

Is China unique? Exploring the behaviour of Chinese and European firms in the Cameroonian logging sector

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SUMMARY

China's growing presence in Africa's extractive industries has been the subject of much debate in recent years, reflecting concerns about both environmental sustainability and the governance of resource wealth for long-term benefit. In Cameroon, since 2000 the largest timber concession in the country has been held by a Chinese company. This provides an opportunity to take a deeper look at corporate practices in the extractive industry and explore the extent to which corporate behaviour varies between Chinese and non-Chinese companies. Through a general analysis of Cameroonian timber production and trade, and a detailed analysis of two European companies (one FSC-certified) and one Chinese company (without FSC certification), this paper assesses the effects of Chinese capital and China-related trade on rural livelihoods and forest condition in the Cameroonian forestry sector. Our findings suggest that while the Chinese market shapes the trade patterns and management activities of logging companies, it does so irrespective of the companies' nationality. Also, findings suggest that nationality of firms has a weak influence on the impacts on local livelihoods around the sampled logging concessions in Cameroon.

Keywords: Cameroon, China, sustainable forest management, logging concessions, timber trade

La Chine est-elle unique? Une exploration du comportement des firmes chinoises et européennes dans le secteur de coupe du bois camerounais

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La présence croissante de la Chine dans les industries d'extraction en Afrique a été le sujet de nombreux débats ces dernières années, reflet des inquiétudes quant à la durabilité environnementale et à la gouvernance des richesses naturelles pour des bénéfices de long terme. Au Cameroun, la plus large concession forestière appartient à une compagnie chinoise depuis 2000. Ceci offre une opportunité d'observer plus en profondeur les pratiques des sociétés extractives et d'explorer la différence de comportement entre les sociétés chinoises et non-chinoises. À l'aide d'une analyse générale de la production et du commerce de bois d'œuvre au Cameroun, et d'une analyse détaillée de deux compagnies européennes (dont une est certifiée FSC) et d'une compagnie chinoise (non-certifiée FSC), cet article évalue les effets des investissements chinois et du commerce lié à la Chine sur les revenus des populations rurales et sur l'état des forêts dans le secteur forestier camerounais. Nos résultats suggèrent que le marché chinois influence les courants commerciaux et les activités de gestion des compagnies indépendamment de leurs nationalités. De plus, la nationalité des firmes n'influence pas non plus les impacts sur les revenus des populations locales basées à proximité des concessions échantillonnées au Cameroun.

¿La China tiene algo especial? Un estudio del comportamiento de las empresas chinas y europeas en el sector maderero camerunés

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La presencia china cada vez mayor en las industrias extractivas africanas ha sido el sujeto de muchas discusiones en los últimos años, lo cual refleja las preocupaciones tanto respecto a la sostenibilidad ambiental como a la gestión de los recursos valiosos para proporcionar beneficios a largo plazo. Desde el año 2000, la concesión maderera más grande de Camerún está en manos de una compañía china. Esta situación genera una oportunidad de examinar en mayor profundidad las prácticas corporativas en la industria extractiva y de explorar hasta qué punto el comportamiento corporativo varía entre las empresas china no chinas. A través de un análisis general de la producción y del comercio de la madera en Camerún y un análisis detallado de dos compañías europeas (una de ellas certificada por el FSC) y una china (sin certificación del FSC), este estudio evalúa los efectos del capital chino y del comercio relacionado en los hogares rurales y la condición de los bosques en el sector forestal del país. Nuestras conclusiones sugieren que mientras es el mercado chino que establece las pautas comerciales y las actividades de gestión de las empresas madereras, lo hace igual sin tener en cuenta la nacionalidad de las compañías. Las conclusiones indican también que la nacionalidad de las empresas sólo tiene una influencia débil en el impacto sobre las comunidades en las zonas alrededor de las concesiones estudiadas en Camerún.

INTRODUCTION

The attention China has shown in recent years to Africa's natural resource wealth is raising concerns on the sustainability of natural resource extraction, both in terms of the rate of extraction and the impacts on the surrounding natural environment (de Wit 2007). China has been widely criticized internationally for violations of anti-corruption, environmental, labour and social standards in Africa (Asche and Schüller 2008), and in many African countries, trade flows of wood products to the rest of the world – often through China – have been shown to be heavily correlated with increases in unsustainable or illegal harvesting, biodiversity loss, and the abuse of forest communities' rights (Canby *et al.* 2008, p.19). Yet it is debated to what extent this rhetoric is supported by evidence, and to what extent it is reflective of a pro-West bias and driven by concerns among those actors who feel their positions of privilege within the African extractive sector eroding within the coming of a major new player (e.g. Mawdsley 2008). The latter view is plausible because in Cameroon, as in many other African countries, the export-oriented timber industry was long dominated by foreign companies and for many years the largest share of timber was bound for Europe (Eba'a Atyi 1998, Essama-Nssah and Gockowsky 2000, Ndoye and Kaimowitz 2000, Wunder 2003, Lassagne 2005).

Among Congo Basin countries, Cameroon stands out as a pioneer in its efforts to conform to the emerging global standards governing logging and the wood trade. In October 2010, the country signed a Voluntary Partnership Agreement (VPA) with the European Union, which aims at guaranteeing that all timber exports will be from legal sources. Cameroon has also the highest number of FSC-certified logging concessions in the Basin, against which the performances of not-yet-certified companies can be assessed. Also, Cameroon has been the first country in the Congo Basin to adopt specific regulations for the redistribution of forestry taxes to improve the livelihoods of rural citizens living near logging concessions, amounting to about 1.1 million people. The Chinese market is very important for Cameroon: the largest surface in terms of logging concessions (about 660 000 ha or 12% of total concessions' area) is owned by a Chinese-owned logging company.¹

This paper provides a preliminary analysis of how forest-related trade between China and Cameroon differs from trade between Cameroon and other major buyers, and of whether and how the local impacts of timber production and trade could be ascribed to the involvement of Chinese capital or China-related trade. We also consider whether adherence to regulatory mechanisms such as forest certification significantly affects practices of harvesting, marketing, and the flow of benefits from logging to local communities. The analysis is based on both international trade data and case studies of three logging companies that differ in their countries of origin (i.e. location of headquarters) and their involvement in

different voluntary or regulatory schemes which are leveraged to support claims to legality and sustainability. Following a brief literature review on the Cameroonian logging sector and Chinese involvement in African extractive industries, the methodology is presented. This is followed by an analysis of production and trade patterns (with a special focus on trade patterns between Cameroon and China) and local impacts from the three companies studied. The paper concludes with a summary of main findings.

BACKGROUND

Chinese involvement in African extractive industries

African trade is rapidly re-orienting from the "Global North" to the "Global East" (Carmody and Owusu 2007). China's trade with Africa has exploded over the last few years as demand for imports has risen to fuel the rapidly expanding manufacturing sector, making China Africa's 3rd largest trading partner (Rich 2007). China has also become a significant source of foreign direct investment and development lending, with investment by state-owned and private commodity corporations rising rapidly due to government support programs (Corkin 2007, Asche and Schüller 2008). This has fuelled a new symbiosis between Africa and China, with China's demand for raw materials responding to Africa's relatively abundant supply of energy, minerals, timber and land, and growing demand in Africa for Chinese manufactured goods (Rotberg 2008). This Africa-China symbiosis could be "the making of Africa" by creating jobs, export processing zones and investments in education and infrastructure, or undermine long-term development via imported labor, competition with African goods, resource depletion and by slowing advances in governance.

