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CHINESE WOODS: A CASE STUDY IN THE WEST-ZAMBIAN TIMBER SECTOR

Abstract: *China's unprecedented era of economic growth has also helped fuel an ever-growing thirst for natural resources. The quest for it to be quenched has undoubtedly also played an important role in spreading the Chinese sphere of economic influence throughout the globe. One of the focal points of these engagements has been Africa, the continent of seemingly inexhaustible riches of the earth. Yet this scramble has not been greeted with approval in many Western quarters as tales of diminishing social and environmental standards in connection with Chinese activities make their rounds. This paper attempts to shed some light on this contentious yet still largely uncharted issue by examining the case of the West-Zambian timber industry..*

Keywords: *timber, China, Africa, natural resources, corporate social responsibility, sustainability*

1. INTRODUCTION

The past decade has seen Africa re-orientate itself from its traditional economic and political partners in the Global North towards the Global East; a development, which has been observed with great interest within 'Northern' political arenas, business communities and academic circles. Particularly China's growing presence across the continent has become a major source for debate, as answers to questions as to how the rapidly multiplying and deepening Sino-African ties are reshaping the region are sought. Aggregate trade between China and the African continent grew from a modest US$ 11 billion at the beginning of the millennium to US$ 129 billion at the end of its first decade, making China Africa's largest trading partner (in terms of nation states, Figure 1) [1], and has continued its rise ever since [2]. A central aspect of China's interest in the region may certainly be attributed to the need to fulfil an ever growing demand for energy and natural resources brought forth by China's unprecedented spell of economic growth - an area in which Africa plays a key role. In 2010, Africa contributed one-third of China's total crude oil imports, earning the region second place behind the Middle East. The oil trade, more than half of which is provided by Angola, accounts for two thirds of Africa's exports to China [1]. China's second main area of interest is mining, the primary target for Chinese foreign direct investment in Africa (29.2 % in 2009) [1]. Chinese exports to Africa, on the other hand, are significantly more diverse and comprise a wide range of machinery as well as intermediate and consumer-level manufactured goods [1].

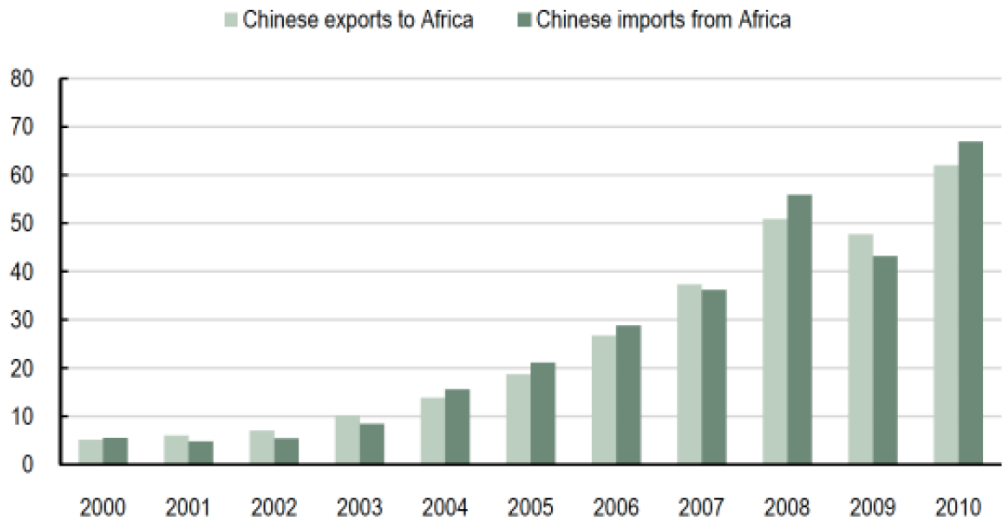

Figure 1 – Chinese trade with Africa [1]

