproximadamente 45 millones de hectáreas en la región de África Central. El presente artículo discute las debilidades del modelo actual de concesión industrial y presenta una propuesta para hacerlo evolucionar. Así, se presenta un nuevo modelo de concesión industrial bajo el lema de 'Concesión 2.0', con el objetivo de hacer frente a los desafíos que emergen de la superposición de los derechos y modos de uso de sus múltiples recursos. Este nuevo modelo de concesión se caracterizaría por los cuatro componentes siguientes: (i) el mapeo y el reconocimiento de los territorios tradicionales dentro y alrededor de las concesiones industriales; (ii) el reparto de los beneficios de la venta de madera en base a la extensión de los territorios tradicionales y bajo un acuerdo contractual con las comunidades; (iii) la autorización de explotar recursos no madereros por sus usuarios legítimos bajo la supervisión y/o en asociación con el concesionario; y (iv) el diseño de una gobernanza inclusiva con respecto a los derechos que se encuentren superpuestos dentro de la concesión

INTRODUCTION

Industrial forest concessions cover about 45 million hectares in Central Africa and have existed since the nineteenth century. The principle of concession clearly differentiates between the right of logging, the only one granted in principle, and that of ownership, which is not transferred to the concession holder. In modern concessions, the status confers a fundamental right onto its beneficiary: the exclusive right to harvest one or more products within a given boundary and for a fixed period. Legally, this logging right is a use right separate from ownership of the area and covers only the products for which it was granted. In the forest concession, it is the exclusive timber logging right that is transferred in accordance with regulations and specifications that may be specific to each concession.

These concessions are considered by some analysts as a legacy of the colonial period (Alden Wily 2012), and many NGOs would like to see them replaced by community forests and small timber logging-processing companies (Macqueen 2008). However, the community forests of Central Africa have been very disappointing in terms of sustainable management (Cuny 2011, for Cameroon), and the meta-analysis of the literature in Robinson *et al*. (2011) highlights an 'association between the negative results in terms of management and forests managed by the communities in Africa'. For small artisanal businesses operating within a legal framework, autonomy is also problematic. As soon as transportation and logging costs increase, the feasibility of independent community forests without a partnership with a nearby concession-holder becomes weak, simply for economic reasons (Ezzine de Blas *et al*. 2009). In sparsely populated and isolated forest areas, an industrial concession is often one of the few structures that can organise economic activities by creating their own production and logistics environment (Singer and Karsenty 2009). However, industrial concessions are found in environments that evolve more or less rapidly under the pressure of increasing population density and agribusiness investments that are encouraged by the governments, sometimes at the expense of the forests (Ongolo 2015). In concessions where legal rules are followed, the profitability of logging companies is reduced, as primary and near primary forests have reached the end of the logging cycle and costs of 'compliance with rules' or certification are applied. Profitability clearly lies with the agribusiness plantations, and the legal status of the land (permanent forest estate) is often all that prevents or inhibits the conversion of logged forests.

Furthermore, the demands on land from local people are increasingly being felt in countries where the rural population density is significant – mainly in the DRC and in many parts of Cameroon and Southern Congo. Food and perennial crops are appearing more frequently in Forest Management Units (FMU), outside of the agricultural areas planned as part of the management plans. Influential people in the local governments (politicians) sometimes set up their palm oil or cocoa plantations within forest concessions and concession-holders find it difficult to get local authorities to help remove them.

Legislation has been passed to promote some sharing of operating profits with the people in Cameroon, Gabon, and Congo Brazzaville. This pertains to the repayment of 200 to 1,000 FCFA per harvested cubic meter (up to € 1.5) to the so-called 'local residents'. These amounts are to be paid in the form of investments in social welfare and local development projects. Though these payments give the appearance of a more equitable sharing of the harvested resources, they have changed nothing in terms of governance. Most laws provide for minimal public participation in forest management, of which the 'forest-peasants committees' of Cameroon are the archetype. Characterised by participation in the form of information and consultation and sometimes paid participation in activities, they still struggle to achieve these objectives (Kouedji *et al.* 2015). The 'social' criteria for international certification standards such as the Forest Stewardship Council (FSC) focus primarily on improving the living conditions and rights of the 'beneficiaries' (e.g. health, education, rights of workers and their families), securing land rights, indigenous peoples' issues, and reducing the developmental impact on local communities' ways of life (e.g. preservation of Non-Timber Forest Products (NTFPs), social areas dedicated to the preservation of cultural sites). They do not focus on improving governance through the sharing of responsibilities or the co-management of natural resources.

This paper discusses the weaknesses of the current concession model and initiatives for helping it evolve; it then proposes a new type of concession, entitled 'Concessions 2.0', adapted to the future challenges presented by the overlapping among the rights and modes of the harvesting of multiple resources.

LANDHOLDINGS AND LANDS RIGHTS: MAPPING CHALLENGES

Moving away from the 'zero-sum game' logic

In much of rural Africa, and especially in the pastoral and forest areas, the ratio of rural communities to space is a social ratio of a type other than the "geometric" ratio of the modern territory. In a forest environment, various peoples are located within a space based on a network of trails through the medium of different activities and with the help of "topocentric" landmarks.[1] On the other hand, knowledge of a space in

[1] In the *topocentric* perspective, a concept inspirited by P. Bohannan (1963), "space is made up of nodes and forces, with hazy boundaries" (IIED 2000). "The land is organised around specific points from which are exercised various powers over the spirits, water, land, and trees or over people or minerals. These powers are associated with different strengths based on date of settlement, conquest, form of land use and so on". Thus, there may be a variety of rights which operate over the same space and overlap, (Le Roy 1991: 314). The *geometric* perspective requires clear boundaries and attaches importance to maps.

modern representations is based on the knowledge of the space's boundaries, which helps in classifying it and possibly allocating it. The 'modern' lies, therefore, in the space based on geometric landmarks obtained through the mapped representation and the technical possibility of locating oneself on the basis of perpendicular lines – the latitude and longitude. By contrast, in many rural societies, and particularly in forest societies, the knowledge of a space comes with the knowledge of *places*. It is these places (e.g. meadows, old fields, ponds, trees) that give structure to an open space. Distance from the usual living and activity areas is the most important factor in ownership. Land ownership in the strict sense pertains to only a small part of the space used in daily life. It pertains to fields, which are generally quite close to the huts, fallow lands, land reserves, future clearings, and places earmarked for family groups or identified communities. These modes of land ownership can be translated in terms of exclusive control given to one or several groups. Beyond this, land controls give way to ownership modes of gathering and hunting resources, which involve the control of space to varying degrees. The ground is no longer a priority object to be controlled but acts as a medium for hunting, gathering, and extraction activities. These activities are a part of spaces with variable configurations, which cannot be assigned any defined boundaries but are structured by topocentric representations, such as distance from the village, rivers, lowlands, meadows, large trees used as landmarks, and proximity to the nearby village. Partial recovery of these spaces, related to the interdependence of hunting, fishing, and gathering activities, creates familiarity and an identifiable zone of influence (Karsenty and Marie 1998).

