



The evolution of the wood subsector in the Congo Basin

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2.1 State of the knowledge: Figures and trends

2.1.1 The management of production forests in Central Africa

Areas and concessions

Forest area

Of the 200 million hectares of dense moist forest in Central Africa (Vancutsem et al. 2020), just under 30 million hectares are classified as protected area and nearly 54 million hectares (27 percent) are classified as production forest of various types, mainly in the form of forestry concessions.¹

It follows that more than 100 million hectares of forest in Central Africa have not been assigned any specific classification. Such forests are located mainly in the Democratic Republic of the Congo (DRC), as well as in Cameroon. Land-use policies must classify these vast areas to reconcile, as far as possible, the conservation of forest ecosystems, the sustainable use of their resources, differing local demands and economic development.

In DRC in recent years, many conservation concessions have been created, either by converting production forest concessions (reducing the area presented in Table 2.1) or by creating new concessions. There are no comprehensive public data on these concessions, which were thought to cover several million hectares at the end of 2021 (more than 6 million hectares according to an estimate by FRMi). These concessions aim to help reduce greenhouse gas emissions.

Country	Total area of dense moist forest (ha)1	Area of forest cover used for production ²	Area of forest cover used for conservation ³	Area of unclassified forest cover
Cameroon	21,500,000	8,740,404	2,938,825	9,820,771
Congo	23,300,000	13,411,074	2,995,833	6,893,093
Gabon	23,900,000	15,722,201	3,570,894	4,606,905
Equatorial Guinea	3,300,000	1,035,921	502,030	1,762,049
CAR	8,700,000	3,084,409	1,687,578	3,928,013
DRC	116,900,000	11,743,873	15,760,600	89,395,527
Total region	197,600,000	53,737,883	27,455,760	116,406,358

1 Vancutsem et al. 2020

2 Estimate based on Central African Forest Observatory (OFAC) data

3 World Database on Protected Areas (WDPA) – IUCN 2020

¹ https://www.iucn.org/theme/protected-areas

Forestry concessions

In the Congo Basin, except in Equatorial Guinea, natural forests used for the industrial production of timber are managed according to a single model, founded on five basic principles:

- Natural forests are public property;
- The government grants private operators the right to harvest wood within forest areas covering tens of thousands to a million hectares (averaging 116,000 hectares) over 20 to 35 years;²
- The holder of a forestry concession is obliged to manage the forest and preserve the integrity of the concession in line with certain standards, following a management plan that specifies the rules for logging in the forest and how it will be managed;
- Concessionaires are required to draw up forest management plans on the basis of (multiresource) forest management inventories and socioeconomic studies; The government must approve the documents and monitor their implementation;
- Concessionaires are required to contribute to the local development of the region where they operate.

The forest management standards that flow from this model are therefore substantially the same. They were conceived in the 1990s with the support of projects financed by international assistance:

- Forestry activities are planned based on field surveys and studies;
- Concessions are divided into sub-divisions called 'series';
- Logging activities extend across the entire area over a 20-to-35-year harvest cycle;
- Minimum cutting diameters are set for each species, subject to the satisfactory renewal of the resource between two cutting cycles;
- In addition to sustainable wood production, social and environmental sustainability must also be considered.

This forest management process, which is now mandatory, has become more widespread since the 2000s. This pattern is set to continue considering that almost 70% of forestry concessions are equipped with a management plan. Beyond finalizing the management process in the outstanding 30 percent, we now face the challenge of ensuring that the resulting plans are implemented properly in all forestry concessions. Indeed, proper implementation is not guaranteed given the governance situation in the region, where states fail to monitor compliance with management documents.

The forest management model used in Central Africa has proven able to respond effectively to the need for sustainable resource management. It has in part compensated for the lack of comprehensive classification and weak government capacity around forest management. Nevertheless, it is governments that are responsible for establishing the rules for forest management and for verifying that management plans comply with those rules.

In parallel, certification standards have been developed that enable producers, on a voluntary basis, to have their operations certified and guarantee compliance with government-defined forest management principles.

² Only CAR's legislation grants logging and forest management permits for the lifetime of the beneficiary company.

Table 2.2: Summary of concession areas in the Congo Basin

	All fore	All forestry concessions	sions		Assign	Assigned forestry concessions	cessions		Managed o	Managed concessions	Certified concessions	Icessions
	Area (ha)	Number	Average area (ha)	Area (ha)	Number	Percentage of productive area	Productive area	Average area (ha)	Area (ha)	Percentage	Area (ha)	Percentage
Cameroon	8,354,856	192	43,515	8,017,016	169	80%	7,220,957	47,438	7,647,610	95%	3,163,340	39%
UFA	6,732,048	120	56,100	6,620,388	117	%06	5,963,992	56,585	6,250,982	94%	3,163,340	48%
Communal forests	1,622,808	72	22,539	1,396,628	52	%06	1,256,965	26,858	1,396,628	100%	0	%0
Rep. Congo	14,800,000	59	250,847	14,471,917	56	65%	9,377,387	258,427	8,597,046	59%	3,380,692	23%
North/central Rep. Congo	9,523,777	21	453,513	9,523,777	21	71%	5,724,725	453,513	6,145,321	65%	2,989,168	31%
South Rep.Congo	5,264,497	38	138,539	4,948,140	35	74%	3,652,662	141,375	2,451,725	50%	391,524	8%
Gabon	15,999,498	116	137,927	14,688,311	108	92%	13,513,246	136,003	13,800,000	94%	3,023,140	21%
Equatorial Guinea	1,064,900	86	10,866	1,064,900	86	%06	958,410	10,866	0	%0	0	%0
CAR	3,706,106	14	264,722	3,249,505	12	68%	2,201,449	270,792	3,249,505	100%	0	%0
DRC	17,410,017	182	209,952	14,124,506	132	55%	7,809,267	225,336	8,500,000	60%	749,753	5%
Forestry concessions	15,370,392	81	189,758	12,780,086	62	55%	7,065,954	206,130	8,500,000	67%	749,753	%9
Community forests	2,039,625	101	20,194	1,344,420	70	55%	743,313	19,206		%0	0	%0
Total	61,335,377	661	92,792	55,616,155	575	74%	41,080,716	96,724	40,397,533	73%	10,316,925	19%
Of which are long-term concessions	57,672,944	488	910,221	52,875,107	453	74%	39,080,438	116,722	40,397,533	76%	10,316,925	20%

- Data sources:
 On certified concessions: ATIBT 2021
 Cameroon: WRI 3020
 Republic of the Congo: FRMi 2022
 Republic of the Congo: FRMi 2022
 Gabon: FRMi 2022
 Central African Republic: South -West Regional Development Project (PDRSO) 2020
 DRC: Support Project for Sustainable Forest Management in DRC (AGED UFOR) 2018. Update FRMi 2021
 Equatorial Guinea: FRMi -African Development Bank (AfDB) 2018

The Central African forest management model is not at issue, though there is room for improvement, which will happen over time. It is a major asset for the preservation of these forests and their sustainable use. However, more than 15 years after the first management plans were approved, it remains crucial to assess how these documents have been implemented.

Box 2.1: Log production sharing contracts: New challenges for the forestry sector in the Republic of the Congo

The Republic of the Congo's new Forestry Act (No. 33-2020 of 8 July 2020) has revolutionized contracts between the government, which owns the forests, and forestry concessionaires.

The current concession regime is temporary and governs the transition, within three years, to a new "production sharing" system inspired by the contracts signed in the oil sector.

The Forestry Code states that "the procedures for establishing production sharing arrangements shall be laid down by law" and also provides for production sharing contracts to be negotiated by the Minister for Forests and then approved by the government (Council of Ministers and Parliament). The introduction of the production sharing system will be accompanied by certain forestry tax exemptions, which should be offset by the income the state generates from timber sales.

The main objectives of this production sharing system are to significantly increase the forestry sector's contribution to the country's GDP (currently 5-6 percent) and to increase government revenue streams. To achieve these objectives, the production sharing system will divide the logs produced between the state and the forestry operator. The state's log allocation will be used to supply new specialized industries. These new industries will be able to set up in Special Economic Zones (SEZs). SEZs are industrial hubs offering attractive conditions for new investments and are another pillar of the Republic of the Congo's forestry policy.