Fossil fuels and mining products may form the bulk of all trade from Africa to China, they are, however, not the only natural resources to be moved between the two regions in significant quantities. Particularly African hardwood timber has proven to be an area of intense Chinese interest [3, 4]. Following a more than threefold volumetric increase in annual imports between 1997 and 2005, China has quickly risen through the ranks to become the second largest importer of forest products in the world and has also come to be the leading destination for industrial round-wood imports (Figure 2, [5, 6]). And while China continues to source the vast majority of its timber imports from the Asian-Pacific region, with Russia, Indonesia and Malaysia acting as the three main countries of origin, the quantities of African timber exported to China have been growing throughout the past decade. Although Africa's contribution to China's timber imports remains modest both in volume (2.9 %) and value (4.9 %), the significantly higher second figure reveals that Africa's timber imports arrive mainly in the form of valuable tropical hardwoods [7]. Thus, it may be partly rooted in the nature of the species of timber being traded, that China's presence within the African logging industry as well as the effects that this presence might have on environmental and social standards within the continent's forest regions has been heavily scrutinized throughout Western academic, political and environmentalist circles [8], despite being limited to less than one per cent of Chinese FDI in Africa (even when grouped together with agriculture and fishery [9]).

Asche and Schüller, for instance, identify the "overexploitation of African forests [as the] most serious harmful effect on the environment arising from the involvement of Chinese companies in Africa" [10], while a report commissioned by the Norwegian Ministry of Foreign Affairs and NORAD recognizes the "Chinese importing of African timber [as the] strongest evidence [for the] illegal exploitation of natural resources" [4]. Although the rate of loss of Africa's forest cover has slowed over the last decade (-0.49 % per annum in the 2000 − 2010 period, down from - 0.56 % per annum in the decade before), it remains the region with the highest rate of deforestation - a circumstance that is exacerbated by the fact that Africa had the lowest (regional)

point of departure to begin with [11]. A particular area of criticism centres on the apparent involvement of Chinese companies in the flourishing trade of illegal African timber exports [10] or the "wood-based [product] that China exports in greatest quantity" as Butler chose to put it [12]. However, it should be stressed that this 'discipline' is hardly a Chinese invention, as vast quantities of illegally logged, sold or exported timber have been finding their way across Africa's porous borders long before Chinese companies arrived on the scene (Figure 3). The Chinese presence in the African timber trade is thus regularly accused of undermining current efforts of combating the problem, such as the EU's FLEGT (Forest Law Enforcement, Governance and Trade) Action Plan.

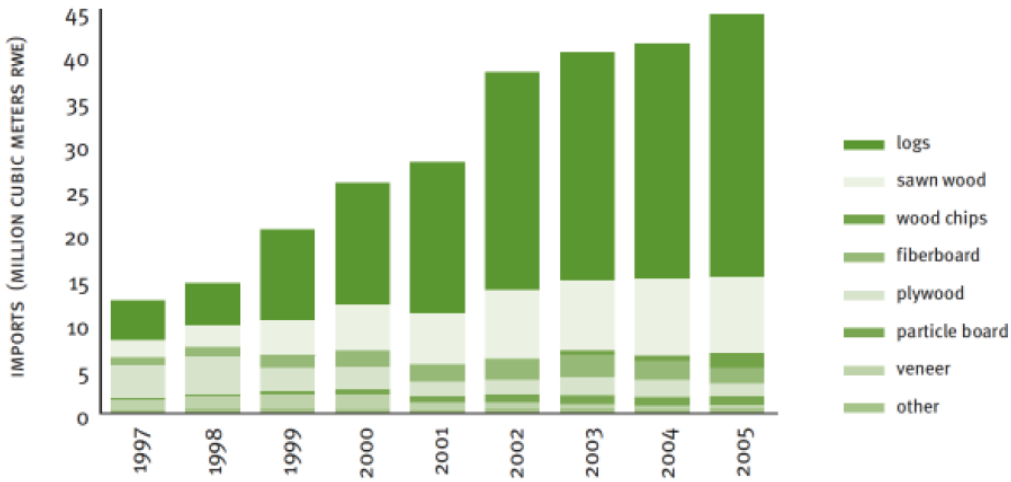

Figure 2 – China's Timber Product Imports by Product Type [6]