On the one hand, we sense the implications of generalising the territorial return in terms of the insecurity of a number of players who find their place *only* in the interlinking of spaces and in specific access to the resources local modes of ownership allow. For example, the tradition of semi-nomadic hunters, though few in number and partially settled. On the other hand, can we give up on trying to represent the spatial projection of controls exercised on spaces and resources by these people on a 'modern' medium? In current decision-making processes, mapping is a means of identifying the players needed to take them into account in state management techniques:

> "New forms created by economic regulation invent new rules of space wherein it can be suggested that 'places' take precedence over territory and coordination takes precedence over demarcation" (Badie 1995, p. 182 – translated).

Will we be able to think about forest space management by organising coordination in the use of various players who employ different resources from the same environment, or should we persevere with the land-spared development models based on a territoriality principle in contradiction with the local representations? To represent internal relationships of ownership and the use of resources on a physical medium, networks need to be mapped to reflect a space organisation understood as relationships between places that govern one topocentric space or more. On the other hand, to organise external relationships and use negotiation for problems the administration cannot handle other than by 'slicing' space, the 'geometric' representation of village landholdings with boundaries identifiable on a map can be a good tool, *if one can precisely define for what it should and should not be used.*

Mapping initiatives and their foreseeable effects

Mapping, whether participatory or not, of land and village landholdings is an age-old practice. While it initially took a geographer's approach to produce measurable boundaries and areas to help produce other variables, such as population density, it later switched to the mapping of points in Central Africa corresponding precisely to places of the topocentric ownership of resource spaces. Several projects designed to promote community forestry in Cameroon (Karsenty *et al*. 1997, Vermeulen 1997) and Gabon (Schippers *et al.* 2008) have made the mapping of landholdings a prerequisite for action, a point of adversarial debate useful for collaborative demarcation of community forests.

In Gabon, this province-wide initiative led to the creation of the dedicated encoding software *Map Village* (Morin *et al*. 2014) and a specific database, which was passed on to several forest concession-holders so that they could incorporate these aspects into the design of their facilities and thus reduce conflicts with villagers. In the same vein, the mapping of the living areas of the Pygmies in Northern Congo in the CIB forest concession (Hopkin 2007) by the players themselves equipped with *cybertrackers* should help in mapping their journeys within the concessions and particularly in identifying the resources on which they depend and thereby protect them from exploitation. This approach has been compared with the NTFPs and approaches employed by experts based on participatory mapping (Vermeulen *et al*. 2009). More recently, initiatives oriented toward the large-scale online mapping of land and landholdings have been developed by NGOs. These include the *Mapping For Rights*[2] initiative, which asks the communities themselves (in principle) to prove their presence in a given forest area to enable policy-makers and the private sector to recognise this presence and help State authorities recognise the rights related to it. It is also worth noting that the approach promoted by the Rights and Resources Initiative[3] involves the measurement of areas held across the planet based on traditional rights, recognises collective rights on lands and forests, and offers the private sector a guide for how to take this into consideration.

In both these examples, the goal is not simply to document the areas occupied but to deduce traditional rights from them,

[2] http://map.mappingforrights.org/.
[3] http://www.rightsandresources.org/.

enforceable on the state or the private sector for future zoning or classification processes in line with the principle of free and informed prior consent. We must remember that, while not all these initiatives have legal grounds in the countries concerned, they are nevertheless not devoid of political effects. Exploitation of these mapping products beyond the role that was initially assigned to them is inevitable.

Difficulties of existing community forests

A subordinate role coupled with unbearable administrative constraints

The legal frameworks of several Central African countries provide for the creation of 'community forests', which can be defined as a decentralised form of forest management at the village or community level, sometimes as a devolution process (as in Cameroon or Gabon) or a decentralised process (as contemplated in DRC, where "decentralised territorial entities" are involved for some categories of permits). Introduced on the ground in Cameroon in 1996, they constitute the cornerstone of effective local participation in forest management – in principle. In fact, within the concessions, only 'rights of use' (right of way, right to hunt or right to gather) are traditionally recognised by Central African laws. These community forests are generally characterised by modest areas ranging from 5,000 to 10,000 ha and by small timber wealth, given their location by the roadside in a more or less degraded forested area. To date, only Cameroon and Gabon have set up community forests on the ground. Lessons learned from this implementation are drawn primarily from the Cameroonian experience, which is over 20 years old.

Run by and for the local people, these forests should, in theory, be managed by the latter on the basis of a simple management plan accessible to them – an enormous challenge, as farmers–hunters–gatherers are being asked to turn themselves into forest managers. There is constant native tension between the legislators' will to ensure sustainable management of these areas modelled on the lines of large concessions (with their inventory norms, national standards, and rotations over time and space) and the desire to delegate forest management to local people with none of the requisite skills. Moreover, the obligation to involve them in a forest estate deemed non-permanent and on the fringes of industrial concessions has marginalised them at the outset in terms of access to the resource. Finally, administrative texts of rare complexity punctuate the painful journey of candidate communities.

Difficulties of collective action and the trend of 'elite' capture

Setting up community forests requires the creation of a formal organisation that represents all community constituents who can legally make a commitment in its name. Cameroon has four types of organisational entity – associations, cooperatives, Common Initiative Groups (CIG), and Economic Interest Groups (EIG). However, woodlands are often already owned by family groups, who do not always agree that management should become associative. In addition, the functioning of associations as a basis for community forest management is complex. Although the associations are meant to allow collective action and local democracy, they are very poorly used by villagers, who are unaware of their rules or who bypass them. This result in several conflicts within community forests (refer particularly to Ezzine de Blas *et al*. 2011). Many authors, including Cuny (2011), have also highlighted the negative influence of community elites, who have often taken over community forestry to exploit it to their financial or political advantage.

The unlikely autonomy in remote areas

Another major obstacle in the development of community forests is their remoteness. Far away from administrative decision-making bodies and trading places, most community forests are commercially at the mercy of operators, most of them illegal, who travel across the poorly connected rural areas in search of timber. Isolated and weakly positioned, the communities negotiate badly and often without any knowledge of the market prices. The subcontracting agreements are unconscionable and often result in illegal activities, for which the communities are held responsible (Julve *et al.* 2013). Initiatives aimed at commercially linking community forests to concession-holders have seen the light of day (Vermeulen *et al*. 2006), but the traceability requirements associated with the certification process have nullified these attempts.

Community forests: a way to 'confine' people?

In countries where they have been set up, community forests can also be seen as a way of sidelining people from the heart of forest management. Confined to managing the areas adjoining the concessions, local people must settle for restricted rights of use within the concessions and their extremely theoretical implication in developing the management plan.

DECLINE OF THE TRADITIONNAL CONCESSIONARY MODEL

End of logging cycles in quasi-primary forests and the need for new investments

The profitability of legal forest logging is declining. Very few forests that remain available for logging have not been logged at least once, albeit often with high selectivity, targeting a couple of species of great commercial value. Congo Brazzaville, CAR (Central African Republic), and Gabon feature some blocks of unlogged forests within concessions, but logging is now essentially carried out in more or less 'secondary' forests. The increasing scarcity of some of the most popular commercial species in the markets has not resulted in a corresponding increase in prices but in deferred purchases for substitutes – other tropical or temperate timber, or other materials.