The legal provisions governing this production sharing system remain to be clarified.

During the transition to the production sharing system, care should be taken not to jeopardize industrial investments already made by concessionaires. This is particularly important where these investments are intended to increase the marketability of well-known species that, in some cases, already benefit from optimal mobilization.

The forest management role already entrusted to concessionaires should also be recognized and maintained.

If the challenges described above are overcome, this new contract type will offer an opportunity for the wood sector in the Republic of the Congo to progressively diversify its harvests, add more value to the sustainably managed resources available, better supply the legal timber market and, ultimately, increase the positive economic effects of this sector.

Other production forest management models: Community and communal forests

The majority of countries in the Congo Basin have adopted regulations governing the development of community forestry. Some frameworks have been introduced more recently, as is the case for DRC, which adopted its national community forestry strategy in 2018, and for the Republic of the Congo, which revised its forestry code in 2020, clarifying the definition of a community forest.

The specifics of the legislation adopted in each country do nevertheless have significant differences (see Box 2.3).

Box 2.2: The community forest management model implemented in Maniema with the support of GIZ

GIZ has been working in Maniema province, DRC, in the area of community forestry since 2011 within the framework of the national Forestry Code and the 2014 regulations on Local Community Forestry Concessions (LCFC), and as part of its biodiversity conservation and sustainable forest management programme. An LCFC covering 47,013 ha of natural forest was set up and formally established in the Bisemulu community area. It is co-managed with local people in the Lomami National Park.

To set up this LCFC it was necessary to undertake a number of preparatory activities: participatory mapping, forest inventories, completing the concession application documents, drawing up a simple management plan and establishing the bodies responsible for managing the concession. The community set up a cooperative, primarily responsible for managing the cutting, transport and sale of the trees. Two logging operations have been undertaken since 2019 and the income invested into a community development fund. These funds will be used to implement specific community projects as set out in the local development plan.

Based on this experience, there are plans to create nine additional LCFCs in 2021–2026. Four potential sites have already been identified through the analysis of satellite imagery. An awareness campaign will be conducted in the local communities to ensure that local people are interested in participating in the initiative and to explain the process of creating an LCFC. This campaign aims to obtain the formal agreement of local communities and to gather their initial opinions on how the concessions should be used. From this starting point, the boundaries of the local community's forest and the LCFC will be mapped with the participation of local people and the available resources inventoried (wood, non-timber products and wildlife). Finally, agreement will be sought among all major stakeholders concerning the purpose of the LCFC.

Experience to date has highlighted several important points:

- Involving local people in mapping reduces conflicts over territorial boundaries;
- Provincial, local and community governments need to be strengthened;
- Other actors should be kept in the loop to combat illegal logging and to upgrade roads.

Box 2.3: Regulatory framework for local authority forests in the Congo Basin

In Cameroon, Forestry Act No. 94/01 of 20 January 1994 lays down the arrangements for managing communal forestry, the bedrock of decentralized forest management. It is supplemented by Act No. 2004/019 laying down the rules at the regional level. These two acts are accompanied by a regulatory framework that specifies where these areas can be established and how they should be managed. Cameroon is the only country in the Congo Basin that has seen its communal forests grow in size since the 2000s, reaching nearly 2,356,807 ha in 2019.

In the Republic of the Congo, Act No. 33-2020, establishing the Forestry Code, provides for the creation of local authority forests in Articles 24 to 26. The implementing decrees have not yet been drawn up and the majority of forests have already been assigned, making the creation of these forests uncertain. These forests will be privately owned by local authorities.

The CAR's Forestry Code establishes a forest domain for public authorities, but the status of forests under this classification is poorly defined. Though they do not yet exist, the decrees on this classification are expected to assign these forests to public authorities' private domain and specify what management rules should be applied.

In September 2015, DRC introduced an "artisanal forestry unit" status allowing for an area of up to 500 ha to be assigned within the protected forest domain. These units are managed by a decentralized territorial entity (sector/chiefdom/municipality) and an agreement is entered into with the local community which has customary ownership rights. Part of the income from the logging activities is paid to decentralized territorial entities to fund local development.

In Rwanda, the forestry policy, laid down in Act No. 47/1988, stipulates that decentralized authorities must involve local communities in the management of forest resources. They are mandated, among other things, to partner with the private sector to facilitate investment. The Environment Code makes districts responsible for protection, reforestation and forest management (Article 61 of Framework Act No. 04/2005 of 8 April 2005).

In Chad, local authorities were first granted the right to create and manage departmental or communal forests within the framework of decentralization. The Forestry Act also provides for the decentralized management of natural resources. The forest domain is therefore comprised of state forests and those of the decentralized local authorities, as part of their respective private domains.

Local authority forestry in the Congo Basin mainly takes the form of ineffective legal statements (Republic of the Congo, CAR, Chad), a flawed legal framework (Rwanda, Burundi) or one that is only in its infancy (DRC). However, a number of countries are willing to reform or implement regulations in this area (Republic of the Congo, DRC). Cameroon, the most advanced country when it comes to the creation and management of local authority forests, has improved how the financial resources generated by logging are used to build infrastructure to promote local development, in particular through Order No. 76/2012 and its finance acts. It is hoped that these forests will make a more marked contribution to the local economy in the future and that all Central African countries will engage more proactively with this process.

While community forestry does seem to be gaining ground across the subregion, it was first introduced in Cameroon 20 years ago. This initial model faced challenges around implementation, resulting in a large volume of illegal timber being taken from community forests. It contributed little to the national economy and was linked to unsustainable forest management. These challenges, coupled with land grabbing and the misappropriation of funds, prevented the legislation from achieving its aim of improving local people's standard of living.

Community forestry does however remain an avenue for communities to guarantee access to the land, carry out customary activities, harvest timber for local needs and gather firewood and non-timber forest products. Some of these activities are also permitted in forestry concessions.

Experience has shown that, as in the case of Cameroon, logging in the context of community forestry faces a number of technical and organizational challenges. Forests can be used in other ways that may be conducive to sustainable development.

Conservation is one possibility, although it might only be accepted by communities as part of a wider rural development project. Other productive activities can also be identified within communities such as creating tree plantations, collecting non-timber forest products, and conducting agroforestry or REDD+ community projects. However, positioning these activities within viable economic models that can fund forest management and provide an income to the community remains a challenge.

Community-based artisanal logging could serve the local legal wood market and could facilitate the development of an artisanal wood value chain with the associated socioeconomic benefit of meeting local communities' basic needs (construction of housing, firewood, supplementary household income). Requiring significant technical capacity, such an initiative would involve equipping communities with the skills needed for forest management and logging, or developing partnerships with management or logging operators. It would primarily target the very local market, focusing on nearby towns, given the significant logistical barriers to supplying more distant markets. Tailored implementation approaches should be used, like that proposed by the Developing Community Alternatives to Illegal Logging Project (DACEFI2) in Gabon. Under this model, the forest is managed sustainably by rural people who are legally permitted to harvest forest resources and who will see their incomes rise. The classification of land in community forests is decided by the community with areas assigned to agriculture, logging and conservation.

While community forestry in the Congo Basin has had mixed results and the initial aim of allowing local communities to benefit directly from forest management has not yet been realized, this model is continuing to gain ground in the subregion. It has been heralded as a way to strengthen communities' livelihoods, to contribute to the protection of forests and to achieve climate objectives, though these benefits still remain to be seen in practice. All stakeholders have a role to play in ensuring that the community management of forests contributes to the health of forested areas and supports inclusive development (FERN 2019).

Legal timber production: Certification and inspection mechanisms (in particular, Forest Law Enforcement, Governance and Trade (FLEGT))

Initiatives to promote legal and responsible forest management

Following awareness campaigns and major international debates, distributors and some importing states are more alert to the issue of responsible forest management and take greater care to determine the origin of the wood they buy and the conditions under which it was produced. To ensure that producers follow legal and sustainable forest management practices, incentive schemes have been set up to encourage better adherence. Such schemes include private certifications and institutional mechanisms, such as FLEGT.³

Third-party forest certification

The idea of sustainable forest management certifications emerged in the early 1990s as an innovative way to promote sustainable forest management by bringing different stakeholders together.