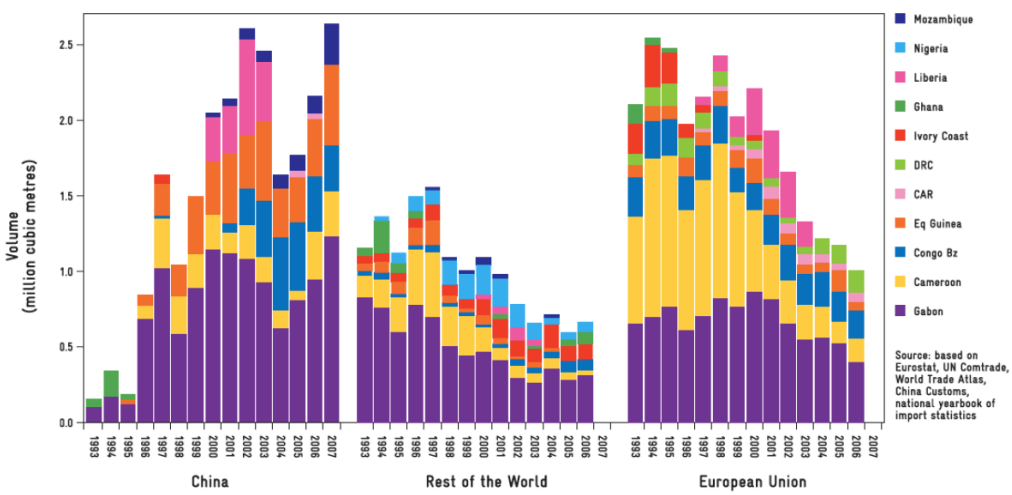

Figure 3 – Annual quantities of illegally traded timber [10]

The logging industry aside, Chinese companies operating in developing countries are generally portrayed as actors who only hold a weak commitment to their corporate social responsibilities and rely on imported Chinese workers and inputs [4] for the running of their business. However, the aspect of China's involvement on the African continent (and other places) that has drawn the greatest amount of criticism from Western observers throughout the years is perhaps the People's Republic involvement with fragile states. China's depoliticised and strictly-economic 'No strings attached' principle is hereby thought to "undermin[e] attempts by the global community to enhance transparency and better governance" [13]. But is this selection of literature an example of valid criticism directed at a deserving target or rather a case of misdirected Western-centric prejudice? After all, the critical voices cited above will have to admit themselves that not only is there is a lack of clear, tangible evidence of Chinese socially irresponsible corporate behaviour [10], but that the validity of these often rather general statements may vary considerably between countries and sectors [4]. As Cerutti et al. [8] investigated possible differences in conduct between two European and one Chinese company operating in the Cameroonian timber sector, they found little evidence for a variance in impacts running along national lines. Others took the 'defence' of Chinese timber imports one step further, presenting evidence that would indicate that their ecological footprint in the source countries was in fact negligible [14]. And lastly, one would also be quite right to point out that the value-driven, ever evolving and highly politicised aid strategy of the West has not necessarily been able to make a convincing case for its effectiveness throughout the decades following African independence [15].