In an industry used to logging a couple of iconic species (e.g. Okoumé *(Aucoumea klaineana Pierre)*, Sapelli (*Entandrophragma cylindricum*), Ayous *(Triplochiton scleroxylon)*, Azobé (*Lophira alata*), the transition will be difficult. The

very high-selectivity logging in Central Africa suggests the possibility of other cutting cycles with a change in the composition of crops by using other species. Investments in production and marketing facilities will be needed to transform and promote the species deemed secondary and whose prices are too low to finance these investments. However, these investments are hampered by the limited profitability and uncertainty in the sustainability of concessions. Significant changes have affected the ownership of Central African concessions in recent years. Millions of hectares of concessions have changed hands through the sale of the assets of iconic companies, such as Siforco (Danzer Group) in the DRC, SBL (a family-owned company), and Olam-Bois (a multinational company of Indian origin) in Gabon, Reef (an FSC-certified company) in Cameroon, and the CIB company in Northern Congo, which has changed owners several times over a decade. Other large companies would be willing to transfer their assets to potential buyers. While other companies are emerging (such as the Rougier Group, now operating in four Central African countries), low profitability is being cited by vendors to justify their withdrawal. While, unlike in the 2000s, tax is no longer a subject of stress for the enterprises,[4] the companies that are actively implementing their development plan (including the attached social specifications) have generally invested in legality certification and a traceability system, or in 'good forest management' certification (through the FSC system). The costs of these measures are significant, and measures restricting or prohibiting the export of logs (as in Gabon since 2010), often a key segment of overall profitability, have eroded profit margins.

The 'emerging' state policies relying on agribusiness

Central African governments have adopted development plans based on slogans about the 'emergence' of their countries, a rhetoric that has replaced 'development' and 'sustainable development', even if it is questionable that the latter was truly focussed upon. These governments believe they must follow the model of South-East Asian countries, whose economic success is interpreted as having resulted from the large-scale exploitation of their natural resources and the conversion of their forest areas into palm oil and rubber plantations.[5] The timber industry is perceived as a low-income activity, in contrast to the turnover that the perennial crop plantations can generate.

While, 15 years ago, barriers to agribusiness investment (e.g. poor state of infrastructure, availability of land, lack of labour) were road blocks to the development of planted areas, increases in the prices of palm oil and rubber, combined with investors' need to find new land in order to continue their development, have entailed a new dynamic. Though the obstacles have not disappeared, growth in agribusiness plantations is tangible in Cameroon and, to a lesser extent, in the Congo and Gabon (Feintrenie 2014). Returns per hectare clearly favour the agribusiness plantations (Lescuyer *et al.* 2014), and often only the legal status of the land (permanent forest estate, when it is legally established) prevents or inhibits the conversion of logged forests.

Governments openly support the development of perennial crop plantations and often accede to the demands of industrialists who prefer setting up their plantations on forestlands to avoid incurring great expense in restoring degraded land outside the forests. In Cameroon, the government is refusing to finalise the gazetting process of several FMUs (concessions) to avoid the difficulties of further de-gazetting should these lands be assigned subsequently to agricultural use (Ongolo and Karsenty 2015).

Concessions eroded by various forms of farming and artisanal activities

Due to population growth and the lack of major changes in agricultural practices, the areas cleared annually are increasing with population density. It is not only the food needs, but cash crops such as cocoa and palm oil. Agribusiness firms have easy recourse to outsourcing to ensure a part of their supply, in a contractual form or otherwise.

Since the 1980s, the ''outwards-looking' of the wood industry has become more marked. While, initially, the industry diverted a significant part of their production to the domestic markets of some of these countries (see Topa *et al.* 2010 for Cameroon), the erosion of the people's purchasing power and the rising costs of legal logging combined to spur the development of artisanal sawing activities, which now largely feed the domestic markets. These activities are not technically illegal, but this informal sector has been developing on the fringes of the law due to regulatory framework failures (e.g. available permits, control systems). Sometimes, more-or-less-equipped artisanal operators (the border with the semi-industrial sector is often vague) operate in industrial concessions and clear out plots of species not yet logged by the concessionaire. In other cases, it is the community forests that bear the brunt of the illegal nature of this sector.

Supporting points against deforestation?

In Central Africa, deforestation is not linked with the presence of forest concessions, although roads and tracks created by logging are potential access roads for farmers and facilitate the marketing of their products. Without any demand on land, the result of a combination of an increasing population density and specific agricultural practices, forest tracks (which should be closed by the company after the end of the logging cycle, usually two years for one felling plot) are hardly used, and vegetation takes over these spaces[6].

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[4] Many of them have negotiated special tax agreements with the authorities or local governments to reduce their taxes. And the tax level has not been updated in spite of inflation.

[5] Setting aside the other conditions required for development – the economic and monetary policies that allowed capital accumulation through reinvestment and the educational systems favourable for the emergence of a middle class.

[6] The average life-span of most logging roads is less than four years, after which they are completely covered by vegetation composed of pioneer species. Twenty years later, these roads are no longer visible on Landsat satellite images (Kleinschroth *et al.* 2015).

One can observe empirically that the countries and regions that are home to the most extensive concession areas and have the highest timber production, such as Gabon and Northern Congo, are also those with the lowest deforestation rates in Central Africa[7]. Their common point is low population densities, especially in non-urban areas. In the DRC, a study on the drivers of deforestation drew two important conclusions:

> "[T]he presence of a forest concession and mining operation does not seem to play a role in the deforestation/degradation, at least at the national and sub-national levels that were studied. . .[I]t is above all the size of the population which determines the quantity of forests affected by deforestation and degradation. These very clear results contradict several more local studies that have often highlighted the distance from roads and the importance of the flows linked to the roads as the main cause of deforestation". (Defourny *et al.* 2011, p. 53 – translated).

Regarding wildlife, studies have shown that elephant numbers were sometimes higher in some major certified concessions than in adjacent protected areas (Stokes *et al*. 2010). About gorillas, Haurez *et al.* (2013, 2015) states that in the absence of poaching, the gorilla population in the western lowlands seems resilient to selective logging in Central Africa (p. i) and specifies that the results show that a viable population of gorillas can be maintained in a selectively logged forest (< 2 trees ha). If wildlife is protected by a sustained anti-poaching strategy, forest concessions have a major role to play in a landscape-level conservation policy.

Forest concessions finally structure the remote and sparsely populated territories, where the state struggles to bring in development and public services and to provide control over access to resources. Therefore, they have an important role to play in deforestation-reduction policies in protected areas and in sustainably managed community forests.

From timber to the exploitation of a whole set of resources

One measure that would reduce the profitability gap between forest concessions and agricultural concessions is permitting the harvesting of resources other than wood. A developed concession is a large area consisting of forests, savannah, wetlands, and areas degraded by fires and is therefore home to a great diversity of resources. Due to regulatory rotation constraints (generally 25 or 30 years), only a fraction of the wooded area is logged each year. Since the law permits the opening of a maximum of two annual felling plots (which will subsequently be closed for the entire duration of the rotation), only 2/25 or 2/30 of the area is logged each year for timber, leaving the possibility of exploiting some of the resources in the plots that have already been logged or those expected to be logged later. The overlapping of timber 'logging rights' and wildlife harvesting rights through safari hunting has already been tested in Cameroon (Bigombé *et al.* 2005). In Republic of Congo, the CIB entered into an agreement in September 2015 (under the aegis of the Ministry of Forests) with a safari company whereby it can develop sport hunting on one of the CIB FMUs in accordance with FSC standards. In early 2016, the government expressed the intention to extend this joint use to other concessions.