Forest certification initiatives have faced a slow and difficult road in Africa, particularly Central Africa, despite the forests of the Congo Basin forming the second largest tropical forest block in the world.

Following Gabon's early efforts dating back to 1996, companies really began to take notice of forest certification in 2004. At first the focus was on legality (OLB, Timber Legality & Traceability Verification (TLTV), Verification of Legal Origin (VLO)/Verification of Legal Compliance (VLC)),⁴ but later shifted to sustainable management, such as the Forest Stewardship Council (FSC) certification, first issued in 2005. In parallel to these advances, a certification system that more closely reflected the realities of logging in Central Africa was developed through national Pan-African Forest Certifications (PAFCs) (recognized by the Programme for the Endorsement of Forest Certification (PEFC) system), with the first certificate issued in Gabon in 2018.

Following steady growth between 2004 and 2010, forest certification initiatives encountered a number of difficulties, resulting in a slowdown in new requests for certification. These difficulties included high implementation costs, low-paying markets, pressure from stakeholders, flawed governance and difficulties complying with regulatory requirements. 2018 marked a turning point in the evolution of certification processes. Two leading certification groups ended their activities in Cameroon, terminating their FSC certificates, while – around the same time – PAFC Gabon issued its first certificate and various countries introduced incentives (see Table 2.3).

The situation then began to gradually improve, thanks in part to the support of the Programme for the Promotion of Certified Forests (PPECF) and its certification support programme. DRC joined the movement with two certificates of legality and the outlook is good for 2021, particularly in Gabon. This trend is further bolstered by measures and incentives adopted to promote certification.

³ Forest Law Enforcement, Governance and Trade

⁴ OLB certification from Bureau Veritas; TLTV was proposed by SGS and subsequently withdrawn; the VLO (VLO/VLC) certification was replaced by the LegalSource certification from Preferred by Nature (formerly NEPCon).

Box 2.4: The Pan-African Forest Certification (PAFC) Congo Basin Initiative

Since 2019, ATIBT has been developing a Pan-African Forest Certification (PAFC) system for the Congo Basin recognized by the Board of the Programme for the Endorsement of Forest Certification (PEFC).¹

By taking a regional approach, the costs of PEFC certification will be minimized in the three target countries, as they can pool their resources to pursue certification through their national PAFC bodies.² This will make it easier to implement and reduce the associated cost for businesses.

In the first phase, the application file was prepared and submitted to PEFC International requesting recognition of the PAFC scheme.

A key document included in the application file was the forest management standard approved by stakeholders in November 2020. This reference document, which has stimulated intense debate, proposes to introduce innovative requirements, such as a management system, social and wildlife management plans, greenhouse gas assessments and carbon stock estimations.

- 1 It is funded by the Programme for the Promotion of Certified Forests (PPECF), PEFC International and IDH The Sustainable Trade Initiative.
- 2 There are currently three national PAFC initiatives: PAFC Gabon, PAFC Cameroon and PAFC Congo.



Figure 2.1: Change in area covered by FSC, PAFC and legal timber certifications in the Congo Basin^a

a Legal timber certifications include OLB (Bureau Veritas), VLO/VLC then LegalSource (Preferred by Nature, formerly NEPCon), Timber Legality Verification (TLV) (Control Union), CW/FSC (Controlled Wood FSC Forest Management) certifications. Source: ATIBT 2021

Country	2009	2010	2011	2012	2014	2015	2017	2018	2020
Cameroon	564241	705064	818726	639560	1013374	870647	1130301	341703	341708
Rep. Congo	1907843	1907843	2430996	2478943	2053205	2443186	2478943	2410693	2989168
Gabon	1873505	1873505	1873505	1873505	2053505	282494	204,2616	1,165,365	2061190

Table 2.3: Change in area of FSC certified forests, in hectares

Source: https://fsc.org/en/facts-figures

	Cameroon	Republic of the Congo	CAR	Gabon	DRC
Туре	FLEGT and fiscal	FLEGT and legal	FLEGT	Policy and fiscal	
Incentives	Certification- based FLEGT certificate of legality (operational, but not very effective)	Procedures for issuing certification- based FLEGT certificate of legality (undergoing approval, planned for 2021)	Recognition of certification provided for in the FLEGT Voluntary Partnership Agreements (VPA)	2018 Presidential Declaration: requirement to be FSC certified by 2022 (regulatory text pending)	Advocacy to incorporate recognition of certification into the VPA (under negotiation)
	Plan to introduce different export tax bands depending on the level of certification of the products exported (under discussion)	New Forestry Code: Article 72: Logging companies may seek certification of their forest management practices or of the legality of the products harvested and processed (+ Articles 65 and 257)		Amending Finance Act 2020: area-based tax with certification- based bands (uncertified, legality, FSC/ PAFC)	
				Advocacy to incorporate recognition of certification into the VPA (under negotiation)	

Table 2.4: Incentives promoting third-party certification in the Congo Basin

The FLEGT process

The European Union published its FLEGT Action Plan in the early 2000s. It takes a pioneering approach to the issue and includes requirements for timber-consuming and timber-producing countries. It proposes political and regulatory tools, as well as innovative and experimental ways to encourage countries to improve governance in the forestry sector with a view to combating illegal logging and the trade in illegal timber. These measures aim to prevent illegal timber and timber products from entering the European market, to improve the supply of legal timber and to increase demand for legal products. The action plan has two main threads: the Voluntary Partnership Agreements (VPAs) and the European Union Timber Regulation (EUTR).

Three countries in the subregion have signed VPAs with the European Union (the Republic of the Congo and Cameroon in 2010 and CAR in 2011) and two are under negotiation (Gabon and DRC).

Given that few VPAs are in force a decade after implementation,⁵ it is too early to judge to what extent VPAs have made forest management more sustainable. Nevertheless, efforts to align legislative frameworks with FLEGT are expected to have a significant positive impact.

⁵ In force here means that countries are able to guarantee that timber exported to the European Union is legal, by issuing a FLEGT licence

	Cameroon	Republic of the Congo	CAR	Gabon	DRC
Status	In force	In force	In force	Under negotiation	Under negotiation
Signed	6 October 2010	17 May 2010	28 November 2011	N/A	N/A
Ratification	09 August 2011	4 July 2012	1 July 2012	N/A	N/A
Implementation	1 December 2011	1 March 2013	1 July 2012	N/A	N/A
Status	Implementation	Active implementation	Resumption of implementation	Negotiation resumed in 2019	Negotiations resumed in 2016
Progress	Legality grids to be revised Two certification standards recognized	Legality grids to be revised Verification procedures approved (1st and 2nd level) Digital LAS (SVIL) deployed Certification recognition manual to be jointly approved	CAR VPA website Implementation of the collaborative database system (SGBDC)	Legality grid drafted National traceability system drafted	Draft legality grids tested and validated Legality verifiers manual Preparation of the instruments annexed to the Agreement.

Table	2.5:	VPAs	in	the	Congo	Basin
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It is however possible to assess the initial effects of the work undertaken, such as improved governance due to a clearer definition of legal timber based on stakeholder input, ongoing efforts to make regulatory reforms and adopt public policies in participating countries, and the engagement of stakeholders who had not previously been heard.

The implementation of these agreements varies and progress on VPA negotiations and implementation is slow in all countries. This is the case for several reasons, including weak political will, the tendency to underestimate the magnitude of the changes required by VPAs, technical difficulties related to the development of a legality assurance system (LAS) and delayed implementation of the different aspects of these systems.

2.1.2 Current status of production: data, developments, market positioning

Log production

Generally speaking, log production has been relatively stable in Congo Basin countries for the past 25 years. Production was not impacted by the Covid crisis and even grew in 2020 to over 8 million m³. However, this overall trend obscures differences between countries.