2. THE WEST-ZAMBIAN TIMBER SECTOR: A CASE STUDY

This paper intends to make a modest contribution to this debate by focusing on the effects of Chinese investments in the African logging sector through the lens of a specific case study, namely the rosewood (Gulbourtia coleosperma) industry of Kaoma district in Zambia's Western Province. Separated from the capital city by a 400 km drive down the Great West Road, Kaoma is the gateway to the forests of Western Province. Together with Mayukwayukwa, the site of a UNHCR refugee camp and the location of multiple logging operations supplying Kaoma's sawmills, this district town is host to a number of Chinese companies, which have set up shop to supply their clients in China with fresh deliveries of rosewood. Here, a series of qualitative key informant interviews were conducted over a period of two weeks, both in town as well as in the forest areas, in order to gain an insight into Kaoma's burgeoning timber industry. The scope of the fieldwork was hereby focused on the Chinese actors operating in Kaoma and Mayukwayukwa and their local business networks as well as on members of the communities directly affected by the on-going logging operations.

One of the underlying lines of query thereby was the analysis of the Chinese business practices encountered within this context with respect to the backdrop painted by the current public perception of China in the West. In other words, might one discern anything sino-specific in terms of potential corporate social responsibility-related failings committed by one of the actors observed over the course of the research or could possible anti-Chinese sentiments encountered during this time be merely an occasion of the player shouldering the blame for simply following the rules of the game? Such a focused research agenda naturally has its limitations. After all, the picture can hardly

be deemed complete in the absence of a complementary study of one or several 'Western' business models. Furthermore, viewed from a value chain perspective, one could rightfully assert that the research is also limited to a specific segment of the global wood product value chain, which experiences a significant post-Zambian continuity in China's wood product industry. Lastly, the data gathered in the field is strictly qualitative in nature; a corresponding quantitative study would certainly be able to contribute valuable insights into the subject matter. These shortcomings, however, could be addressed in subsequent research.

2.1 Zambia

Zambia, a landlocked country situated at the crossroads of Southern, Eastern and Central Africa, is endowed with a rich and expansive forest cover. Extending over an area of 49.9 million hectares (or 66 per cent of Zambia's sovereign territory), these woodlands are an invaluable source of income to local communities as well as to a burgeoning timber industry [16, 17]. In 2006, the formal Zambian forestry sector contributed 5.9 per cent to Zambia's Gross Domestic Product, the highest percentage in Southern Africa [11]. However, as a household survey conducted in 2005 amongst 435 rural households in 8 villages revealed, the official statistics fail in their portrayal of the forest's true contribution to the livelihoods of the rural poor. Calculating the households' forest dependency as the ratio of their income from forest activities to total household income, Jumbe, Bwalya and Husselman [18] were able to show that the income derived from forest products was, on average, not only the most important source of income for the households contacted during the survey (20 % of income), but contributed as much as 64.5 % in the case of the poorest quartile. The survey revealed that this ratio differed significantly between income groups, with the richest quartile gaining 87.9 per cent of their income from sources outside of forestry, thus identifying rural poverty as an important source of pressure on Zambia's woodlands. This divergence between the official data and the results obtained during the household survey may be attributed to Zambia's large and intricate informal forestry sector.