Other resources can be exploited. Non-wood products with high added-value (like the okoumé sap in Gabon) or with a significant national market (such as the *Irvingia gabonensis* almond in Cameroon) could form the basis of commodity chains combining processing and promotion in urban or export markets. Degraded areas could be restored and exploited through wood plantations or perennial crops. A part of the wood waste could be exploited through industrial coal production (where transport costs make this profitable).

However, these resources are already partly used by the local people in the concessions and are significant sources of revenue of which they cannot be deprived. On the contrary, these activities would need financial, technical, and organisational support to increase their added value. The presence of a timber logging industrial company can be an important asset in this regard, provided the institutional framework of the concession can be upgraded and the concession-holders are allowed to expand their range of activities to other products as part of a co-management process.

From sharing of logging revenues to joint governance of the concession?

Regulatory changes in profit-sharing

Sharing forest logging profits with local residents is not a new topic. Cameroon's 1994 forestry law provided that a share (10%) of the annual area tax (determined by an auction process) be returned to the local communities. Subsequent legislation introduced the principle of paying 1,000 FCFA (€1.5) per m^3 of logged timber to the communities. These regulations are becoming generalised in the Congo Basin. Congo's Decree 5053 (enacted in 2007) provides for the creation of Community Development Areas (CDA) as part of development plans, such as areas 'likely to contribute to the development of local economies and the fight against poverty', whose boundary demarcations must consider community requirement for carrying out subsistence activities (e.g. agriculture and agroforestry, domestic livestock, fisheries and fish farming, hunting and gathering). As an extension of these specific areas some companies have formed Local Development Funds (LDFs), mentioned in the new Forest Code draft as an integral part of development plans. They are meant to finance micro-projects of community interest and are

[7] According to the FAO (FRA 2015), Gabon has recorded a +0.2% figure in annual net change of forest area per year between 1990 and 2015. FRA 2015 cannot allow to distinguish between North and South Congo (this last displaying more deforestation), but for the entire country and the same 1990–2015 period the figure is of only –0.1% per year (against –0.2% for DRC which industrial timber production is around 300,000 m^3 in average against 2 million m^3 and more for Congo or Gabon).

financed through fees of 200 FCFA per m^3 on the logged volumes. Gabon's Decree 105, which sets the model for contractual specifications, requires the concession-holder to sign an agreement with the local people "who live within the concession or are local residents". Article 1 states that "this agreement aims to directly benefit the communities with the gains from forest logging carried out by the forest concession-holder in their landholding". The contribution must be made to an LDF, which will finance "projects of collective interest identified by the concerned village communities".

While, in the Congo, the 'community' aspect is clearly mentioned among the micro-project eligibility criteria, its scope is not clarified (Schmitt *et al.* 2015). Gabon's Decree 105 explicitly refers to a community land (the landholding) within the concession where timber is logged and which therefore implicitly acts as the basis for the sharing of some of the profits.

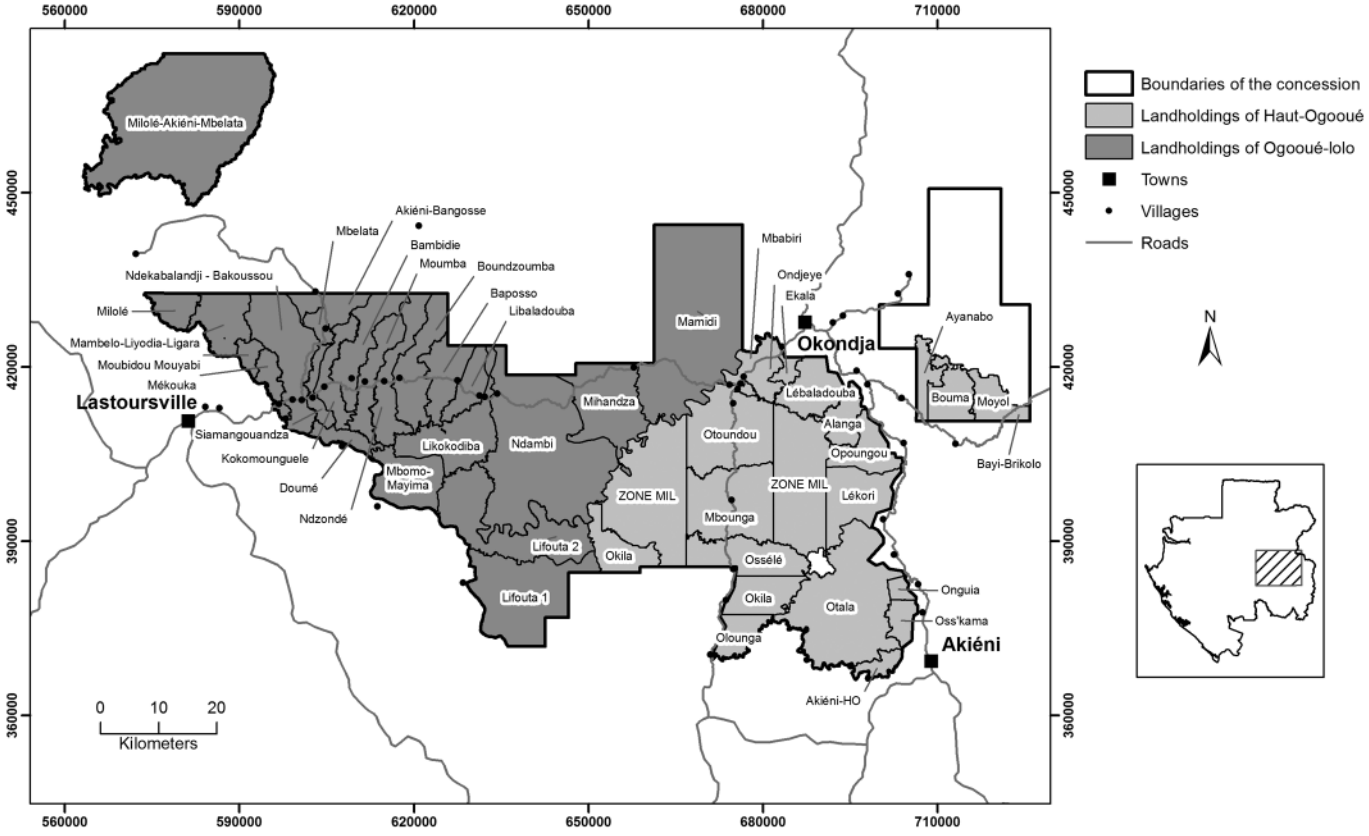
Rethinking community forestry along a renewed concession regime

In Gabon, concession-holders have undertaken to accurately map these landholdings[8] to serve as a basis for discussion and profit sharing with the communities. One of the most successful examples is undoubtedly that of the CEB-Precious Wood concession, which worked for several years with sociologists and produced a map of the landholdings in 2012 (see below), with each landholding corresponding to a village or group of villages.