In Gabon, production fell sharply between 2008, when log exports were banned, and 2012, when production began increasing again. By 2019, production in Gabon had returned to its average over 1991–1998. While the country's production statistics are unreliable, export data recorded by

Box 2.5: TraCer due diligence system for logs entering the Nkok Special Economic Zone

The Nkok TraCer agency was set up in October 2018, at the request of the Nkok Special Economic Zone management entity (GSEZ). It is an independent agency, run as part of a collaboration between FRM Gabon (subsidiary of the FRM group) and the Gabonese non-governmental organization (NGO) Brainforest. The Nkok TraCer agency aims, among other things, to ensure that all logs entering the Nkok Special Economic Zone have a low or negligible risk of illegality. All timber suppliers are subject to a due diligence mechanism based on evaluation grids developed by the Nkok TraCer agency and tailored to different types of suppliers (loggers, traders). Six main risk types have been identified and are assessed using documentary evidence. They relate to: the supplier's legal status, the payment of any applicable taxes and fees, access rights over the resource, traceability and social obligations. A field audit is also conducted to evaluate practices at production sites. If the evaluation grid requirements are met, the Nkok TraCer agency will issue a certificate to the supplier for a defined harvesting area. These certificates must be renewed every year.

customs and other data sources suggest that in 2020 production recovered to pre-ban levels, i.e. 3 million m³.

In Cameroon, production trends can be broken down into three distinct periods. Over 1991–2009, production dropped to below 2 million m^3 /year. From 2009 to 2015, production hit a peak of 3 million m^3 and has since fallen to stabilize at around 2.5 million m^3 .

Official production figures for the DRC remain fairly low and stable (at around 300,000 m³/year).

In the three remaining countries, production increased steadily during this period, by around 60 percent for Equatorial Guinea (800,000 m^3 /year, with uncertainties in the data) and CAR (550,000 m^3 /year) and by 85 percent for the Republic of the Congo (1.8 million m^3 /year).

Production remains heavily concentrated on "flagship" species with seven species accounting for 50 percent of production in the Congo Basin. Production from hardwood species (tali, okan, Azobé) has grown and the range of species harvested has become slightly more diverse over recent years.

For the majority of countries, only the volumes of the ten highest production species are included. Production from a species could, therefore, be slightly underestimated at the regional level.

Industrial production

The processing rate, i.e. the share of the volume harvested that is processed domestically, varies greatly between countries. Gabon has banned the export of logs and therefore requires all logs harvested to be processed in the country. Cameroon has a processing rate of almost 70 percent. DRC, CAR and the Republic of the Congo have a processing rate of around 55 percent, even though their regulations stipulate that only 15–30 percent of production may be exported as logs. In Equatorial Guinea, less than 20 percent of production is processed. Cameroon and Gabon are the main commercial producers in the Congo Basin thanks to their high production levels and very good processing rate.

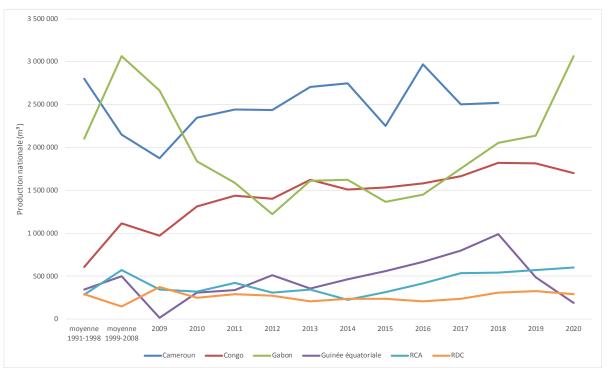


Figure 2.2: Change in wood production in Central Africa

Source: South-West Regional Development Project (OFAC) 2022

	Cameroon	Republic of the Congo	Gabon	Equatorial Guinea	CAR	DRC	Total
average 1991–1998	2,800,125	608,559	2,099,875	344,156	283,807	289,564	6,426,086
Average 1999–2008	2,150,015	1,113,814	3,064,607	500,936	570,753	149,140	7,549,265
2009	1,875,460	973,277	2,665,946	13,760	347,559	373,284	6,249,286
2010	2,348,150	1,314,281	1,841,396	309,849	323,308	249,539	6,386,523
2011	2,440,605	1,437,529	1,590,152	337,223	424,447	293,096	6,523,052
2012	2,437,300	1,405,421	1,221,804	514,052	309,089	275,000	6,162,666
2013	2,708,242	1,623,374	1,613,990	354,799	341,978	208,503	6,850,886
2014	2,747,380	1,509,727	1,625,044	463,524	226,260	238,986	6,810,921
2015	2,249,255	1,536,840	1,364,815	561,261	315,154	234,811	6,262,136
2016	2,966,971	1,581,653	1,451,050	665,747	418,250	206,706	7,290,377
2017	2,500,484	1,663,213	1,756,975	799,285	536,599	237,597	7,494,152
2018	2,521,373	1,819,613	2,052,590	990,000	543,394	306,327	8,233,297
2019		1,812,000	2,139,802	490,000	572,757	326,693	
2020		1,703,195	3,064,221	190,000	602,224	288,292	

Table 2.6: Annual log production by country, 2009–2020

Sources: The majority of the production data come from the OFAC website.

For CAR, data for 2020 are from the Forest Data Centre.

For Equatorial Guinea, data from 2018 to 2020 have been extrapolated from data uploaded to the website: resourcetrade.earth.

Table 2.7: Log production by species, 2017/2018 (top 10 species in each country)
The species that appeared in the top 10 between 2017 and 2018 are shown in green.

Species	Cameroon	Republic of the Congo	Gabon	Equatorial Guinea	CAR	DRC	Total
Okoumé		431,268	1,179,587	345,379			1,956,234
Sapelli		536,780			249,944	27,313	814,036
Tali	206,767	59,557	72,585	24,065	37,373	32,061	432,407
Okan	160,109	63,942	5,434	36,811			266,296
Azobé	57,554		163,909	12,680	7,064		241,207
Beli (Awoura)	110,541		85,672				196,213
Padouk		32,069	47,951	6,700	18,605	16,303	121,628
Dabéma	48,758	8,998		24,768	232		82,756
Ayous	25,630				48,849		74,479
Kosipo		49,748			8,040	15,145	72,933
Wenge		22,329				44,643	66,972
Iroko		24,562			36,276		60,838
Bilinga	34,198	23,803			970		58,971
Naga	50,951						50,951
Mukulungu					46,509		46,509
Afrormosia						32,658	32,658
Mahogany (Acajou)					5,971	24,243	30,214
Doussié					26,698		26,698
Nieuk	26,394						26,394
Bossé					6,784	18,618	25,402
Wamba	20,193						20,193
Tiama					1,137	15,259	16,396
Andoung				16,006			16,006
Tola						15,267	15,267
Sipo					14,336		14,336
Dibétou					9,372		9,372
Aleppo				9,350			9,350
Kévazingo/ Bubinga					9,198		9,198
Essia				5,951			5,951
Ilomba				4,964			4,964

-

continued on next page

Species	Cameroon	Republic of the Congo	Gabon	Equatorial Guinea	CAR	DRC	Total
Fraké					5		5
Other	1,780,278	566,558	497,453	312,611	16,031	64,816	3,237,746
Total	2,521,373	1,819,613	2,052,590	799,285	543,394	306,327	8,042,582

Table 2.7 : Continued

Source: Cameroon, Republic of the Congo, Guinea, DRC: 10 highest production species, OFAC. CAR: All species produced, 2018 Annual Yearbook. Gabon: For okoumé, OFAC, for other species, estimates from 2017 data (same proportion of each species in the total production of Miscellaneous Wood)

Products that have undergone primary processing dominate exports, mainly in the form of sawnwood, as well as veneer in Gabon.

Following a decline in 2009, Gabon's production increased throughout the period studied to reach 1.1 million m³ of product/year. Production also increased in Cameroon, but fluctuated before settling at 0.9 million m³ of product/year. In the Republic of the Congo, production increased slightly until 2016 before falling below 200,000 m³ of product/year. Production in CAR and DRC was fairly stable over the period studied, with an average of 45,000 m³ and 36,000 m³ of product/year respectively.