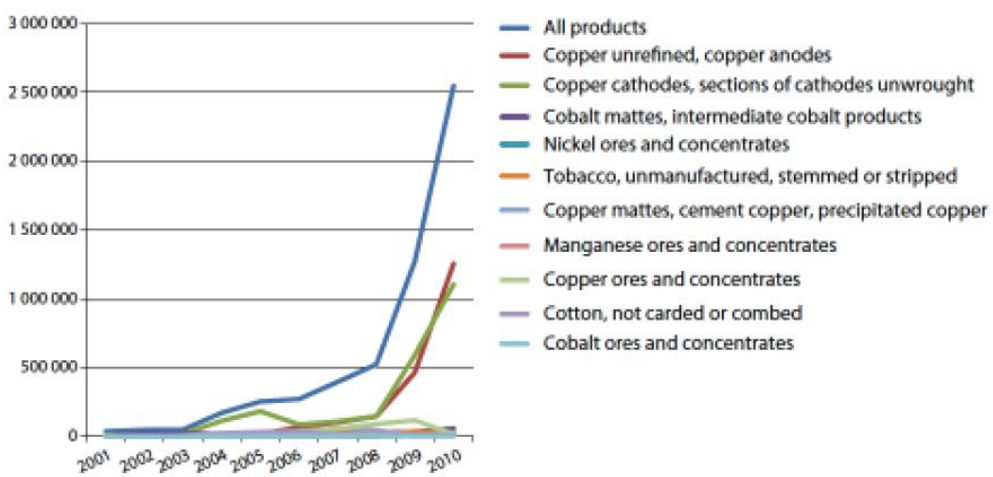

Figure 4 – Top 10 Zambian exports to China by value, 2001–2010 (million US$) [19]

So while forestry may be a relatively small sector in terms of its contribution to

Zambia's GDP and is also clearly not the focal point of China's economic activity in Zambia, the woodlands are of great importance to some of the most vulnerable segments of the population. There is in fact very little ambiguity with regard to the main reason behind China's presence in Zambia. While the value of Zambian exports to China has risen sharply over the last decade (from US$ 47.8 million in 2003 to US$ 2.5 billion in 2010), 94 per cent of the proceeds earned through this flourishing trade relationship stems from one single natural resource, namely copper (Figure 4.). This extraordinary dependence is, however, not limited to Sino-Zambian trade, but is representative for the history of Zambian trade relations including pre-independence [19]. It is therefore not all too surprising that one of the core goals behind the original creation of the (Zambian) Forest Department, the government body responsible for the management of country's forests, was to ensure a sufficient and reliable supply of timber for Zambia's copper mines and industry. The state-owned Zambia Forestry and Forest Industries Corporation (Zaffico) and its vast plantations continue to play a pivotal role in meeting this target [20].

Zambia's forest cover is formed by two different types of low-density, mesic woodlands: Miombo, broadleaved deciduous woodlands found in regions with distinct seasons, nutrient-poor soils and an annual precipitation exceeding 700 mm (and which is also the type of flora found in Kaoma district), and Mopane, which is encountered in lower lying, nutrient-rich lands (Figure 5; [21]). These woodlands are home to a number of commercially valuable tropical hardwood species, such as Rhodesian Teak (Baikiaea plrijuga), which can only be found in the dry region shaped through drainage by the upper Zambesi and Okavango rivers towards Zambia's Western border, or Mukwa (Pterocarpus angolensis), the local market's tree of choice. It was, however, the discovery of African Rosewood (Guibourtia coleosperma) by the Chinese that has really shaped the fate of Kaoma's timber trade in recent years. While Zambian citizens may be blessed with a per capita forest endowment that exceeds the global average six fold (3.6 & 0.6 ha / cap respectively), this apparent abundance can be deceptive. These sought-after hardwoods are limited in numbers and their distribution patterns can be erratic at times, making the whole logging process more time-consuming and thus more costly.

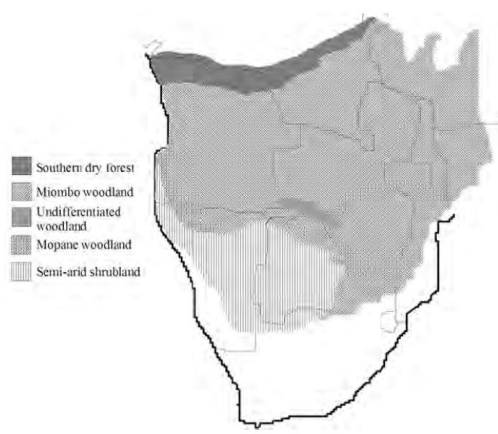

Figure 5 – Zambia's Woodlands [21]