China's role in Africa is of interest not only due to changes of degree (e.g. relative proportion of trade with Africa versus other regions, or total volume of trade), but of kind. Qualities which purportedly set China apart from other development partners include: (i) a collaborative state-business approach to foreign policy, enabling Chinese firms to bear risks hindering investment by other players (Edinger 2008); (ii) the limited transparency of high-stake negotiations involving foreign aid, trade and investment (Huse and Muyakwa 2008); and (iii) a "no questions asked" policy regarding terms and conditions of development lending – viewed favourably by African leaders keen to maximize self-determination and minimize non-tariff trade barriers, but seen by some to potentially loosen social and environmental safeguards and enhance risk of indebtedness (Bank Information Center – BIC 2006, AFRODAD 2007). Indeed, China has been heavily criticized for violations of anti-corruption, environmental, labour and social standards in Africa (Asche

¹ We define as "Chinese" any company headquartered in Mainland China, including the Hong Kong Special Administrative Region. Companies with ethnic Chinese owners of any nationality but without headquarters in China are not considered Chinese companies.

and Schüller 2008), raising concerns about the sustainability of extractive activities (de Wit 2007).

Some authors suggest that African countries' preferences for China as a trade partner reflect their quest to escape from pressures exerted by Western governments and NGOs to promote better governance (Kaplinsky *et al.* 2007, Beuret *et al.* 2008). Recent studies in Mozambique and Tanzania highlight the role of senior public officials in the illegal timber trade, much of which is destined to China (Mackenzie 2006, Bossel and Norfolk 2007, Milledge *et al.* 2007). Exports of unprocessed logs (against official policy), manipulation of official statistics and various forms of corruption have undermined economic gains to the country. Following the lifting of import duties on logs and sawn wood to ensure a secure wood supply to Chinese mills, China quickly became the largest importer of round logs in the world – much of it from countries experiencing high levels of illegal logging (Seneca Creek Associates and Wood Resources International 2004, Kozak and Canby 2007). Yet there is also growing evidence that China is increasingly concerned about forest sustainability, and in 2007, encouraged by a Chinese NGO, the State Forestry Administration and the Ministry of Commerce issued the *Guidelines for Sustainable Forest Management by Chinese Companies Operating Outside China* (Reuters 2007, Bosshard 2008), and the national forestry establishment is actively working to develop national standards for verification of timber to apply to imports (CAF-PROFOREST 2010). Meanwhile, China registers increasing imports of certified timber, high-level FLEGT engagements and interest in sustainable supplies (Sun *et al.* 2008).

Of course, Africa's natural resources are enticing to any country in need of raw materials. As the historical position of privilege of Africa's "traditional trading partners" (i.e. Europe and the USA) is eroded by the increase of China's presence and influence, it is possible that claims regarding the latter's negative environmental and social impacts are to some degree biased (e.g. Essama-Nssah and Gockowsky 2000 for the timber sector in Cameroon). Indeed, past experiences show that claims may not always be based on facts. For instance, before the 1997 Asian crisis, as the presence of Asian logging companies underwent a sharp rise in the Congo Basin, many rumours spread about vast clear-cutting operations and clandestine log-yards specifically linked to those companies. Yet an analysis carried out in Cameroon found no differences between the forestry practices of assessed Asian companies and those used by other companies, whether European or Cameroonian (Debroux and Karsenty 1997). In other words, claims about unsustainable practices were correct, but to single out Asian logging companies as fundamentally different from all others was not. Furthermore, as one seminal study demonstrated, reports on foreign interests in African resources are likely biased in favour of Western countries (and their corporations), with their well-articulated statements on social and environmental responsibility, to the detriment of China (and its corporations), whose motivations may be more straightforward but not necessarily more damaging (Mawdsley 2008).

After the 1997 Asian crisis, the timber demand of Asian countries, and notably of China, continued to grow, and the

latter has been for several years the top destination of logs exported from the Basin, surpassing historical destinations such as Italy, Spain or France. The increased demand from China, coupled with the two main issues discussed in the region in recent years, i.e. the legality of exported timber – notably through the adoption of measures such as the Voluntary Partnership Agreements with the EU – and forest certification, has revived fears on the ecological, economic, and social impacts of Asian companies, albeit this time almost entirely focussed on China (e.g. Michel and Beuret 2008). Indeed, the 'China issue' also seems to worry the donor community in the region, and two regional meetings have been recently organised to foster exchanges between the Chinese State Forestry Administration, the donor community, and Chinese logging companies operating in the region (COMIFAC 2010a, 2010b). This despite the fact that the latter are still a minority in the Congo Basin as compared to logging companies from other part of the world, notably Europe (e.g. Global Forest Watch and MINFOF 2007, de Wasseige *et al.* 2009, du Preez and Sturman 2009).

The Cameroonian timber industry: Historical and legal overview

Timber production in Cameroon has increased from independence in 1960 to 1997, with more steady and substantial growth over two periods: from 1975 to 1985, during the years of the economic boom, and again from 1994 to 1997, thanks to the currency devaluation and increased demand associated with the Asian economic boom (Eba'a Atyi 1998, Essama-Nssah and Gockowski 2000, MINEFI 2000, Wunder 2003). Timber exports were affected by these macro-economic events, but with divergent outcomes. About 28% of annual timber production was exported at the time of independence, almost entirely in the form of logs, a figure which increased to more than 70% by the mid-1970s. Yet while production continued to increase during the economic boom, the percentage of exports decreased due to a steady increase in domestic timber demand for construction – reaching about 24% of total production volumes by the end of the 1980s (Ndoye and Kaimowitz 2000, Wunder 2003). Following the economic crisis of 1986, exports increased both in absolute terms and as a percentage of total production, booming after the devaluation and growing until the end of the 1990s when new legislation came into effect.

In 1994 Cameroon adopted a new forest law, followed in 1995 by an implementing decree (Republic of Cameroon 1994, 1995). The new code introduced radical changes as compared to previous regulations. The first concerned the way in which timber was to be produced: sustainable forest management assumed a pivotal role (Karsenty 2006) and new logging concessions, to be allocated via public auctions and managed according to approved forest management plans, replaced the old system of logging licences granted in a discretionary manner. The new law favoured domestic processing over exports of raw timber, and each company bidding for a logging concession had to present evidence of ownership of an actively run sawmill within the country. As part of the legal prescriptions to increase domestic processing

capacities, a log export ban, albeit partial (not extended to all timber species), became effective in 1999. Unfortunately, the objectives of the law have only been partially attained, and although most logging companies now own a sawmill, activities remains limited to primary processing, i.e. sawnwood exported to the companies' headquarters in the EC, where they are further processed into final products.

A second major change was to increase logging area taxes and to introduce a tax redistribution system aimed at benefiting rural citizens living around logging concessions. Over the 2000–2009 period, about €90 million was redistributed to an annual average of about 50 rural councils with about 1.1 million citizens. While these revenue flows are significant, local development impacts are slow to materialize given local governance deficiencies (e.g. Bigombe Logo and Dabire Atamana 2002, Nzoyem *et al.* 2003, Bigombe Logo 2004, Ndjanyou and Majerowicz 2004, Oyono 2004, 2005, 2006, Lescuyer *et al.* 2008, Morrison *et al.* 2009, Cerutti *et al.* 2010).