Having tried implementing quota policies and restricting log exports, with little success, in 2020 countries in the region decided to ban the export of logs as of 1 January 2022 (postponed to 1 January 2023). The arrangements and timetable for the implementation of this measure in practice remain to be clarified, but this decision signals that there is a strong desire to cease all log exports in the medium term.

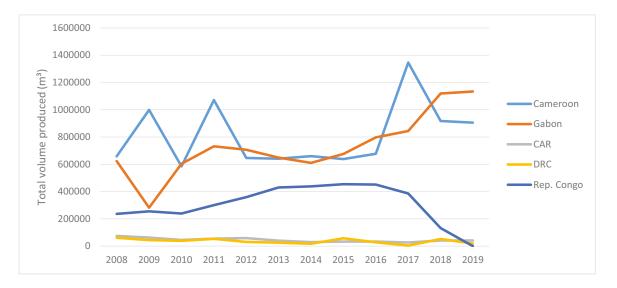


Figure 2.3: Change in product volumes in the Congo Basin (all product types), 2008–2019) Source : OFAC

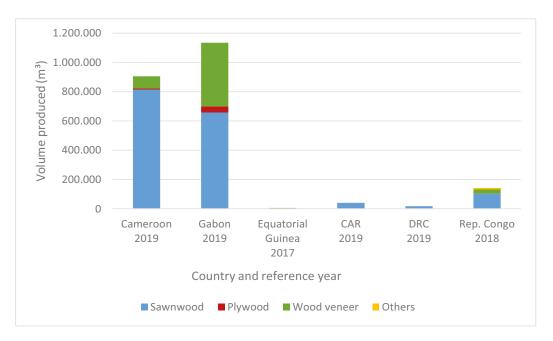


Figure 2.4: Breakdown of processed product volumes by type and country

Structure of the sector

Since the 1990s, governments in the region have sought to develop their timber industries to increase the volume of the raw material processed in its country of origin. In CAR, DRC and the Republic of the Congo, potential concessionaires must commit to process the logs they harvest to be awarded a concession.

This requirement has had knock-on effects for the entire sector:

- Concessionaires are obliged to source personnel with a wide range of skills (forest management, logging, primary processing), which requires significant financial resources and acts as a barrier to investment more generally.
- Specialized industries cannot develop because they cannot access sufficient resources and logging becomes more selective to meet the needs of the concessionaires' own processing plants, rather than those of third parties;
- Medium-sized companies fail to supply local markets, in which they are not present, encouraging illegal logging.

In Gabon, industrial operators are encouraged to specialize and focus on a single aspect of the supply chain. Consequently, half of the logs produced in Gabon are now sold on a national log market and processed by a different company from the company that harvested them. This shift is conducive to the development of highly specialized subsectors, which share the market with traditional integrated tree-to-timber companies and specialist loggers like Rougier Gabon, which split from its plywood plant in Owendo in 2021 to focus on logging.

Nevertheless, production throughout the Congo Basin is concentrated on a small number of concessionaires, often supported by foreign capital.

Country	Year	Number of		Most productive companie	S
	referenced	registered concessionaires	Number of companies	Percentage of registered companies	Percentage of domestic production
Cameroon	2018	61	12	20%	48%
Rep. Congo	2017	15	4	27%	46%
Gabon	2017	82	7	9%	49%
CAR	2019	8	2	25%	59%
DRC	2019	14	2	14%	49%

Table 2.8: Most productive enterprises

Box 2.6: The Nkok Special Economic Zone management entity (GSEZ)

Ten years ago, GSEZ (the management entity for the Nkok Special Economic Zone) was born from a public-private partnership between Arise Integrated Industrial Platforms (IIP) and the Government of Gabon to create more value added and local jobs.

Located 27 km from Libreville, the Nkok Special Economic Zone is a 1,126 ha multisector industrial park. It is divided into three zones: industrial, commercial and residential. It hosts 164 sectors, from wood to health, steel and plastic recycling. Thanks to the development of the wood industry, in 2015 Gabon moved from being a log exporter to being the leading exporter of veneers in Africa, ranking second worldwide. In 2020, the Nkok Special Economic Zone was named the best global free zone for wood products by the Financial Times fDi Intelligence ranking.

GSEZ owes its success to the early construction of infrastructure (building plots, water supply and electricity), favourable taxation arrangements and an attractive administrative environment that brings together 23 government departments (customs, water and forests, immigration, social security, etc.). GSEZ aims to guarantee the continuous supply of responsibly-sourced roundwood through its FSC chain of custody (CoC) certified landing areas and the due diligence conducted by the independent Nkok TraCer agency.

While the economic benefits of sector-wide industrialization are indisputable, GSEZ is now working to improve the sustainability of its activities. To this end, GSEZ has committed to supporting companies to integrate environmental, social and governance (ESG) standards into their business strategies and models. It is working to make the Special Economic Zone the number one industrial area for providing safe, high-quality jobs and working conditions, and environmentally-friendly practices.

13,000	Direct jobs created in the Special Economic Zone
17	Industrial sectors represented
164	Companies in operation
19	Different countries represented among investors
775,000	m3 of roundwood processed in 2020
300,000	m3 of wood veneer exported to more than 50 countries
80,000	m3 of sawnwood exported to more than 25 countries
50%	Gabonese timber exported from the Special Economic Zone
1,767,000	m3 of roundwood inspected by the Nkok TraCer agency from October 2018 to February 2021

Table 2.9: The Nkok Special Economic Zone: Key figures

Private sector actors in the Congo Basin forestry and wood subsector

Case study of the Republic of the Congo, DRC, Cameroon and Gabon (summary of the situation analyses carried out in 2019–2020 by ATIBT)

Republic of the Congo. With around 30 companies operating in the country, the forestry sector is the Republic of the Congo's second largest employer. The country is divided into two large blocks. In the north, large concessions are held by highly industrialized companies that often have certifications (CIB and IFO have the FSC forest management certification and Thanry and Mokabi SA have an OLB or LegalSource certificate of legality). In the south, concessions are more fragmented and often in their second or third harvest cycle. There is more pressure from local populations and only one company, Taman, has a certificate of legality. Sustainable forest management provisions apply to 57 percent of concessions and the application of planning rules to small concessions was under development in 2018.

Efforts have been made to improve road infrastructure to facilitate the movement of wood (upgrading the RN1 road, upgrading and extending the RN2 road to the north of the country).

A new Forestry Code was adopted in 2020, introducing new elements, such as the production sharing system (see Box 2.1), the ban on the export of logs (except hardwoods that are difficult to process) and the requirement to obtain a certification with the creation of a national certification.

DRC. In 2019, there were 27 industrial companies, of which about 15 were active. Sodefor, Maniema Union, Forabola and Booming Green account for 50 percent of the area logged.

There has been significant progress in relation to forest management compared with previous years. Management plans are in place for more than 58 percent of forest titles, of which 40 percent have been approved and 18 percent are in the process of being approved, with a large majority of production now coming from managed concessions. The holders of the rest of the titles, which have been assigned more recently, do not seem to be participating in any forest management processes. Two companies, CFT and IFCO, have a LegalSource certificate of legality issued by NEPCON, and some progress has been observed in respect of other companies.

Artisanal chainsaw loggers are different in that they tend to operate informally and illegally and use rudimentary logging equipment. Informal production, although difficult to measure, is estimated at 4 million m³, with artisanal loggers playing a major role in supplying local and regional timber markets (Uganda, Kenya, Rwanda and Sudan).

Formal timber production has never exceeded 400,000 m³, and has been stagnating for several years between 200,000 m³ and 300,000 m³, barely 5% of regional production. More than 60 percent of DRC's dense moist forest is not yet classified; classifying these forests could increase the legal production of logs. Formalizing existing artisanal activities presents a genuine opportunity to reduce poverty among local populations.

In DRC, the wood industry is underdeveloped due to significant constraints, related in particular to the need for energy and investment. Companies limit themselves to primary processing with little added value.