2.2 Timber business

For the people of Kaoma as well as the local communities living in the vicinity of the logging areas, the timber business represents, first and foremost, an unrivalled source for employment and monetary income, although the employment opportunities that the timber trade has been able to offer are mostly limited to the subsection of the population that happens to be young, male and in good physical condition. The workers' wages, however, will often not only sustain their extended families, but by and large will also help fuel the local economy. Such 'secondary' economic activities may include home-brewed maize beer, carpentry workshops and farming, with more than one respondent naming the purchase of fertilizer or seedlings for the fields as one of the intended uses of the 'timber money'. While all wages earned were found to be very flat in nature, with little to no prior negotiation appearing to take place, these communities are, for the foreseeable future, unlikely to encounter other employment opportunities that are able to match the logging industry in terms of its accessibility and monetary compensation. Viewed from the perspective of the labour market, a few key attributes were found to be characteristic for Kaoma's local timber industry.

Firstly, the majority of the logging regimes encountered over the course of the research were found to be heavily reliant on casual labour for their implementation. Due to the nature of the industry, the forest sites are basic makeshift base camps, which, once all suitable trees in an area have been exhausted, relocate on a regular basis taking their collection of portable equipment with them (Figure 6, right). This logging end of the timber business - is firmly in Zambian hands, with most members of the 'logging staff' having been drawn from the male population of the surrounding villages and settlements. In the case of the Kaoma/Mayukwayukwa research sites, many of these were Angolan and Congolese refugees from the nearby refugee camps. Although work-related accidents and injuries were reported to be rare occurrences, the fact of the matter remains that the timber business is a well of occupational hazards (Figure 6, left). However, these workers will rarely have signed a formal work contract and are therefore not entitled to the social security benefits, which would normally accompany formal employment in Zambia and which entails one's registration with the National Pension Scheme (NAPSA) as well as the Workers' Compensation Fund (WCFB). This leaves them in a vulnerable position. While the manager of these bush camps will sometimes enter into a written agreement with their clients, this will usually concern itself with the details of loaned equipment and timber deliveries rather than constitute a formal relationship between an employee and his workplace.

Secondly, the proportion of casual workers is generally significantly higher at the forest sites than at the sawmills. Located in town, the sawmill facilities are home to a range of specialized machinery as well as the administrative offices of the timber-exporting companies and are therefore able to offer a number of permanent employment opportunities. Those working at a sawmill in town can, on average, not only expect to receive higher wages than their colleagues in the forest, but also formal, working contracts with the aforementioned social securities that Zambian law grants its working population. A number of the more skilled positions (e.g., the machines require regular maintenance) are often filled with Chinese or South African specialists. This dichotomy between the town-based sawmills and their forest-dwelling suppliers can, in part, be attributed to the type of forests native to this corner of the world in combination with the set of logging regimes designed to regulate the Zambian timber industry.

Figure 6 – The Loading Bay (left) & A Bush Camp (right)

On paper, the concession license, which permits its holder a maximum monthly harvest of 400 m3 of timber (approximately 20 truckloads or between 900 and 1000 round-logs in the case of rosewood), would appear to be the designated logging regime for large-scale timber exporting operations [22], yet it does not materialise in such fashion on the ground. Often the holders of a forest concession license, who may or may not be Chinese nationals, prefer to limit their direct involvement to their sawmilling facilities in town, while subcontracting local pitsaw groups (a smaller license only available to Zambian nationals) to scour the forest for suitable trees. Although these pitsaw groups are not formally employed by the licensee and cut the timber that they then sell to the license holders independently, they will often receive support in the form of machines and equipment. All support received is effectively treated as a type of advance payment, which they repay in the form of 'discounted' timber deliveries. For an aspiring exporter of Zambian indigenous timber, this approach has the advantage that it is not necessary for him invest his time and resources in acquiring a production license.