The boundaries of these landholdings have been defined in consultation with the villages concerned. While most of the concession is covered by landholdings, some areas are not under the village's influence.[9] A CEB document (undated) states the following:

> "The agreement, a prerequisite to any operation in the village area of influence, is formalised by the forest fête organised by the villagers and the CEB. The event, a proof of the free and informed consent, marks the beginning of logging in the landholding of the concerned villages. In case of disagreements, logging in the disputed area is terminated until discussions between the parties involved result in a solution acceptable to all" [the money is not given in cash but is used to fund projects and purchase of equipment].

FIGURE 1 *Map of village landholdings within the CEB-Precious Wood concession in Gabon (source: CEB & TEREA)*



[8] The term 'landholding' (*finage* in French) we use here refers to the extent of land owned and more or less completely used by an agricultural community. The definition by Henri Mendras (1976, p. 33) can also be mentioned: 'The term 'landholding' designates the area occupied and 'legally' owned by a community, regardless of the mode of ownership' (underline added). For its use in the context of Central Africa, see Karsenty and Marie (1998).

[9] In these areas, the CEB pays fees to the villages the landholdings of which are not rich in commercial species. The CEB, an FSC certified company, pays 300 FCFA per m^3 of wood sawn in its factories and 1,000 FCFA for wood sold as logs.

The CEB's initial project was to share royalties from annual logging and pay back a share to the communities in proportion to the size of their landholdings within the concession in order to pay more or less steady amounts to the communities each year. This was not possible, since the communities wanted to be paid the full royalty corresponding to the volume taken from the landholding and agreed to not receive anything once logging was shifted.

The CEB's experience is particularly interesting insofar as there is a reconnaissance mapping of specific forms of space/resource allocation that overlap with other rights (that of timber logging). While this is a simplified representation (the range of controls is not reflected), it is suitable for its intended (profit-sharing) purpose and can serve as a basis for developing common interests between the company and the communities concerning the exploitation of resources other than timber.

From mutual exclusion to overlapping: towards an inclusive community forestry

Community forests and industrial concessions are generally considered mutually exclusive. The idea that forest populations can have an exclusive area where their rights to conduct various activities are guaranteed is the basis of community forests as we know them in Cameroon. However, these forest areas are the geometric realisation of a separate, specialised space management model. Focusing only on the location of the boundary that would separate a community forest from the industrial concession amounts to the zero-sum game logic (what one wins, the other loses), without trying to coordinate the usage (e.g. commercial timber logging, farming, harvesting of non-wood forest products, hunting, fishing) across all relevant massifs influenced by practices involving interaction between the local people and businesses. It is precisely the organisation of these different usages of the same ecosystem that should be the focus of forest management for long-term viability. This requires thinking in terms of the coexistence of numerous resource uses before thinking in terms of mutually exclusive spaces. These new principles form the basis of an inclusive community forestry, which encompasses both the traditional community forest (which is a community concession) and landholdings within industrial concessions.

From traditional concession to a joint resource management institution: proposals for the governance of concessions 2.0

These dynamics can be the starting point for the transformation of the concession system in Central Africa, with the recognition of rights associated with various 'institutional layers' overlapping within the same area. The overlapping spaces may not only be a key element for sharing of benefits (which they already are in some cases) but they could also become joint management areas (including for the monitoring of 'outsiders', poachers, and illegal operators) with the development of economic activities other than timber logging in joint ventures between industrial concessions and the various beneficiary communities. These overlapping rights must be recognised by national legal frameworks. The stabilisation of agricultural clearings in landholdings within the industrial concessions could be organised as part of the projects carried out with external stakeholders, possibly in the form of payments for environmental services (PES), by transforming the profit-sharing mechanism into conditional transfers based on the PES base principle.

Community concessions, which require exclusive rights, should be formalised after changes are made to the industrial concession boundaries in order to identify areas that lack viable small businesses. These adjustments would constitute the second phase of the promotion of joint concession management, encompassing the overlapping rights and the exclusive rights of communities. The gazetting of forest management units, not yet undertaken or completed in Central Africa, will constitute the legal process enabling the movement of boundaries as per requirements. In short, it pertains to organising community forestry (in a broader sense) so that it *defines two areas*:

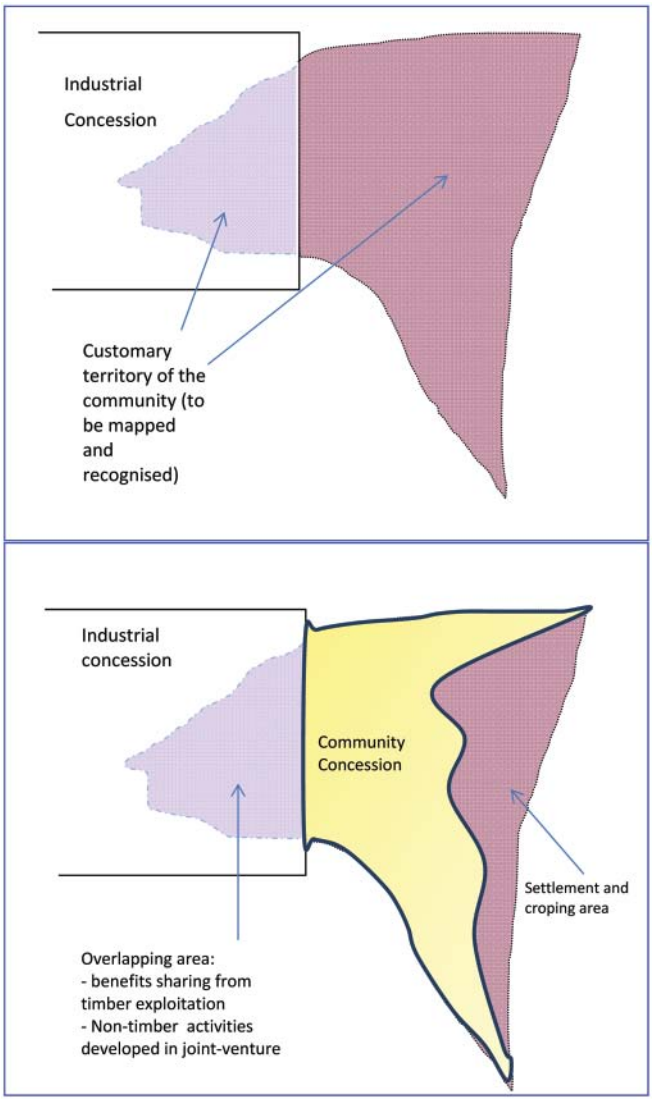
- An *exclusive* area in the form of community concession within the landholding
- An *inclusive* area identified by maps drawn in consultation with the communities and their neighbours – an area that can have boundaries that are precise (e.g. rivers, ridgelines) or fuzzy (i.e. with grey areas, especially in the case of resource sharing with neighbouring communities within the boundaries). These non-exclusive areas can overlap with other statuses such as forestry concessions or protected areas and be identified in the specifications of companies or conservation organisations.