Gabon. Gabon's wood sector is composed of three key stakeholder groups: industrialized concessionaires, concessionaires without industrial equipment and processing units not tied to a concession. This is a peculiarity of Gabon's wood subsector. Traders can sell their wood to processors without needing to have industrial equipment and operators specialize in one activity.

With the market set up in this way, managing supply and demand is key. Existing logging areas are located in the interior of the country, while 47 percent of processing units are located in the province of Estuaire. Defective road and rail networks make it difficult to move the logs produced, leading to higher prices. Under these conditions, some traders scale their production to meet the needs of their own facilities and some harvest tree species and those individuals with qualities that are more profitable. Processing units not tied to a concession therefore face enormous difficulties securing and maintaining their supply of logs. The ban on discretionary permits, which were a source of illegal wood, has exacerbated this phenomenon.

While this can cause major problems for large and medium capacity facilities, this barrier is insurmountable for small facilities supplying the local market, which regularly turn to the informal sector.

The creation of the Nkok Special Economic Zone and its log purchasing centre has made it possible to maintain the supply of logs to the companies located there (see Box 2.6). It does not, however, address the needs of small and medium enterprises (SMEs) outside the zone.

Processors bemoan the lack of training centres teaching primary and secondary processing skills, which negatively impacts the quality of the products on the local market. These processing units are often small, making it impossible for them to invest in the equipment and drying units needed to produce high-quality products. The country has very few splitting plants and no tertiary processing plants.

In 2018, the President of DRC announced that all concessions would have to be FSC certified by 2022. However, to date, no regulations have been adopted to implement this statement, and although a few companies have signed up to the process, many have declined to do so due to the cost involved.

Cameroon. The private forestry and wood subsector is made up of 21 large, 92 medium-sized and thousands of small and very small operators.

Upstream operators hold the titles granting access to the resource. In 2019, there were 93 forestry concessions, 65 percent of which were in the east of the country, with the remainder in the south. There were 38 communal forests, 142 sales standing volume and around 50 approved community forests. These titles are managed by large companies (59), medium-sized companies (46) and rural municipalities (38). There are 191 processing units distributed fairly evenly across the country, with 24 percent engaged in primary processing, 47 percent in secondary and 29 percent in tertiary.

One peculiarity of Cameroon's wood sector is its highly fragmented trade union network. There are 14 unions for large companies, over 20 for artisanal operators, and over 50 for very small enterprises (VSEs). Collective action is, therefore, not very effective and suffers from logistical difficulties.

2.1.3 International markets

Central African share of wood market and requirements of different markets

The global market for Central African wood is estimated at USD 178 billion for the 440 million tons produced. Central African countries only account for USD 2.2 billion for a volume of 4.2 million tons (i.e. 1 percent). The total value of exports has changed very little in the last 10 years despite volumes increasing by 35 percent. This suggests that the average price per ton has decreased for all products on aggregate.

Over the same period, European imports from Central Africa fell by more than half (to USD 600 million from USD 1.4 billion), as products were increasingly exported to China, which has become the region's largest trading partner. This growing trend can be explained by the introduction of stricter European controls, and more likely by the declining competitiveness of products from primary and secondary processing.

European importers of logs, square-edged timber and boules now prefer competing semi-finished products from South-East Asia or from plantations in South America. These ready-to-use products are very competitive (less manufacturing costs and material loss). They are also easily delivered by container throughout the year, limiting storage costs.

Despite the steps taken to encourage forestry operators to increase their production of higher addedvalue products, Central African countries are lagging far behind due to a lack of infrastructure, high transport costs and a failure to train people in processing trades. Many operators are seeking markets that are less demanding in terms of quality (Middle East, China) to tap into new income streams, explaining their relatively competitive prices.

Given the region's large reserves and growing global demand, pressure on Central African forests will undoubtedly intensify. Sustainable management models, which are essential for the sustainability of these resources, may not be able to withstand the increasingly competitive prices offered by plantations (e.g. eucalyptus, rubber, pine, teak).

Given that operating and logistical costs tend to be so high, operators mainly concentrate on the most profitable species, such as: high-density species for outdoor uses and flooring (azobé,

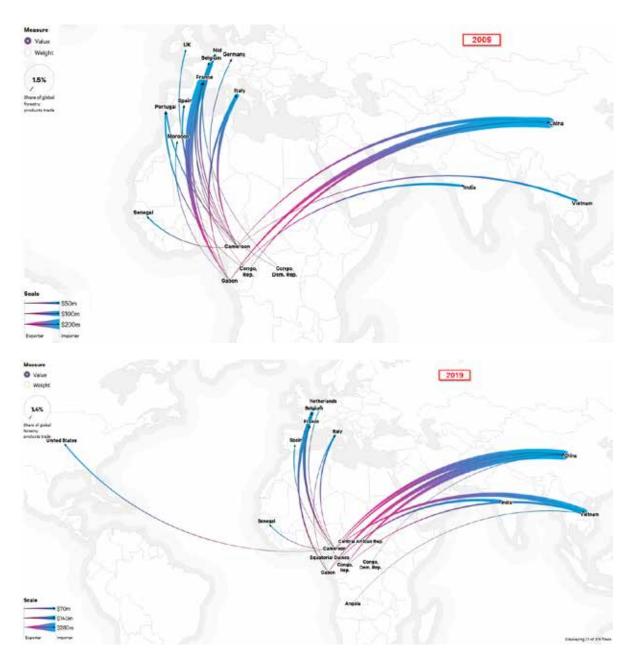


Figure 2.5: Illustration showing trade flows from Central African countries in 2009 and 2019

Source: https://resourcetrade.earth/

afrormosia, doussié, etc.), species with high added value for carpentry (sapelli or sipo), and veneer species (ayous or okoumé) which are present in large quantities and offer good yields.

Although there are about a hundred species that meet these criteria, limiting production to around fifteen has a major impact on the cost price of the volumes harvested, jeopardizing the sustainability of this economic model in the medium to long term.

Producers were likely impacted by sluggish markets in 2019 (due to the China-US trade war knocking Chinese importers' confidence) and by the Covid crisis in 2020. Nevertheless, markets recovered very well in 2021, with extremely high prices and sustained demand that the market cannot meet due to logistical constraints.

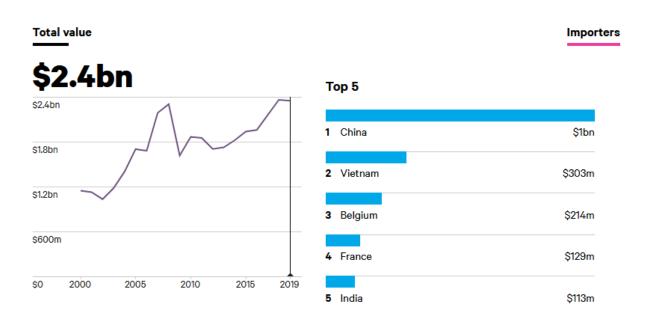


Figure 2.6: Change in wood product exports from Central African countries and value of imports to the five largest importers, 2019

Source: https://resourcetrade.earth/

Total weight	Trade flows					
4.3m t	Top 5		Fastest growing	214-209	Fastest declining	294-209
55nt	1 Cameroon to Orino	645k t	1 Angola to Vietnam	.∧.•#X	1 Cango, Republic to Turkey	<u>_</u> -52
	2 Equatorial Quines to China	588k t	2 Gebon to India	+8%	2 Central African Republic to Germany	J-435
22nt V	3 Cango, Republic to China	543k1	3 Congo, Republic to Vietnem	_/ -8%	3 Congo, Republic to India	~ -36
tet	4 Gabor to China	497k t	4 Corgo, Republic to Delgium	_^ -25	4 Central African Republic to France	∽ - N8
01 200 205 200 205	5 275 5 Canercor to Vietnam	400kt	5 Cameroon to Saragal	_ 04	5 Congo, Democratic Republic to China	U-18

Figure 2.7: Change in wood product exports from Central African countries (tonnage), the five largest trade flows in 2019, and the five fastest growing and fastest declining flows between 2014 and 2019

Source: Resourcetrade.earth/Chatham House (https://resourcetrade.earth/?year=2019&exporter=eccas &category=3&units=value)

Although requirements are becoming increasingly demanding from a social and environmental standpoint, there is still strong competition on international markets from operators who do not comply with these standards and who therefore have price policies that severely undercut responsible forest managers.