There is a third class of timber exporting actors, the timber merchant. The term, as it is defined under the Zambian Forests Act, can be used to describe any entity involved in the export of timber or timber products and does not hold its own production license. There are only two requirements. It must be a registered company (any type of company that is) and must possess a signed agreement with the holders of a production license. Provided that they are able to find suppliers in sufficient numbers, timber merchants may purchase and export as much timber as they are willing and able to. Similar conditions apply for the operators of sawmilling facilities. The dichotomy described above thus arguably becomes the economically most efficient business model for this type of forest as far as large timber-exporting companies are concerned. It therefore comes as no surprise that several of the (often Chinese) major players in Kaoma's timber industry do not possess a production license of their own and are fully content to rely on subcontracting to local supply groups. The overall picture is less than ideal: an arduous, highly centralized and therefore often circumvented licensing process; a legal framework that has created a mismatch between the government's desired approach (i.e., concessions with high capital investment) and the status quo on the ground; a resource-constrained Forestry Department; and a general lack of governmental oversight throughout the sector that allows its actors to take certain 'liberties' (e.g., the timber will often be

marked in the sawmill rather than at its original position in the forest; [23]), have resulted in a sector that is highly fragmented and rife with informal business practices.

Yet arguably the most troublesome aspect of Zambia's indigenous hardwood timber industry in its current state of affairs is the level of wastage occurring throughout all stages of the logging and processing activities. As the export of unprocessed logs is not permitted under Zambian law [23], sawn timber, which has been cut according to customer specifications, is the 'flagship product' of any Zambian timber exporting company. However, this perfectly legal timber product is not without fault. The reason for this lies within the relatively poor conversation rates of Zambia's commercial hardwood species. A departure-ready consignment of export-grade planks will contain less than half of the timber that had entered the sawmill in the form of round-logs. Varying from species to species, the average conversion rates of the three main commercial Zambian hardwoods lie at 50 % for rosewood, at 40 % for teak and, at 30 − 40 %, even lower for Mukwa, all of which offer a sobering contrast to the rather optimistic average conversion rates provided by China's State Forestry Administration, which estimates that 70 % of the original round-log volume is captured in an average consignment of planks [24].

Figure 7 – Abandoned in the Forest & Burning Sawdust in Town

Thus, if a company were to only export planks to international customers and had no plans or facilities to further utilize the remainder of the round logs, which themselves constitute only a portion of the trees as they were originally encountered in the forest, only a small percentage of the felled trees will ever be put to sustained and efficient economic use. Often felled for only two or three filets of particular wide and straight segments, the remaining tree is left lying abandoned in the forest. Out of reach and irretrievable for the inhabitants of the villages at the edge of the forest areas, they will simply slowly rot away. And the 50 %, 60 % or 70 % (for rosewood, teak and Mukwa respectively) of the round-logs that are taken to the sawmills, but not converted into marketable sawn timber usually fail to find an afterlife beyond being utilized as firewood. While the larger offcuts will be collected by the local communities for the aforementioned use, small offcuts and sawdust are often simply burnt at the sawmills (Figure 7).

As the cost of transport per cubic-meter is inversely related to the level of processing that a consignment of timber has been subjected to (after all, the shape of an unprocessed round-log is less than ideal, at least in terms of stacking it on the

trailer of a truck or inside a shipping container), any timber that is transported on the back of the truck without being eventually put to economic use by the company, represents an area of inefficiency that, as far as the company is concerned, should be avoided. The lack of a comprehensive and efficient utilization of the resource is certainly brought about, in part, by the relatively small size of the Zambian market and the transport costs associated with the export of wood products from this landlocked country. There are, however, signs of a modest improvement, as rising transport costs, unfavourable conditions on the international market for rosewood and a dwindling resource base have persuaded some of the larger timber traders to begin investing in secondary product lines for the domestic market, which utilize a greater percentage of the resource (e.g., one of the Chinese companies visited in Kaoma had just introduced a range of doors for the Zambian market).