The 1994 law required many implementing decrees to be adopted for the law to become fully functional, and while several have been adopted, these have been rolled out over more than a decade – thus retarding the implementation of activities on the ground, such as the preparation, approval, and control of forest management plans, or the effective use of redistributed forestry taxes at the council level, and several others are still awaited. Meanwhile, a number of events over the last 20 years have also affected the forest sector in general and a smooth implementation of the law in particular. For instance, as a consequence of the economic crisis that hit Cameroon in the second half of the 1980s, and of the stagnation that followed (Wunder 2003), in 1993 the government of Cameroon reduced the salaries of a burgeoning civil service by about 40 percent (Lienert 1998, Essama-Nssah and Gockowski 2000) before devaluing the local currency (the CFA Franc) by 50 percent in 1994. The devaluation boosted the cost competitiveness of Cameroonian timber on the international market by doubling the price timber companies received for their logs while only increasing their production costs by about 34% (Ndoye and Kaimowitz 2000, Wunder 2003). This pushed timber production to become entirely export-oriented (Eba'a Atyi 1998, Ndoye and Kaimowitz 2000), and log exports increased by 83% from 1993 to 1995. Secondly, in 1997 the Asian crisis hit, halting the growing Asian demand for timber as well as the operations of all Asian logging companies in the country. In 1999, the Ministry partially implemented the log-export ban previewed in the 1994 law. All these changes contributed to reshape logging activities and the origin of investment flows into these activities.

Participation of foreign actors in the Cameroonian logging sector

Logging in Cameroon has always been a capital-intensive activity dominated by foreign capitals and companies (Eba'a Atyi 1998, Essama-Nssah and Gockowsky 2000, Wunder 2003), but the sector has undergone many changes and has

played different roles in different periods. Historically, the forestry sector has been dominated by European companies, mainly French. In 1992, six European companies controlled about 75% of timber exports (Lassagne 2005).

Companies from the Middle East (mainly Lebanese) appeared at the end of the 1980s, while Southeast Asian companies (notably Malaysian) established forestry operations following the 1994 devaluation (Eba'a Atyi 1998, Lassagne 2005). The Asian economy was booming, and a growing Asian demand for logs helped sustain Cameroonian exports in the years prior to 1997 (Brunner and Ekoko 2000, MINEFI 2000). But the Cameroonian forestry sector in general, and timber exports in particular, were not spared by the crisis that hit Asian countries in 1997. The crisis had the effect of limiting the export boom created by the devaluation, and of modifying the countries of destination. Total log exports decreased by about 30% from fiscal year 1997/1998 to 1998/1999, and while 48% of all logs exported in 1997 went to Asian countries, only 29% of all exports the following year (1998) were directed to Asia (MINEFI 2000).

The Asian crisis and the concurrent implementation of the new forest legal framework, however, did not impact all Asian interests in Cameroon in the same way. For instance, exports to countries such as Japan and the Philippines (who experienced an economic boom prior to the crisis) almost halted in 1998. Several Asian companies (most notably, Malaysian) which had started operating in Cameroon only few years prior to the crisis (e.g. Debroux and Karsenty 1997), were forced to abandon their forestry operations. However, direct exports to mainland China decreased to a lesser extent (about 28%) – a trend that continued until 2005, while those entering the mainland through Hong Kong actually increased (MINEFI 2000). This trend is in line with other reports on the post-crisis shift of timber supply chains from other Asian countries to China (Putzel *et al.* 2008).

Additionally, in 1998, Chinese capital investment entered the Cameroonian forestry sector for the first time, when a Hong Kong-based group acquired the Cameroonian forestry operations of a French group (Forest Monitor 2001). The company later became the largest logging concession owner in Cameroon, as of 2007 owning 12% of the total area granted as logging concessions, followed by French and Italian groups with 10% and 7%, respectively (Global Forest Watch and MINFOF 2007).

METHODS

The paper uses a case study approach to understand the dynamics present within forestry operations of three industrial companies and their related impacts on the livelihoods of the neighbouring population. All sampled companies have timber trade relations with the Chinese market, i.e. they all have on-going contracts with, and export processed and unprocessed timber to, China, though to a different degree, but they differ in ownership – one company is Chinese while two are Europeans. Moreover, all companies have approved management plans regulating their logging activities in each

concession under their control, but one European company has additionally received FSC certification, while the Chinese company has a certificate of legal origin (Timber Legality & Traceability Verification, TLTV). While the Chinese company has significant exports to China, all companies have exported timber to China in recent years. The three selected companies are identified as follows in this paper:

- Company 1) European ownership with an FSC certified concession and an approved management plan;
- Company 2) European ownership without FSC certification system but with an approved management plan;
- Company 3) Chinese ownership without FSC certification system but with a certificate of legal origin and an approved management plan.

Details of these companies are summarized in Table 1. The choice of Company 1 and 2 was made based on a number of factors, among these ongoing trade relations with the Chinese market at the time of fieldwork, the number of villages neighbouring the company's logging concessions, and the availability of the management to participate in the research and to grant access to their logging concessions. As a condition of their participation, all companies requested to remain anonymous, which is why the identity of the companies researched is not revealed. This confidentiality agreement was accepted by the authors as the aim of the paper is to explore the extent to which Chinese actors are unique and the general factors contributing to corporate behaviours, rather than the impacts of particular operations per se.

The paper draws on published and unpublished data on concessions and trade, and the collection of qualitative data around logging concessions. Research was carried out in five villages neighbouring each concession. Villages were selected according to their demographic weight and proximity to the concession as well as to actual annual logging areas within the concession. Data on the three concessions were collected at the Ministry of Forests and Wildlife, as well as through interviews with logging companies and the villages neighbouring the concessions. A questionnaire (available from authors) was developed with questions varying according to the different groups interviewed. For instance, specific

questions on internal export policies and trade relations with the EC or China were asked to the managers of logging companies, while the focus for other groups was on the perceived impacts of those policies and resulting forestry activities. In total, twenty-four semi-structured interviews were conducted with the managers of logging companies and their forestry operation units, local administrative authorities (from the *Prefet* or *Sous-Prefet*), Regional Delegates of concerned ministries, mayors and local elites, and local leaders in concerned villages. Moreover, focus group discussions were carried out in each of the 15 villages, with particular emphasis placed on i) the perceptions of local citizens on forests exploitation activities, ii) the perceived impacts of logging activities on their livelihood, and iii) their vision of the future in terms of relations with the logging company and forest harvesting in their area.

In order to identify common themes and analyse whether differences observed among companies are related to market orientation (China vs. other), or company origin (Chinese vs. European), the results of the interviews with each company and with local citizens, were compared based on two main variables: production and trade, and local impacts. The first drew on global production and trade data, and the second on the perceptions of rural citizens living around logging concessions on the impacts of logging activities on their livelihoods.