A first line of defence comes in the form of partnerships between operators and experienced manufacturers, enabling them to optimize their processes or increase the added value of their products. However, to remain competitive, these operators will have to increase their harvesting rate. To do so while respecting sustainability standards, they will have to diversify the species they harvest and, without doubt, supplement their supply with plantation species to lower their materials costs.

Price changes

Average prices barely increased in the five years to 2020, before increasing significantly in 2021 in the post-Covid recovery. Several factors can explain this stagnation. An increase in the number of operators in Asia led to an increase in supply, often at lower cost prices than those of traditional operators. Buyers have also changed their behaviour and now prefer glue-laminated products, sourced mainly from Asia. More competitive and more reliable, they are produced from plantation wood, and therefore cheaper, thanks to ever more effective techniques. The quality of these products is able to satisfy a customer base that is increasingly aggressive on price.

The sector has so far been relatively unaffected by the Covid-19 pandemic. Prices even experienced strong growth in 2021, although this is less pronounced in other production regions and does not affect all species. Sapelli prices in particular have remained stable.

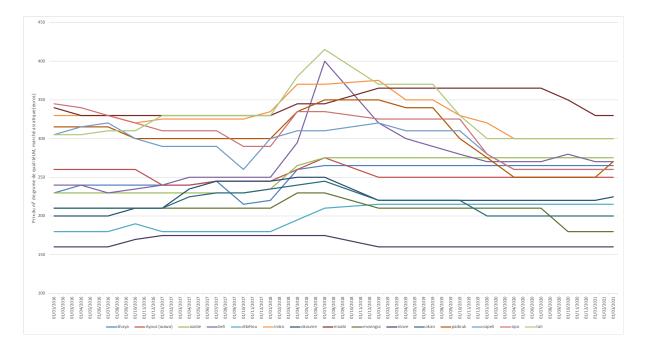


Figure 2.8: Change in the price of first and second GMM sawnwood, January 2016 to March 2021 (International Tropical Timber Organization)

Source: https://www.itto.int/fr/mis/

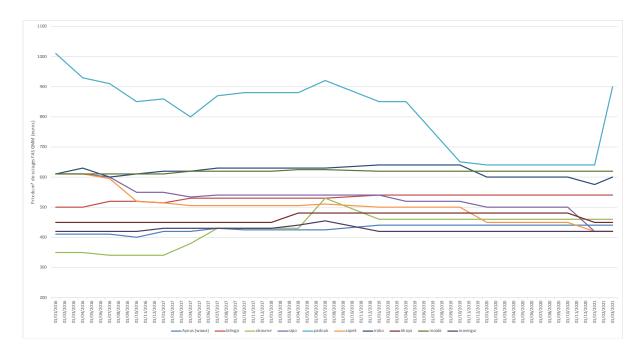


Figure 2.9: Change in the price of LM quality logs, January 2016 to March 2021 (International Tropical Timber Organization)

Source: https://www.itto.int/fr/mis/

The European market remains highly selective, with demand focused on around ten species, while the Asian market is more accessible if prices are attractive.

An African market is also emerging for low quality – and therefore cheap – products (South Africa, Morocco, Mauritania, Senegal).

Certified timber rarely demands a premium price, which holds back the growth of this segment. Only government procurement bodies in countries like the Netherlands, Belgium or the United Kingdom are willing to pay more for these certified products.

2.1.4 Informal production and local markets

Urban timber markets in Central Africa are primarily supplied by informal sources. As a result, the volume and value of these timber flows are not recorded by the government and are not reflected in national production statistics. It is not, therefore, possible to use such secondary data sources to evaluate the current situation of domestic sawnwood markets in the Congo Basin. The most recent comprehensive estimate of sawnwood sales to domestic and neighbouring markets dates back to 2013 (Lescuyer and Cerutti 2013) and is presented in Figure 2.10.

Several sources of more recent, though incomplete, data serve to both support and amend this overall assessment. On the one hand, an assessment by Lescuyer et al. (2016) shows that the volumes of sawnwood traded on the Yaoundé markets changed little between 2011 and 2016. This suggests that this economic activity will continue in the subregion in response to the unavoidable demand for timber that goes hand in hand with urban development. The sector is now firmly embedded in the economic landscape of Congo Basin countries. The fact that the overwhelming

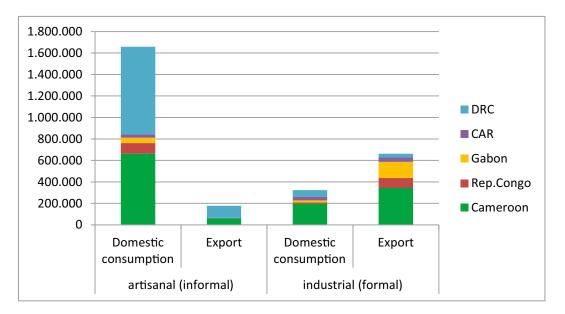


Figure 2.10: Breakdown of domestic consumption and exports of formal and informal production in the Congo Basin, 2013

Source: Lescuyer and Cerrutti 2013

majority of this sawnwood is sourced from the informal sector does not seem to be a pressing concern for policymakers. Indeed, informal sources successfully supply cities with competitively-priced building materials, supporting tens of thousands of people in rural areas.

While domestic timber markets appear to be relatively stable and their activity likely correlates with national economic growth rates,⁶ exports of artisanal sawnwood to neighbouring countries have increased significantly over the past decade. This is especially true in DRC, where exports to East Africa are now estimated at around 120,000 m³ of sawnwood (Eba'a Atyi et al. 2016) and in Cameroon, wh In 2020, the Covid-19 pandemic impacted levels of economic activity, negatively affecting the volume of sales on wood markets, which decreased by around 30 percent according to an ongoing study for the FAO-EU FLEGT programme. ere exports of informal sawnwood to Nigeria reached 27,000 m³ per year in 2016. The most notable increase was observed between Cameroon and Chad: in 2015, around 210,000 m³ of sawnwood crossed this border (Lescuyer and Tal 2016), very often with falsified documents from community forests. This is more than double previous estimates made in 2009.

2.1.5 Benefits of the subsector

Contribution to local employment

The contribution of the wood sector to employment is not regularly monitored by countries, particularly with regard to the informal sector, which nevertheless has a significant impact on their economies. Data are therefore sorely lacking.

⁶ In 2020, the Covid-19 pandemic impacted levels of economic activity, negatively affecting the volume of sales on wood markets, which decreased by around 30 percent according to an ongoing study for the FAO-EU FLEGT programme.

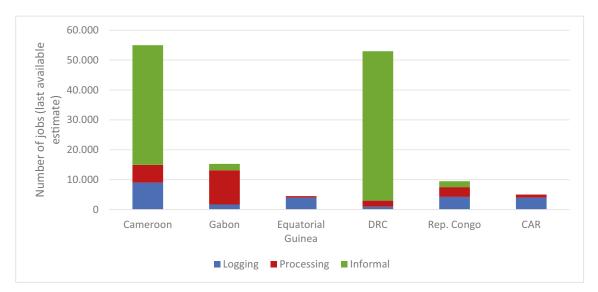
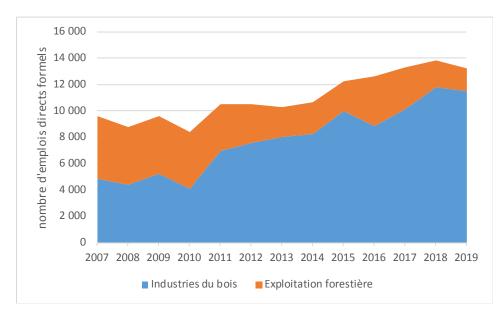


Figure 2.11: Estimated number of formal and informal jobs in the wood subsector, based on the latest available estimates^a



a No data on the informal sector for CAR and Equatorial Guinea

Figure 2.12: Change in the number of jobs in the wood subsector in Gabon, 2007–2019 Source: Economic dashboard, Minister of the Economy of Gabon

In Cameroon and DRC, a very high proportion of jobs are in the informal sector. These jobs do not contribute to government finances, but are essential for supplying growing local and regional markets.