In overlapping areas it is possible to go much further than sharing profits from timber logging. Development on the various 'included landholdings' (within industrial concessions) for the resource exploitation of subsectors other than timber is possible as part of joint ventures between the forestry company and each community granted landholding rights. Sport hunting can be part of these activities, possibly with a specialised operator who would share the profits with the communities. The NTFP harvesting and processing subsectors are other resource exploitation options that could benefit from the professional company structure and benefit the communities, in terms of both jobs and profit sharing.

One obvious obstacle is the companies' will and ability to develop and support these joint ventures in social contexts known to be unfriendly to the establishment of businesses that require sustained cooperation among its members. On the other hand, the development of the concession toward a new and inclusive institutional form may justify the support of public development aid, a support the industrial concessions currently lack because of the controversies surrounding it.[10]

[10] See, for example, the World Bank's 2013 Forest Policy Assessment Report from its Internal Assessment Group, which opposes industrial concessions in community forests, arguing that they hinder the forests' development.

FIGURE 2 *Potential dual dimension diagram of community forestry: landholding overlapping the industrial concession, potential areas for community concession and agroforestry*



The recognition of rights on landholdings helps in considering the introduction of PES, which could both remunerate the beneficiaries for the conservation and control (against outsiders) of their 'inclusive landholdings' and contribute funds for investments in the reforestation and restoration of the degraded areas. The PES oriented toward investment (Karsenty 2015) could also assist in establishing perennial crops (e.g. cocoa, palm oil) in some deforested areas of the 'included landholdings' in agreement with the company, which could help market these agricultural products. In a word, that is what we call 'Concessions 2.0'.

To enable this development toward 'concessions 2.0', legal frameworks could be adapted and made consistent. Zoning policies based on a strict specialisation of lands should be reviewed toward a more balanced approach to help in the management of overlapping rights concerning the same forestlands. FSC certification offers significant incentives for such a development, and the mapping of traditional territories is considered a possible empowering REDD+ activity.

Proposals for Concession 2.0 governance

A participatory and inclusive governance model could be considered along the lines of what has already been tested, especially in protected areas in Africa (Roe *et al*. 2009) and in Swedish forests (Carlsson 1997). The idea is to share decision making through an institutionalised negotiating platform (Borrini-Feyerabend *et al.* 2000) in which each partner would have the right to vote. This would focus on the various harvested natural resources, excluding timber. It is important to clearly define the decision-making process that would be entrusted to this executive process meeting and would remain in the hands of the concession-holder under the dual control of the state and the negotiating platform.

For a forest concession in Cameroon, for example, this negotiating platform (or 'concession management committee') could include a representative of the decentralised structure of the Ministry of Forests (e.g. Station Head, regional authority), two representatives of the forest company (industry and development), a representative worker (union representative), a representative of the local residents association, a representative of the hunting safari operator (if applicable), and representatives of the local resident communities in proportion to the percentage of the areas traditionally owned by each village within the concession. Where the number is unfavourable to certain players, it would be necessary for some members (e.g. administration, concession-holder) to have veto rights. This meeting could be held, for instance, twice a year to decide on the major guidelines for managing the concession. Sharing decision making does not imply sharing the responsibility of implementing the decisions, which would remain in the hands of the legal representatives, concession-holder, and competent public administrations.

The sharing of decision making should be accompanied by a local profit-sharing model, resource by resource, possibly financed by timber royalties in favour of the people. The same negotiation platform would then determine the allocation of the profits to the people, as prescribed by the prevailing community management system of the Village Hunting Areas of the CAR (Bouché *et al.* 2011). The negotiation platform shall constitute the place par excellence for debate, negotiation, and decision making on the rights to be assigned to overlapping areas seeking an operational and regular co-management process that determines the duties, rights, and responsibilities of each player.

From a participatory perspective, this model clearly stands out from Cameroon's current system – for example, where the farmer–forest committees limits participation to consultation. The proposed structure grants local representatives access to decision making and voting. From a profit-sharing perspective, it differs from Cameroon's current Annual Area Fee (AAF) system in that the revenues allocated to communities would be paid directly at the local level, without being routed through the central government, to avoid the diversion of

some parts of the Cameroonian AAF during the funds' lengthy routing procedure.

The question of the election of village representatives, their accountability, and especially the ability of the people to remove them in case of negligence shall remain crucial, however, if we are to avoid the excesses observed in the management of the Cameroonian AAF (Mbairamadji 2009, Yamo 2015). In this context, one might suggest that the representatives should be elected for a non-extendible term of two years and that the management committee should be able to prosecute a member for alleged embezzlement or misappropriation.

In practice: a co-management process to be invented

In practical terms, what changes will the new mode of governance and the access to other resources bring to the challenges faced by the concessions? In agriculture, for example, the taboo on agricultural encroachment zones could first be lifted, and these areas should be recognised and mapped. The next step for the management committee would be determining the joint management arrangements, such as the demarcation of agricultural areas not to be overstepped, support for agricultural intensification, cooperation for the evacuation of products, reforestation methods, and incentives for developing crops that maintain forest cover. For commercial hunting, the terms negotiated with the representatives of the local communities will help identify the illegal settlements and schedule their eviction (necessary to help develop regulated joint economic activities). The economic partnership around this new economics and the sharing of profits should encourage strict compliance with the conservation areas and joint monitoring with the people, as is already the practice in many protected areas. These are but a few examples; each case will have to receive a negotiated practical solution based on an agreement binding the parties in terms of rights, responsibilities, and sanctions.

Artisanal sawing is a remunerative activity typically performed outside of regulations.[11] The pit sawyers compete with the industry for the logging of the same species, and their integration into the Concession 2.0 system does not seem realistic. It is unlikely that the artisans will be satisfied with the wood discarded in the logging areas, and it is unrealistic to expect that concessionaires will ensure that these artisans will restrict themselves to performing legal activities (including the payment of taxes) in the concessions. However, the community concessions are an appropriate framework for the deployment of the artisanal loggers' activities and for their formalisation in a more favourable regulatory framework.

Potential hurdles are numerous, starting with the difficulty of building mutual trust between industrial concessionaires, the communities and the local authorities in an often conflictual context about land use, hunting regulations and fulfillment of social specifications by the companies. Joint ventures between communities and companies might prove difficult to establish and make them economically viable. Companies might be reluctant to invest into mapping, joint ventures and to enter into inclusive governance processes without external financial support. Governments might be reluctant to recognise customary territories within gazetted forests, as they may perceive the process as threatening State ownership.

However, the concept draws upon recent dynamics developing with the incentive of forest certification and recent changes in legislations. Implementation might be less difficult in countries such as Gabon and Republic of Congo, where such changes in legislation have begun and where advanced concession holders have experimented the coupling between mapping and benefit sharing.

Box 1: Concession 2.0 and Indonesian KPH: how do they compare?

Since 1999 in Indonesia, the Forestry Law (Law 41/1999) stipulates that Forest Management Units (KPH for the Indonesian acronym) would be established not only in production forest, but covering all forest areas and functions. Establishment, in practice, has been neglected until 2007 when two Government regulations speed up the process. As stated by Suwarno *et al.* (2014:42) "*KPH is a forest management strategy with the dividing of forest land area into management area units based on certain criteria*". In practice, "*the Minister will allocate and stipulate certain areas for developing Community Plantation Forests (HTR), Community Forests (HKm) and Village Forests (HD) based on a proposal from the FMU*" (Kartodihardjo *et al.* 2011). KPH shares with Concessions 2.0 concept the concern for communities' rights: ("*the implementation of each component of forest management must consider the community's cultural values, aspirations and perceptions, as well as pay attention to the people's rights, and must therefore involve the local communities*", (Kartodihardjo *et al.* 2011) and the idea of multiple use of the forest area ("*Forest utilisation includes: area utilisation, environmental services utilisation, timber forest product utilisation, non-timber forest product utilisation, forest product collection*", Kartodihardjo *et al.* 2011).