FINDINGS

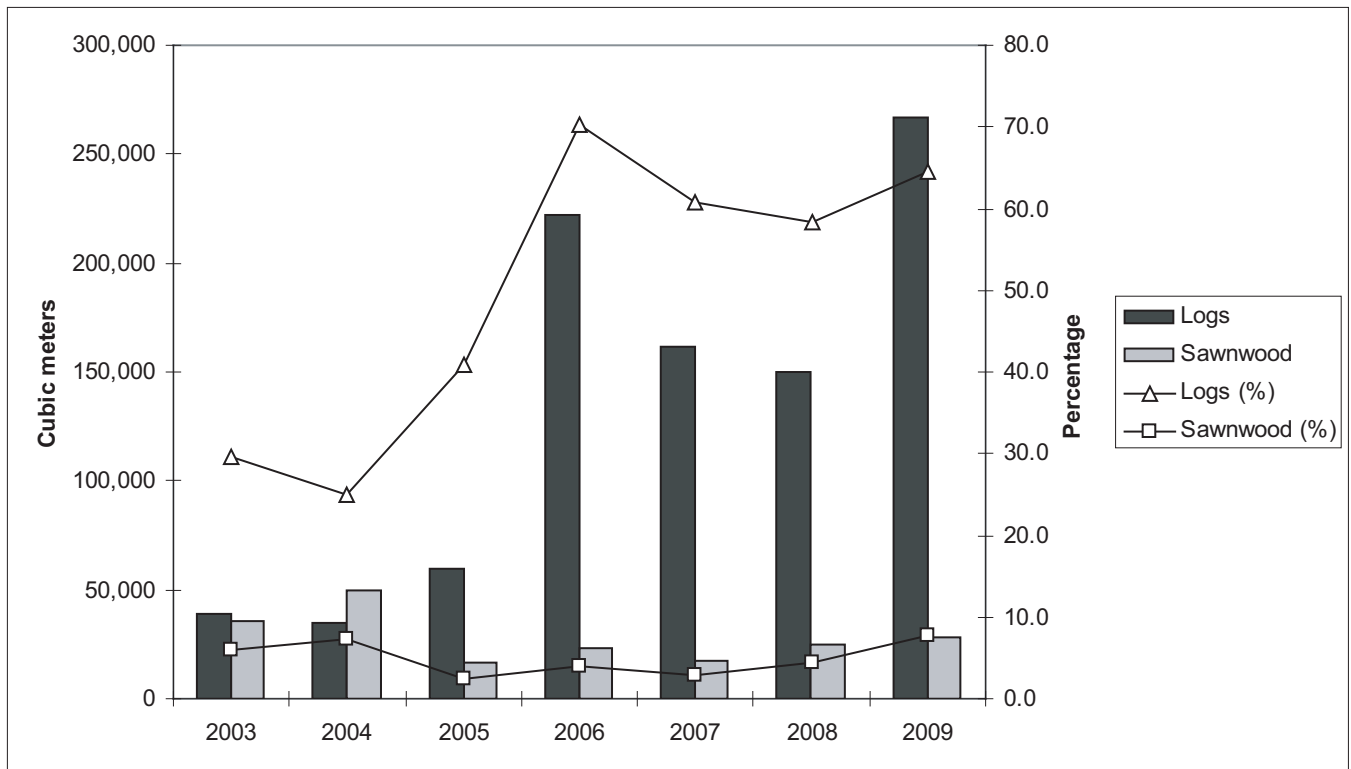
The influence of destination market on timber harvesting and trade

For several years now, China has become the leading export market for Cameroonian logs that remain unregulated by the partial log-export ban. These include secondary species with very limited European demand as processed timber. Log exports from Cameroon to China increased from about 29% of total log exports in 2003 to about 65% in 2009. In absolute terms, over the period 2003–2009, log exports to China experienced a sevenfold increase, reaching about 270 000 cubic meters in 2009 (Figure 1).

TABLE 1 *Characteristics of the three companies and concession areas*

| Characteristics | Company 1 | Company 2 | Company 3 |
|------------------------------------|---------------|-----------------------|-----------|
| <i>Governance characteristics:</i> | | | |
| Management plan | Yes | Yes | Yes |
| FSC certified | Yes | No | No |
| Certificate of legal origin | No | No | Yes |
| <i>Site characteristics:</i> | | | |
| Concession area (ha) | 95 000 | 36 000 | 69 000 |
| Number of neighbouring villages | 60 | 6 | 22 |
| Predominant ethnic groups | Banen, Bandem | Ndjanti, Tikar, Balom | Mbimo |

FIGURE 1 Log and sawnwood exports to China (2003–2009)



Although exports of sawnwood from Cameroon to China have also been rising in recent years (following a decrease from 2004 to 2005), they represented only about 8 percent of total sawnwood exports in 2009 (Figure 1), the rest being exported to the EU. This is in line with global trends in timber imports by China, as the recent history of China's forestry sector has resulted in improved national competencies in wood processing coupled with a huge shortfall in supply, which translated into a marked preference to import logs, as opposed to sawnwood (Kozak and Canby 2007, Kaplinsky et al. 2010).

This preference for logs, coupled with the fact that the Chinese market, in general, does not require the same standards of timber quality required by more demanding markets such as the EU, may have a direct environmental and commercial impact on Cameroonian forests. Harvesting in Cameroon has always been very selective (e.g. Ruiz Pérez et al. 2005), and the adoption of forest management plans in recent years has not modified this historical trend. In areas where the potential availability of commercially valuable timber is estimated at about 34 cubic meters per hectare (ONF-International et al. 2002), about 0.7 trees or 8 cubic meters per hectare were harvested over the period 2000–2009. Technical, commercial and financial considerations not discussed in this paper reportedly justify this selectivity (e.g. Karsenty and Gourlet-Fleury 2006, MINEFI 2006), about which foresters in Cameroon have expressed concern throughout the entire 20th century and to this day (e.g. Schanz 1914, Meniaud 1948, MINEF 2004). Some recent developments, such as several large mining projects located in the East of the

country, may soon provide interesting incentives, in the form of reduced costs of transportation, to harvest more low quality and secondary species. This is particularly likely if mining companies build the long-promised railway network that could potentially transport timber from remote areas to the sea at a fraction of the current road price. Currently, however, the most important fear on the part of the Ministry is still that, if market preferences or transportation costs do not change in the short- to medium-term, and secondary timber species are not in demand, then logging companies will more quickly empty their logging concessions of the most valuable species and abandon them. This will have a direct impact on the State's revenues, and will concurrently compromise several pillars of the forest policy, notably those concerning the redistribution of forest taxes to rural councils to improve people's livelihoods.

While reducing selectivity, and increasing the number of lesser-known species in the market might increase the ecological impact per area (Reid and Rice 1997, Rice et al. 1997), it could potentially slow the pace at which forests are opened to harvest and would enhance the economic benefits from the forestry sector. In that sense, the Chinese market may offer a better solution than the European market, because in recent years, larger numbers and higher volumes of secondary species have been exported to China than to the EU – a trend already noted in the past from Africa and elsewhere (Debroux and Karsenty 1997). For instance, over the period 2004–2009, the Chinese market demanded almost 3 times as much by volume of secondary species such as *okan* (*Cylicodiscus gabonensis*), *dabema* (*Piptadeniastrum*

africanum) and *eyong* (*Eribrroma oblogum*) than the EU market.