3. CONCLUDING REMARKS

Zambian and international businessmen alike, many of whom have had to make a conscious decision to give up their lives and careers elsewhere to move to Zambia's Western Province, continue to flock to the country's timber hot spots, despite relatively high timber transport costs, a rapidly depleting resource base and a declining world market price for key hardwood species such as rosewood. Thus, it would seem that in spite of countless asseverations that there is little to no money to be made from trading in Zambia's hardwoods, which we heard throughout the series of interviews conducted in the field, the actions of these entrepreneurial spirits paint a different picture. These prosperous years, however, are living on borrowed time. The general sentiment to be taken from discussions with producers and merchants dealing with rosewood in Kaoma, was that the window of opportunity to make a living with its trade would most likely close within the next couple of years. However, it is not only the stocks of rosewood that are swiftly declining under the pressure of the ever-increasing demand, as Mukwa, the tree (species) of choice for the local market, is all but exhausted. Hence, it comes to no surprise that producers and merchants are becoming less discerning with regard to their logging standards: today, one can regularly observe Mukwa logs with less than 20 centimetre stem size (any width below 30 centimetres ought not to be cut) waiting for potential customers.

The Chinese market, on the other hand, has no interest in Mukwa -it was the 'discovery' of rosewood and the subsequent arrival of Chinese timber traders in Kaoma that gave way to the current 'Great Timber Rush' of Kaoma. The Chinese traders have certainly increased the average use of machinery in Kaoma district and, with it, further intensified the pressure on the resource base. Yet the 'Chinese business model' is not inherently less sustainable -after all, their involvement in the logging process itself is often quite limited – though they may certainly be accused of enabling such unsustainable logging regimes by providing their suppliers with a stable market, thus indirectly encouraging such irregular practices. Chinese timber traders continue to be a relatively small subsection of the Zambian timber industry [19], although it remains difficult to determine the true extent of their involvement and influence, due to the fragmented nature of the industry, the inadequate level of government supervision and the porosity of Zambia's national borders. While it is known that the increasing demand for unprocessed hardwood round-logs has given way to a flourishing illegal cross-border trade [25] and that Chinese nationals have not been free of guilt [19],

the data regarding the frequency of these incidents and the respective culprits behind them remains insufficient. In any case, China's preference for unprocessed logs is no secret [7]. Ideally, the local and national policy framework would be such that the benefits that the timber trade brings to the local communities and Zambia as a whole, would be not only be maximised, but would also be steered in a direction that ensures that there will be a lasting legacy on a local as well as national level. Regrettably, this sentiment hardly reflects the current reality, as a significant percentage of the benefits continue to seep away into various channels, including those maintained through the traditional rulership.

The timber industry, whose interests are restricted to only a small number of hardwood species, is ultimately not the greatest threat facing the Miombo woodlands today. The production of charcoal is consuming Africa's dry woodlands at an alarming rate. While the Zambian government is committed to delivering "universal access to clean, reliable and affordable energy by 2030" [26], charcoal and firewood continue to be the two main sources of energy in Zambia and the region as a whole. Zambia's dry forests met over two-thirds of its total energy demand at the beginning of the millennium [27] and there is little to indicate that this reliance has decreased by any significant margin since. 85 per cent of households in Lusaka still rely on charcoal for their daily energy needs [28] -a staggering figure, which begins to make perfect sense once one takes the average cost and reliability issues of the national electricity grid into consideration. Blackouts are frequent. This and the fact that the price of charcoal is kept low through the ubiquity of informal, small-scale and part-time charcoal producers in rural Zambia, makes it an attractive source of energy [29]. While charcoal is mostly consumed in urban areas, the rural population predominantly relies on firewood for their energy needs. The 2000 national census reported that 87.7 per cent of rural households use firewood, of which the average daily consumption of all households in Zambia amounts to 100 kg [30]. It is clear that the current regime governing the production of charcoal fails to protect the Miombo woodlands. Thus the development of an effective program to safeguard this resource on a regional level is imperative, not least due to the substantial potential for poverty alleviation that a well-managed and effective charcoal producing could offer [31].

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