But KPH regulations do not mention timber benefit sharing, mapping and recognition of customary rights within the industrial concession, nor economic joint venture and shared governance. The basic difference is that KPH is a juxtaposition of tenures onto a landscape with a public administration/coordination, while the Concession 2.0 concept is about managing overlapping tenures and valorisation of multiple resources under the supervision of a private entity. While KPH are oriented toward land sparing, the Concession 2.0 concept pertains to the land sharing logic.

[11] Which is usually inadequate and requires changing (Lescuyer *et al*. 2012), but that is another discussion.

CONCLUSION: REFORMING LAWS AND INVESTING IN AN INNOVATIVE INSTITUTIONAL PROCESS

Current forest codes allow timber logging only in forest concessions. People are allowed to exercise only the traditional rights of use but not to develop market channels for non-wood products. A change in legislation enabling the concession-holder to form joint structures for the commercial harvesting of non-wood products along with the communities that are stakeholders in the management of the concession are thus required. This would mean recognising new rights (mainly over land and resources, given that different people may hold different real rights on the same asset) for communities, which poses the problem of their legal form. In the DRC, the 2014 decree on the allocation of forest concessions to local communities allows the allocation of forests without the legal form of the community being formally established, but it requires that logging operations be preceded by the establishment of an association, a cooperative, or a local development committee (i.e. structures that can benefit from a legal form). Such a structure could inspire changes in the laws of other countries: the self-defined community is recognised as having real rights over its entire landholding, while the joint-venture harvesting operations in non-wood products or perennial plants are preceded by the creation of a community trade association structure.

One of the conditions for implementing Concession 2.0 is that a significant investment be made in the participatory mapping work of community landholdings in forest areas, with priority given to areas overlapping with industrial forestry concessions. Some forest companies have already undertaken this mapping work in their concessions, but it is necessary to map all the landholdings – including the areas outside the concessions. Only a handful of companies are involved in this process, and it is unlikely that the other companies will do so spontaneously, especially without financial aid. The work done by NGOs and the work mentioned above may constitute a beginning, but mapping within the concessions will have to be done in cooperation with the logging companies. The announcement made in September 2015 regarding the creation of the Central African Forestry Initiative (CAFI), which aims to invest up to 500 million USD in forest programmes, is a major opportunity to change the scale of the participatory mapping of landholdings and provide support and assistance to the institutional process leading to concessions 2.0.

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REFERENCES

ALDEN WILY, L. 2012. Land rights in Gabon: facing up to the past – and the present. Fern report for the EU. www.fern.org/landrightsingabon

BADIE, B. 1995. *La fin des territoires*, Fayard, Paris, France, 278 p.

BIGOMBE, P.L., ABESSOLO, J.A. and KOULBOUT, D. 2005. Vers une conservation bénéficiaire aux pauvres au Cameroun ? In: *Poverty, Equity and Rights in Conservation*. Working Paper Series, UICN, 20 p.

BOHANNAN, P. 1963. Land, Tenure and Land-Tenure. In: Biebuck D. (ed.) *African Agrarian Systems*, Oxford University Press, UK: 101–111.

BORRINI-FEYERABEND, G., TAGHI FARVAR, M., NGUINGUIRI J.-C. and NDANGANG, V. 2000. *La gestion participative des ressources naturelles: organisation, négociation et apprentissage par l'action*. GTZ and UICN, Kaspareg Verlag, Heidelberg (Germany), 66 p.

BOUCHE, P., BACHE, A.X., YAKAT, M., CHENDA, A., MANGUE, A. and ZOWOYA, F. 2011. Les zones cynégétiques villageoises du nord de la République Centrafricaine: 15 ans déjà! *Parcs & Réserves* **65**(2): 1–9.

CARLSSON, L. 1997. *Les forêts collectives suédoises: une ressource possédée en commun dans une société urbaine industrialisée*. Réseau Foresterie pour le Développement Rural, Documents du Réseau, **20**: 1–14.

CEB-PRECIOUS WOOD (undated). *Le consentement libre et informé de la population avant toute exploitation forestière de Precious Woods CEB*. Retrieved at: http://www.preciouswoods.com/domains/preciouswoods_com/data/free_docs/060708_consentement_des_populations_fr.pdf

CUNY, P. 2011. *État des lieux de la foresterie communautaire et communale au Cameroun*. Wageningen, Pays-Bas, Tropenbos International, 79 p.

DEFOURNY, P. DELHAGE, C. and KIBAMBE, J.-P. 2011. *Analyse quantitative des causes de la déforestation et de la dégradation des forêts en République Démocratique du Congo*, Report, FAO-RDC Coordination nationale REDD, Catholic University of Louvain, 105 p.

EZZINE DE BLAS, D., RUIZ PEREZ, M., SAYER, J.A., LESCUYER, G., NASI R. and KARSENTY, A. 2009. External influences on and conditions for community logging management in Cameroon. *World Developpment* **37**(2): 445–456.

EZZINE DE BLAS, D.E., RUIZ PEREZ, M. and VERMEULEN, C. 2011. Management conflicts in Cameroonian community forests. *Ecology and Society* **16**(1): 8.

FAO, 2015. Global Forest Resources Assessment 2015. Retrieved at: http://www.fao.org/forest-resources-assessment/en/

FEINTRENIE, L. 2014. Agro-industrial plantations in Central Africa, risks and opportunities. *Biodiversity and Conservation* **23**(6): 1577–1589.

HAUREZ, B., PETRE, C-A., DOUCET, J-L. 2013. Impacts of logging and hunting on western lowland gorilla (Gorilla gorilla gorilla) populations and consequences for forest regeneration. A review. *Biotechnol. Agron. Soc. Environ.* **17**(2): 364–372.

HAUREZ, B., TAGG, N., PETRE, C.-A., VERMEULEN, C. and DOUCET, J.-L. 2016. Short term impact of selective logging on a western lowland gorilla population. *Forest Ecology and Management* **364**: 46–51.

HOPKIN M., 2007. Mark of respect. *Nature* **448**: 402–403.

IIED (International Institute for Environment and Development), 2000. Land Tenure Lexicon: A glossary of terms from English and French speaking West Africa, London.

JULVE, C., ECKEBIL, T.P., NZOYEM SAHA, N., TCHANTCHOUANG, J.-C., KERKOHF, B., BEAUQUIN, A., MBARGA MBARGA, J.-P., VERMEULEN, C., CERRUTI P.O. and LESCUYER, G. 2013. Forêts communautaires camerounaises et Plan d'action «Forest Law Enforcement, Governance and Trade» (FLEGT): quel prix pour la légalité? *Bois et Forêts des Tropiques* **317**(3): 71–80.