Commercially, China has also recently shown its positive impacts in terms of maintaining a certain level of demand even in very difficult economic conditions such as those created by the 2008 economic crisis, which severely hit the timber industry and almost halted demand of tropical timber from markets such as the EU. Not only did the Chinese market help to sustain timber exports of all logging companies operating in Cameroon, irrespective of their origin, of a large number of secondary species, but also the less stringent specifications of the Chinese market allowed logging companies to harvest lower quality trees that would not otherwise have been harvested for the EU market. This has the effect of reducing selectivity and increasing the harvesting rate – and thus economic returns to the government and decentralized authorities – per hectare.

The influence of company origin and certification on timber production and trade and local impacts

Production and trade

Companies reported three main groups of buyers and specifications, broadly identified with the importing region: the USA, the EU and China. In some cases, companies try to fulfil the requirements of their preferred exports markets, while in other cases they prefer to adhere to internationally recognised standards – although modifications required by specific clients are accepted. Company 2, for instance, processes its exports for the USA market according to the required standard (NIMP15), but is open to re-processing based on clients' demands.

Reportedly, none of the interviewed companies had a public or internal strategic document concerning their exports policies, and they all tend to adapt to evolving market conditions in the short-term. Exports are managed on a contractual basis, with varying specifications and products as demanded by the concerned buyers. Indeed, all companies' managers report that market conditions, and thus orders from various clients and countries, greatly impact both their export policies in the short-term and their internal forest management strategies in the longer term, regardless of company nationality and certification status. Harvesting operations are normally planned in the medium- to long-term, in line with the management plan (30 years in Cameroon). On the other hand, market preferences and conditions, especially for logs, vary greatly in the short-term and thus make it difficult to plan. One of the most difficult tasks for managers is to adapt long-term management plans to short-term market demands, a tension which does not impact all companies in the same way: this results in several distinctions in the behaviour of the different companies.

Company 1, for instance, has historically focussed its production and exports on timber (1 or 2 timber species) used for hydraulic works (e.g. dams) for the northern European public market, which has proven sufficiently stable over the years. Its logging concession, however, also contains several secondary species which are often in demand on the Chinese market. When the latter are not requested, the company does not harvest them in its annual logging area, irrespective of the company being certified, and volumes, as well as profits, can fall from one year to the next, as happened in 2008 when log exports to China fell by half, as well as the number of harvested species (from 13 in 2007 to 7 in 2008). On the contrary, Companies 2 and 3 are much less linked to the EU public market or to specific timber species, and the largest share of their exported logs is directed to Asia, notably China (Table 2). These companies regularly harvest all available species, such that from one year to the next, they reportedly maintain diversified stocks which allow them to adapt to fluctuating market requests and preferences.

In absolute volumes, over the period 2005–2009, Companies 2 and 3 produced and exported larger volumes of logs and sawnwood than Company 1. A larger part of their overall production was also exported to China as compared to other destinations (Table 2).

TABLE 2 Total exports and role of China (2005–2009)¹

| | | Exports m ³ (average 2005–2009) | Exports (percentage to China) |
|-----------|----------|--|-------------------------------------|
| Company 1 | Logs | 10 729 | 46 |
| | Sawnwood | 23 690 | 1 |
| Company 2 | Logs | 23 996 | 91 |
| | Sawnwood | 42 389 | 1 |
| Company 3 | Logs | 25 263 | 75 |
| | Sawnwood | 33 634 | 14 |

¹ Figures represent 100% of total annual production, as large commercial operators do not produce for the domestic market.

Table 2 also shows that company origin does not necessarily determine export destinations, as, for instance, Company 2 exports on average larger volumes to China than Company 3. However, the Chinese origin of Company 3, and its likely better knowledge of, and access to, the Chinese market, may provide an advantage in terms of sawnwood exports to China, with a much higher percentage of sawnwood exports in the Chinese market share as compared to other companies. This may have a commercial explanation: as sawnwood is entirely exported in containers and since many containers with Chinese products reach Cameroon every year,² Chinese

² Cameroon's total imports from China increased by 270 percent from 1999 to 2005 (ANINPAH KHAN, S. and MENJO BAYE, F. 2008. China-Africa Economic Relations: The Case of Cameroon. Yaoundé, Cameroon, University of Yaounde II – African Economic Research Consortium (AERC).

companies may have a comparative advantage. This is particularly true since they are part of larger groups not focussing only on timber, and to fill these containers with processed timber thus reduces the cost of shipping as compared to other companies without links to a parent company in China.

So far, Companies 2 and 3 have been able to maintain their historical markets and clients, irrespective of the absence of FSC certification. Nonetheless, the Chinese group owning Company 3 is reportedly aiming at certifying all its forest operations in the Congo Basin, and has already received a Timber Legality & Traceability Verification (TLTV) certificate delivered by the *Société Generale de Surveillance* (SGS), which is also a major certifying body. The interviewed managers of Company 3 believe that in the years to come, the international market, including the Asian one, will remain open only to companies that have ecological labels.

Overall, interviews and observed patterns in production and trade for the three companies show a very strong influence of short-term market conditions on the companies' export policies, irrespective of their origin and the voluntary or regulatory engagements they took to manage their concessions, corroborating recent findings of an analysis of logging companies in the Congo Basin (Ruiz Pérez et al. 2006). Chinese companies may have a comparative advantage in sawnwood exports to China, although sawnwood demand from China remains very low throughout the Congo Basin. Moreover, short-term market conditions also greatly impact the long-term management engagements of all companies, irrespective of company participation in various governance instruments such as FSC certification, certificates of legal origin, or approved managed plans. Certification helps to weather negative economic conditions when a company, such as Company 1, sells a large part of its production to niche markets, e.g. some North European public markets, that only require certified timber and are ready to pay a premium price for such timber, but that may not be the case with certified companies that sell their production to less demanding public or private markets. Obvious as it seems, we find that economic considerations have a predominant role in forging companies' decisions, with ecological and social considerations sharing a distant secondary place.

Local impacts

Interviewed officials and rural citizens neighbouring concerned logging concessions, gauge the local impacts of harvesting activities largely by estimating what has been achieved in recent years with the area fees redistributed. Were the area fees effectively redistributed, people's perceptions of benefits would likely be affected by the absolute amounts redistributed, which are highly skewed over the national territory (e.g. Cerutti et al. 2010), as well as among the sampled concessions: on average, about €500 000 are annually paid by Company 1, about €180 000 by Company 2 and about

€440 000 by Company 3 as area fees, half of which is then redistributed to councils and villages neighbouring the logging concessions.³ At present, however, this represents only a potential bias, given the overwhelming evidence of the ineffectiveness of the redistributive system (e.g. Bigombe Logo and Dabire Atamana 2002, Nzoyem et al. 2003, Bigombe Logo 2004, Ndjanyou and Majerowicz 2004, Oyono 2004, 2005, 2006, Lescuyer et al. 2008, Morrison et al. 2009, Cerutti et al. 2010). Nonetheless, in order to separate out such potential influence on people's perceptions during interviews, diverse indicators were also used, notably on the governance of area fees, as well as various direct corporate social responsibility activities. The latter result in amounts of money or activities on top of the area fee, and are commonly referred to as management specifications (*cahier des charges*) negotiated between the companies and the local population. They include several other commitments made by the companies, as reported during interviews with managers and citizens (Table 3).

Interviews show that, overall, both Company 1 and 3 have a wider range of tangible engagements than Company 2 (Table 3), but engagements must be assessed on a case by case basis and are difficult to compare, as the specific conditions of the concession or the company may influence the type of engagements that can be agreed upon by the concerned company. For instance, one particular in-kind engagement very much appreciated by the villages dealing with Company 3, is the distribution of wood residues to local families for use as fuel. However, the same engagement could not be taken by Company 1, as its sawmill is not as close to the logging areas as the one of the Chinese company, making the distribution impossible.

In general, direct in kind or monetary contributions are confirmed by both local officials and rural citizens, and perceived as positive and equitable impacts of forest exploitation. In this sense, FSC-certification is also perceived as having a positive impact by some villages around the logging concession of Company 1, as the latter annually pays, on top of the engagements listed in the *cahier des charges*, an undisclosed amount of money to local committees established to manage the relations between the local population and the company.

On the contrary, redistributed taxes result in more mixed perceptions. Overall, the rural population, local forestry officials and logging companies confirm the very weak impacts of redistributed money on rural livelihoods, corroborating the results of the most recent audit carried out on the national impacts of forest area fees (Nzoyem et al. 2003, Ndjanyou and Majerowicz 2004). In fact, forestry officials responsible for, and the local population living around, the logging concessions of Company 2 affirm that forest royalties do not reach the local population in their area: they refer to mismanagement and embezzlement of funds, but they would not

³ It must be noted that in 2009, as an exceptional measure to respond to the economic crisis, the ministry unilaterally decided to halve the area fee amounts due by all logging companies, and thus halve the amount received by local councils and rural villages, to the latter's great concern.

TABLE 3 *Engagements of logging companies with local population (cahier des charges)*

| | Company 1 | Company 2 | Company 3 |
|------------------|---|---|--|
| Infrastructure | Company financed the renovation of a public hospital in one Council where they operate | | Company is financing the construction of a rural market in one village and purchased roofing materials for homes |
| Training | <i>Cahier des charges</i> commits to improving agricultural skills of rural citizens; has organized agro-pastoral trainings for affected villages | | |
| Cash | | Company representatives claim to pay an undisclosed amount of money to the villages, reportedly to fulfil the management specifications negotiated with affected villages | |
| Local employment | | | Company reportedly gives preferential treatment to affected communities during recruitment |
| In kind | | | Distribution of wood residues to local families at no charge for use as fuel |

discuss the responsibilities of the local government officials in charge of the redistribution. On the contrary, at least part of the taxes disbursed by Companies 1 and 3 seems to have been redistributed to several villages: roads maintenance has been carried out, a machine to make bricks and a chainsaw have been bought, and the salaries of a few primary school teachers have been paid.

Overall, villagers remember past harvesting operations, when the redistribution of area taxes was not yet a legal prescription, as making more meaningful contributions to rural livelihoods, because logging companies used to directly care for villages' needs in terms of monetary needs, infrastructure (bridges, roads, schools, public halls) and social services (health care, education). Conflicts did take place in the past, but there reportedly existed instances where negotiations between the company and the village took place and disagreements were settled in favour of local communities. With the introduction of the area tax, logging companies decreased their involvement in these social obligations, because they pay area tax to the State, and it thus became the latter's responsibility to serve the rural population, although this never materialised. This situation has paradoxical outcomes. For instance, in the case of the logging concession of Company 2, where no taxes reportedly ever reached the concerned villages despite being paid by the company to the Treasury, the local population was found to welcome logging companies that harvest illegally in the areas surrounding the logging concession: while increasing the rate of illegal logging, it enables villagers to negotiate directly with companies the amount of cash to be disbursed to the village, on a volumetric basis, and thus to leverage more direct impacts on their livelihoods. Obviously, under such conditions, the additional

socioeconomic benefits that application of instruments such as certification (here absent) should convey, become moot: the extralegal is a direct, albeit very short-term, flow of money and as such it is perceived as more beneficial than any longer term consideration.

In some cases, the perceptions about redistributed taxes and their local impacts are perceived differently by different social groups in the villages. In the case of Company 1, for instance, elders contested the boundaries of the logging concession which seem to violate their user rights over land and resources, and which destroy their sacred sites (ancestral graves and sacred trees). However, the youth had contrary opinions, and would like the concession to be expanded further, because local authorities had explained that a larger concession means more money paid by the company as area taxes. In other words, the youth cared much less about user rights and sacred sites or, in FSC terminology, "high conservation value forest", and preferred the logging company to expand their operations and pay more area taxes, though they did raise some concerns about the effectiveness of redistributed taxes.

Overall, as in the case of timber production and trade, this case study suggests no conclusive evidence that the origin of the logging companies, their trade patterns and their adherence to governance instruments such as certification determine different impacts on the livelihoods of people living around logging concessions. People have different perceptions on different issues concerning their livelihoods, but complaints are overwhelmingly linked to the dysfunctional redistributive system, on which FSC certification has no influence, and less to the specifications that are directly negotiated with the logging companies. As direct negotiations

with the logging companies produce more tangible local impacts but there exist no clear established rules on minimum engagements by logging companies towards communities, one may argue that rules should be clarified and specifications should require larger financial engagements by the logging companies. However, the effectiveness of the redistributive system must also be improved, and decentralised officials held accountable and sanctioned when mismanagement occurs.

CONCLUSIONS

Through a general analysis of Cameroonian timber production and trade, and a detailed assessment of the logging concessions of one Chinese and two European companies, this paper explored the social, economic and ecological implications of China's influence in the Cameroonian forestry sector. Chinese influence was assessed based on both the role of Chinese capital (Chinese-owned companies) and China-related trade (exports to Chinese markets).

The Chinese demand for timber, almost entirely focused on logs, can indeed impact the trade patterns of logging companies, as well as their management decisions. However, based on the companies assessed, those impacts were found to be more related to the companies' market peculiarities than to their nationalities. In the case of the one FSC certified European company with a well established market in northern Europe, for instance, the Chinese demand for lesser-known species could increase profits in favourable years and increase harvesting of those species, but when the demand is not favourable, those species are not harvested. Thus, from one year to the next, conditions can change abruptly and harvesting remains very selective of traditional high-value, species, albeit certified. On the contrary, the second European company assessed and the Chinese company, which export more to Asia, and to China in particular, reportedly practice less selective harvesting, and are less affected by the variable conditions of Chinese demand. If the latter change from one species to another, they are readily able to meet that demand because they normally harvest a larger number of species.

Contrary to what has been registered in several other countries (de Wit 2007, Kaplinsky *et al.* 2007, Beuret *et al.* 2008, Canby *et al.* 2008), this case study suggests that with the exception of species selectivity, country of origin does not have a significant effect on management practices. Under certain market conditions, such reduced selectivity may have some positive results related to the economic sustainability of harvesting operations. One reason that may explain such a result is that the Cameroonian forest legal framework, albeit only partially and slowly implemented, is the most mature in the region, and thus any new entrant in the forestry sector – irrespective of its origin – must comply with strict rules of access to, and management of, the resource.

In terms of impacts on local livelihoods, this case study suggests that the nationality of the logging companies does not have a great impact in the Cameroonian context. Relevant mechanisms are previewed by the law in term of livelihoods improvement, notably the redistribution of area fees which

companies pay annually to the State. Unfortunately, to date the redistributive system has not yet delivered on its most important objective, i.e. the improvement of rural people's livelihoods. Logging companies also negotiate with neighbouring villages about specific monetary or in kind contributions (*cahiers de charges*), and the latter are perceived more positively by the local population than redistributed, but ineffective, area taxes. Adherence to different governance mechanisms would not seem to sufficiently improve local livelihoods, in view of the reported preference of communities to occasionally encourage extralegal logging, which increases their revenues.