KARSENTY, 2015. Using PES to achieve «zero deforestation» agriculture. *Perspective* **36**, Cirad, Montpellier, France.

KARSENTY, A. and MARIE, J. 1998. Les tentatives de mise en ordre de l'espace forestier en Afrique centrale. In Rossi, G., Lavigne Delville, Ph. & Narbeburu D. In *Sociétés rurales et environnement*, Karthala, Paris, France.

KARSENTY, A., MENDOUGA MEBENGA, L. and PENELON, A. 1997. Spécialisation des espaces ou gestion intégrée des massifs forestiers ? *Bois et Forêts des Tropiques* **251**(1): 43–54.

KARTODIHARDJO, H., NUGROHO, B. and PUTRO H.R. (Summary by LANG, B.), 2011. Forest Management Unit Development – Concept, Legislation and Implementation, Ministry of Forestry, GIZ, Jakarta.

KLEINSCHROTH, F., GOURLET-FLEURY, S., SIST, P., MORTIER, F. and HEALEY J.R. 2015. Legacy of logging roads in the Congo Basin: How persistent are the scars in forest cover? *Ecosphere* **6**(4): 64.

KOUEDJI, J.F., MONTHE, A.-C.P. and NGUENANG, G.M. 2015. Gestion participative des forêts: évaluation de l'efficacité des Comités paysans-forêts dans l'Est-Cameroun. *Bois et forêts des Tropiques* **324**: 19–28.

LE ROY, E. 1991. Une conception topocentrique. In: LE BRIS, E., LE ROY, E. and MATHIEU, P. (eds). *L'appropriation de la terre en Afrique Noire*. Karthala, Paris, France, 359 p.

LESCUYER, G., POUFOUN J.N., COLLIN, A. and YEMBE-YEMBE R.I. 2014. *Le REDD+ à la rescousse des concessions forestières? Analyse financière des principaux modes de valorisation des terres dans le bassin du Congo*. Working document **160**. Bogor, Indonesia: CIFOR.

LESCUYER, G., CERUTTI, P.O., ESSIANE, M.E., EBA'A ATYI, R. and NASI, R. 2012. Evaluation du secteur du sciage artisanal dans le bassin du Congo. In: DE WASSEIGE, C., DE MARCKEN, P., BAYOL, N., HIOL HIOL, F., MAYAUX, Ph., DESCLEE, B., NASI, R., BILLAND, A., DEFOURNY, P., EBA'A, R. (eds.). *Les forêts du Bassin du Congo: Etat des forêts 2010.* Publication Office of the European Union, Luxembourg, 97–107.

MACQUEEN, D. 2008. *Supporting small forest enterprises – A cross-sectoral review of best practice.* Small and Medium Forestry Enterprise Series, **23**. IIED, London, UK.

MBAIRAMADJI, J. 2009. De la décentralisation de la gestion forestière à une gouvernance locale des forêts communautaires et des redevances forestières au Sud-Est Cameroun. In *Vertigo, La revue en sciences de l'environnement* **9**(1): 1–9.

MENDRAS, H. 1976. *Sociétés paysannes – Éléments pour une théorie de la paysannerie*. A. Colin, Coll. U., Paris, 238 p.

MORIN, A., MEUNIER, Q., FEDERSPIEL, M. and VERMEULEN C. 2014. *Atlas cartographique. Présentation des outils d'analyse spatiale et d'aide à la décision*. DACEFI 2 Project, Libreville, Gabon. 12 p.

ONGOLO, S. 2015. On the banality of forest governance fragmentation: Exploring 'gecko politics' as a bureaucratic behaviour in limited statehood. *Forest Policy and Economics* **53**: 12–20.

ONGOLO, S. and KARSENTY, A. 2015. The politics of forestland use in a cunning government: Lessons for contemporary forest governance reforms. *International Forestry Review* **17**(2): 195–209.

ROBINSON, B.E., HOLLAND M.B. and NAUGHTON-TREVES, L. 2011. *Does secure land tenure save forests? A review of the relationship between land tenure and tropical deforestation*. CCAFS Working Paper 7. CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Copenhagen, Denmark.

ROE, D., NELSON, F. and SANDBROOK, C. 2009. Community management of natural resources in Africa: Impacts, experiences and future directions, *Natural Resource Issues* **18**, International Institute for Environment and Development, London, UK.

SCHIPPERS, C., BRACKE, C., NDOUNA ANGO, A., NDONGO N.C., MIHINDOU, V., BOUROUBOU, F., DISSAKI, A. and VERMEULEN, C. 2008. Délimiter des forêts communautaires: une approche par contraintes multiples. In: VERMEULEN, C. and DOUCET, J-L. (Eds.) *Les premières forêts communautaires du Gabon: Récits d'une expérience pilote*. Sainte-Ode, Belgium, 86 p.

SCHMITT, A. and BAKETIBA, B., 2015. *Revue et analyse des principaux mécanismes de partage des bénéfices existants en République du Congo*. The IDL Group & EFI, 67 p.

SINGER, B. and KARSENTY, A. 2008. Can concessions be justified? A multidisciplinary perspective from Africa and beyond. *Journal of Sustainable Forestry* **27**(3): 224–245.

SUWARNO, E., KARTODIHARDJO, H., KOLOPAKING, L.M. and SOEDOMO S. 2014. Institutional Obstacles on the Development of Forest Management Unit: The Case of Indonesian Tasik Besar Serkap. *American Journal of Environmental Protection* **2**(2): 41–50.

STOKES, E.J., STRINDBERG, S, BAKABANA, P.C., ELKAN, P.W., IYENGUET, F.C. *et al*. 2010. Monitoring great ape and elephant abundance at large spatial scales:

Measuring effectiveness of a conservation landscape. *PLoS ONE* **5**(4): e10294. doi:10.1371/journal.pone.0010294.

TOPA, G., KARSENTY, A., MEGEVAND, C. and DEBROUX, L. 2009. *Rainforests of Cameroon: A decade of reforms*, World Bank Series, Departments of Development, Environment and Sustainable Development, Washington, 195 p.

VERMEULEN, C. 1997. Problématique de la délimitation des forêts communautaires en forêt dense humide, Est-Cameroun. In: *Proceedings of the Limbe Conference*, Limbe Botanic garden, Cameroon, 17–24 January 1997, Earthwatch Europe, UK Tropical Forest Forum.

VERMEULEN, C., SCHIPPERS, C., JULVE LARRUBIA, C., NTOUME, M.F.D., BRACKE, C. and DOUCET, J.-L. 2009. Enjeux méthodologiques autour des produits forestiers non ligneux dans le cadre de la certification en Afrique centrale. *Bois et Forêts des Tropiques* **300**(2): 69–78.

VERMEULEN, C., VANDENHAUTE, M., DETHIER, M., EKODECK, H., NGUENANG, G.-M. and DELVINGT, W. 2006. De Kompia à Djolempoum: sur les sentiers tortueux de l'aménagement et de l'exploitation des forêts communautaires au Cameroun. *Vertigo* **7**(1): 1–8.

YAMO, A. 2015. *Représentation locale compromise dans la gestion de la rente forestière communautaire au sud-est du Cameroun*. Initiative pour la gouvernance démocratique des forêts, Working Document **12**, CODESRIA, 31 p.