In conclusion, this case study shows that market conditions and the quality of the regulatory framework impact the behaviour of logging companies in Cameroon much more than the countries of origin. However, Chinese demand for tropical logs has indeed a great impact on forest management and local livelihoods. On the positive side, Chinese demand sustains log exports (and thus public revenues) when demand for sawnwood decreases – as it did during the 2008–2009 economic crisis. On the negative side, it can reduce the potential economic benefits associated with domestic value addition in years when processed timber is in higher demand.

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BIBLIOGRAPHY

- AFRODAD 2007. Mapping Chinese Development Assistance in Africa – An Analysis of the experiences of Angola, Mozambique, Zambia and Zimbabwe. Harare, Afrodad.
- ANINPAH KHAN, S. and MENJO BAYE, F. 2008. China-Africa Economic Relations: The Case of Cameroon. Yaoundé, Cameroon, University of Yaounde II – African Economic Research Consortium (AERC).
- ASCHE, H. and SCHÜLLER, M. 2008. China's Engagement with Africa – Opportunities and Risks for Development. GTZ.
- BANK INFORMATION CENTER – BIC 2006. EIB urges looser environmental and social standards for loans to Africa. Retrieved 13 September, 2010, from <http://www.bicusa.org/en/Article.3037.aspx>.
- BEURET, M., MICHEL, S. and WOODS, P. 2008. *La Chinafrrique – Pékin à la conquête du continent noir*. Paris, France, Grasset.
- BIGOMBE LOGO, P. 2004. Le retournement de l'état forestier: l'endroit et l'envers des processus de gestion forestière au Cameroun. Yaoundé, Cameroon, Presses de l'UCAC.
- BIGOMBE LOGO, P. and DABIRE ATAMANA, B. 2002. *Gérer autrement les conflits forestiers au Cameroun*. Yaoundé, Cameroon, Presse de l'UCAC.

- BOSSEL, A. and NORFOLK, S. 2007. Global Forest Product Chains: A Mozambique case study identifying challenges and opportunities for China through a wood commodity chain sustainability. Maputo, Terra Firma Ltd.
- BOSSHARD, P. 2008. China's Environmental Footprint in Africa. SAIIA China in Africa Policy Briefing, Number 3, April 2008. Johannesburg, SA, South African Institute of International Affairs (SAIIA).
- BRUNNER, J. and EKOKO, F. 2000. La réforme de la politique forestière au Cameroun: Enjeux, bilan, perspectives. Washington, D.C., World Resources Institute.
- CAF-PROFOREST 2010. Timber legality verification schemes: A research programme of the Chinese Academy of Forestry in collaboration with Proforest. Update No. 2, January 2010. Chinese Academy of Forestry – Proforest.
- CANBY, K., HEWITT, J., BAILEY, L., KATSIGRIS, E. and XIUFANG, S. 2008. Forest Products Trade between China & Africa: An Analysis of Import & Export Statistics. Washington, D.C. and London, Forest Trends and GlobalTimber.org.uk.
- CARMODY, P.R. and OWUSU, F.Y. 2007. Competing hegemony? Chinese versus American geo-economic strategies in Africa. *Political Geography* (26): 504–524.
- CERUTTI, P.O., LESCUYER, G., ASSEMBE MVONDO, S. and TACCONI, L. 2010. "The challenges of redistributing forest-related monetary benefits: A decade of logging area fees in Cameroon." *International Forestry Review* 12(2): 130–138.
- COMIFAC 2010a. Atelier de Travail COMIFAC "FLEG(T) – instruments politiques et implications techniques" – Douala, 24 mars 2010. Yaoundé, Cameroon, Commission des Forêts d'Afrique Centrale (COMIFAC).
- COMIFAC 2010b. Echange d'expériences entre la Chine et les pays d'Afrique Centrale sur la gestion et l'utilisation durable des forêts – Rapport General. Douala, Cameroon, Commission des Forêts d'Afrique Centrale (COMIFAC).
- CORKIN, L. 2007. The Strategic Entry of China's Emerging Multinationals into Africa. *China Report* 43(3): 309–322.
- DE WASSEIGE, C., DEVERS, D., DE MARCKEN, P., EBA'A ATYI, R., NASI, R. and MAYAUX, P., Eds. 2009. *Les Forêts du Bassin du Congo – Etat des Forêts 2008*, Office des publications de l'Union européenne.
- DE WIT, M. 2007. Doing deals that last. *The China Monitor* 16: 4–6.
- DEBROUX, L. and KARSENTY, A. 1997. L'implantation des sociétés forestières asiatiques en Afrique Centrale – Rimbunan Hijau au Cameroun *Bois et Forêts des Tropiques* 254(4).
- DU PREEZ, M.-L. and STURMAN, K. 2009. Seeing the Wood for the Trees: Forestry Governance in the DRC. SAIIA Research Report 4 – Governance of Africa's Resources Programme, Johannesburg, SA, South African Institute of International Affairs (SAIIA).
- EBA'A ATYI, R. 1998. Cameroon's Logging Industry: Structure, Economic Importance and Effects of Devaluation. Occasional Paper N° 14, Bogor, Indonesia, Center for International Forestry Research (CIFOR).
- EDINGER, H. 2008. How China delivers development assistance to Africa. *The China Monitor* (28): 4–7.
- ESSAMA-NSSAH, B. and GOCKOWSKI, J.J. 2000. Cameroon: forest sector development in a difficult political economy. Evaluation Country Case Study Series, Washington, D.C., The World Bank (Operations Evaluation Department – OED).
- ESSAMA-NSSAH, B. and GOCKOWSKY, J.J. 2000. Cameroon Forest Sector – Development in a Difficult Political Economy. Evaluation Country Case Study Series, Washington, D.C., USA, World Bank Operations Evaluation Department.
- FOREST MONITOR 2001. Sold down the river. The need to control transnational forestry corporations: a European case study. Cambridge, UK, Forest Monitor.
- GLOBAL FOREST WATCH and MINFOF 2007. Interactive forestry atlas of Cameroon – Version 2.0 – An overview. Washington, D.C. and Yaoundé, Cameroon, World Resources Institute (WRI) and Ministry of Forests and Wildlife.
- HUSE, M.D. and MUYAKWA, S.L. 2008. China in Africa: Lending, policy space and governance. Oslo, Norwegian Campaign for Debt Cancellation and Norwegian Council for Africa.
- KAPLINSKY, R., MCCORMICK, D. and MORRIS, M. 2007. The impact of China on sub-Saharan Africa. Grant Reference Number AG4419. London, UK, DFID China Office.
- KAPLINSKY, R., TERHEGGEN, A. and TIJAJA, J. 2010. What Happens When the Market Shifts to China? The Gabon Timber and Thai Cassava Value Chains. Policy Research Working Paper Series, 5206. Washington, D.C., The World Bank.
- KARSENTY, A. 2006. L'impact des réformes dans le secteur forestier en Afrique Centrale. In: R. Nasi, J.-C. Nguingiri and D. Ezzine de Blas (Ed.), *Exploitation et gestion durable des forêts en Afrique Centrale*. Paris, France, L'Harmattan.
- KARSENTY, A. and GOURLET-FLEURY, S. 2006. Assessing sustainability of logging practices in the Congo Basin's managed forests: the issue of commercial species recovery. *Ecology and Society* 11(1): 26.
- KOZAK, R. and CANBY, K. 2007. Why China Prefers Logs – Explaining the Prevalence of Unprocessed Wood in China's Timber Imports. China – East Asia Information Bulletin, Issue 9. Washington, D.C., Forest Trends.
- LASSAGNE, A. 2005. Exploitation forestière, développement durable et stratégies de pouvoir dans une forêt tropicale camerounaise. *Anthropologie et sociétés* 29(1): 49–79.
- LESCUYER, G., NGOUMOU MBARGA, H. and BIGOMBE LOGO, P. 2008. Use and misuse of forest income by rural communities in Cameroon. *Forests, Trees and Livelihoods* 18: 291–304.
- LIENERT, I. 1998. Civil Service Reform in Africa: Mixed Results After 10 Years. *Finance & Development* 35(2).
- MACKENZIE, C. 2006. Forest governance in Zambézia, Mozambique: Chinese take-away! Quelimane, Forum das ONGs da Zambézia (FONGZA), 87 p.

- MAWDSLEY, E. 2008. "Fu Manchu versus Dr Livingstone in the Dark Continent?" *Political Geography* (27): 509–529.
- MENIAUD, J. 1948. Etat actuel de la production et du commerce des bois exploités dans nos forêts africaines. *Bois et Forêt des Tropiques* (6): 175–183.
- MICHEL, S. and BEURET, M. 2008. *La Chinafrique – Pékin à la conquête du continent noir*. Paris, France, Editions Grasset & Fasquelle.
- MILLEDGE, S., GELVAS, I. and AHREND, A. 2007. Forestry, governance and national development: lessons learned from a logging boom in southern Tanzania. Dar es Salaam, Tanzania, TRAFFIC, Tanzania Ministry of Forestry and Tourism, and Tanzania Development Partners Group.
- MINEF 2004. Planification de l'attribution des titres d'exploitation forestière. Yaoundé, Cameroun, Ministère de l'Environnement et des Forêts (MINEF).
- MINEFI 2000. Audit économique et financier du secteur forestier au Cameroun – Rapport final – Février 2000. Yaoundé, Cameroun, Ministère de l'Économie et des Finances (MINEFI).
- MINEFI 2006. Audit économique et financier du secteur forestier au Cameroun – Draft n°1 – Août 2006. Yaoundé, Cameroun, Ministère de l'Économie et des Finances (MINEFI).
- MORRISON, K., CERUTTI, P.O., OYONO, P.R. and STEIL, M. 2009. Broken Promises: Forest Revenue-Sharing in Cameroon. WRI Forest Note, Washington, D.C., World Resources Institute (WRI).
- NDJANYOU, L. and MAJEROWICZ, C.H. 2004. Actualisation de l'étude sur la fiscalité décentralisée du secteur forestier camerounais. Boulogne, France, Institutions & Développement.
- NDOYE, O. and KAIMOWITZ, D. 2000. Macro-economics, markets and the humid forests of Cameroon, 1967–1997. *The Journal of Modern African Studies* 38(2): 225–253.
- NZOYEM, N., SAMBO, M. and MAJEROWICZ, C.H. 2003. Audit de la fiscalité décentralisée du secteur forestier camerounais. Boulogne, France, Institutions & Développement.
- ONF-INTERNATIONAL, ERE-DÉVELOPPEMENT and CERNA 2002. Etude en vue de la définition d'une politique sectorielle de transformation et de valorisation du bois au Cameroun. Yaoundé, Cameroun, Ministry of Environment and Forests.
- OYONO, P.R. 2004. One step forward, two steps back? Paradoxes of natural resource management decentralisation in Cameroon. *Journal of Modern African Studies* 42(1).
- OYONO, P.R. 2005. Profiling local-level outcomes of environmental decentralizations: the case of Cameroon's forests in the Congo basin. *Journal of Environment & Development* 14(2).
- OYONO, P.R. 2006. Acteurs locaux, représentation et politiques des éco-pouvoirs dans le Cameroun rural post-1994. *Canadian Journal of Development Studies* XXVII(2).
- PUTZEL, L., PADOCH, C. and PINEDO-VASQUEZ, M. 2008. The Chinese timber trade and the logging of Peruvian Amazonia. *Conservation Biology* (22): 1659–1661.
- REID, J.W. and RICE, R. 1997. Assessing natural forest management as a tool for tropical forest conservation. *Ambio* 26: 382–386.
- REPUBLIC OF CAMEROON 1994. Loi N° 94/01 du 20 janvier 1994 portant régime des forêts, de la faune et de la pêche. Republic of Cameroon.
- REPUBLIC OF CAMEROON 1995. Décret N° 95-53-PM du 23 août 1995 fixant les modalités d'application du régime des forêts. Republic of Cameroon.
- REUTERS 2007. China urges responsible logging overseas. Retrieved 02 January 2009, from <http://www.reuters.com/article/environmentNews/idUSPEK3326920070710>.
- RICE, R., GULLISON, R. and REID, J. 1997. "Can sustainable management save tropical forests?" *Scientific American* (236): 58–62.
- RICH, B. 2007. Blank checks for unsustainable development. *Environmental Forum* (March/April): 1–5.
- ROTBURG, R.I. 2008. *China into Africa: Trade, Aid and Influence*, Cambridge: World Peace Foundation.
- RUIZ PÉREZ, M., EZZINE DE BLAS, D., NASI, R., SAYER, J.A., KARSENTY, A., SASSEN, M., ANGOUÉ, C., GAMI, N., NDOYE, O., NGONO, G., NGUINGUIRI, J.-C., NZALA, D., TOIRAMBE, B. and YALIBANDA, Y. 2006. Socioeconomic constraints, environmental impacts and drivers of change in the Congo Basin as perceived by logging companies. *Environmental Conservation* 33(4): 316.
- RUIZ PÉREZ, M., EZZINE DE BLAS, D., NASI, R., SAYER, J.A., SASSEN, M., ANGOUÉ, C., GAMI, N., NDOYE, O., NGONO, G., NGUINGUIRI, J.-C., NZALA, D., TOIRAMBE, B. and YALIBANDA, Y. 2005. Logging in the Congo Basin: A multi-country characterization of timber companies. *Forest Ecology and Management* 214(1–3): 221–236.
- SCHANZ, M. 1914. Colonies Allemandes – Le régime forestier dans les colonies allemandes. In: (Ed.), *Le Régime forestier aux Colonies*, Bibliothèque coloniale internationale, pp. 5–17.
- SENECA CREEK ASSOCIATES and WOOD RESOURCES INTERNATIONAL 2004. "Illegal" Logging and Global Wood Markets: The Competitive Impacts on the U.S. Wood Products Industry. Washington, D.C., American Forest & Paper Association.
- SUN, C., CHEN, L., HAN, L. and BASS, S. 2008. Global forest product chains: Identifying challenges and opportunities for China through a global commodity chain sustainability analysis. Winnipeg and Beijing, MOFCOM and IISD.
- WUNDER, S. 2003. *Oil Wealth and the Fate of the Forest*. London and New York, Routledge.