Except in Gabon, jobs are mainly concentrated in the logging segment of the subsector due to the low rate of wood processing at the local level. This drives the export of logs and products resulting from primary processing. The more processing undertaken, the more jobs are needed to produce one cubic metre of product.

More regular data are available on Gabon. Following a significant decline in jobs in the wood sector when log exports were banned, numbers then increased, mainly in processing.

Contribution to the economy

Table 2.10: Contribution of the wood subsector to GDP at current prices, Gabon (XAF	
billion)	

	2005	2006	2007	2008	2009	2010	2011	2012
Logging	72	79	96	89	79	54	51	51
Wood processing	33	37	46	44	43	62	79	93
Total	105	117	142	133	122	116	130	144

	2013	2014	2015	2016	2017	2018	2019	
Logging	51	65	75	91	107	119	123	
Wood processing	85	114	140	153	160	197	199	
Total	135	179	215	244	267	315	322	

Contribution to land-use planning: Agricultural management blocks and local development funds: two levers of land-use planning and local development

The Republic of the Congo's land-use plan designates 'community development areas or blocks' (SDC), earmarked for agriculture and focused on the forest-farm interface. These areas are characterized as "a set of village plots and areas, centred around the tree, forests and other natural resources that can support the development of rural economies and poverty reduction". Equivalent classifications exist in the land-use policies of DRC (but for areas outside concessions), Gabon, CAR and Cameroon (but zoning has already assigned most agricultural areas).

Their overarching aim is to meet the needs of local people for forest products and to improve their incomes.

The size of a community development area is calculated based on current and future requirements for agricultural land and timber, and may also constitute a reserve for community forests. The location of a community development area is identified on the ground with the local and indigenous communities, who approve it as part of a process ensuring free, prior and informed consent.

The designation of these areas could be seen as imposing limits on usage rights. However, their main aim is to avoid uncontrolled clearing along logging routes and to secure agricultural land around villages. Community development areas are a component of land-use planning that seeks to reconcile the need for land for environmental purposes (ecosystem protection), socioeconomic purposes (rural development) and economic purposes (forestry).

According to the rules on forest management, the benefits of forestry must be shared with the indigenous peoples and local communities as set out in the specifications defining companies' social obligations and through companies' contributions to the local development fund. Operators must contribute XAF 200 per m³ logged, around 70 percent of which is used to directly fund projects. Similar mechanisms exist in Gabon and DRC.

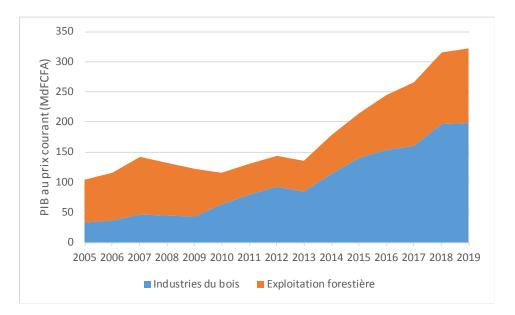


Figure 2.13: Change in contribution of the wood subsector to GDP at current prices, Gabon (XAF billion)

Community development areas and local development funds are managed by a consultation council that brings together the indigenous peoples and local communities, NGOs, the local government and the forestry company. Communities are given technical support to choose and implement projects, which are proposed and planned as part of a five-year management plan. Projects must be community-oriented, but may also be confined to a few families. While projects were initially agricultural in nature, they are now shifting more towards building individual houses or housing for teachers, reopening roads, supplying medicines and paying teachers not paid by the government.

Managing local development funds is not always straightforward. Conflicts can arise, fuelled by the funds at stake, and certified companies must invest heavily in conducting meetings and implementing projects with the indigenous peoples and local communities.

The need for rural development in the Congo Basin is enormous in proportion to the technical and financial support available. It would therefore be unrealistic and risky to shift the entire burden of development onto the shoulders of forestry concessionaires.

While donors do put forward support projects aimed at improving the management of local development funds, they often take a long time to materialize. The Northern Congo Landscapes Project funded by the French Development Agency (AFD), for example, was finally launched after 8 years of preparation.

Anti-poaching efforts

In the Republic of the Congo, agreements between a logging company and the government include a clause requiring the company to contribute to an anti-poaching unit.

This anti-poaching unit monitors hunting activities and works to combat poaching via fixed checkpoints, often at the entrance to logging routes, and patrols. The presence of these 'eco-guards' reduces poaching and makes it easier to monitor hunting activities. However, it is difficult to monitor the trade in game and there are still a number of barriers to doing so. In particular, local

authorities oppose the enforcement of 'closed seasons' and legislation on hunting unprotected or partially protected species.

In the north of the Republic of the Congo, certified concessions have active anti-poaching units of 30 to 50 people (eco-guards and supervisory staff). Often, a tripartite cooperation arrangement is set up between the Ministry of the Forest Economy, a conservation NGO – such as the Wildlife Conservation Society (WCS) or the World Wildlife Fund (WWF) – and the concessionaire.

In uncertified forestry concessions, the anti-poaching units have few resources and are not very effective.

Role in maintaining ecosystem services, in particular carbon storage

In selectively managed forests in Central Africa, the reduction in carbon stock during harvest is low, on average less than 10% of the initial Carbon stock in the annual harvest area. With a 25 to 30 years rotation, this represents only about 0.3 to 0.4% of the total annual carbon stock and is well below the annual growth in tropical forests (about 1.5%).

The maintenance of forest biomass and forest cover will also ensure that the functions of regulation of the water regime, soil protection and regional and global climate are maintained.

Wetlands and peatland areas are protected in forest management plans and excluded from harvest. A recent publication (Dargie et al. 2017) finds that the central basin of the Congo river is the largest tropical peatland complex, representing an underground biomass equivalent to that of the entire Congo Basin. Concessionaires who exclude these areas from their operation are therefore excellent stewards of the integrity of these significant carbon stocks

Thus, Sustainable Forest Management can assure the production of a renewable product, wood, with a Carbon neutral or Carbon positive impact in the long term. Tropical wood produced from sustainably managed forests is the better option compared to alternative products (steel, plastic, concrete)!

2.2 Major forest management issues for the coming years

2.2.1 Forest management plans: How have they fared after 15–20 years of implementation? How can they be brought up to date?

The oldest managed forestry concessions still active in Central Africa are entering their last five-year cycle (forest management plans drawn up in the early 2000s). Generally speaking, first-generation management plans have proved to be an effective tool for planning harvests, with forecast harvests (in gross volume) aligning with the production volumes recorded. The difficulty here lies in creating demand for a range of species, which can be a challenge for companies (market orientation). Moreover, the range of species harvested remains fairly narrow, because few integrated companies have succeeded in commanding profitable prices for so-called 'secondary' or 'lesser-known' species.

The solution lies in further industrialization, with national strategies that can be tailored as needed (outsourcing to specialized industrial operators like in Gabon or the development of companies' existing processing operations).

The forest management system was introduced alongside specific measures to promote local development while respecting customary practices and involving local populations. Areas within forestry concessions are assigned to local communities to allow them to farm. Each country has a different name for these areas: agricultural blocks, community development blocks, etc. Under national legislation, development funds have been transferred to local communities in proportion to the volumes/areas harvested. Specific measures to preserve ecosystems during logging operations have also been implemented. Lessons must now be learned from the last 15 to 20 years of implementation to assess whether these measures are fit for purpose (does the size of the agricultural management blocks meet local needs in practice? Have the protection and conservation management blocks actually helped to preserve species and ecosystems?)

The first-generation of forest management plans were drawn up on the basis of technical procedures used across the subregion (harvest cycles, setting a minimum cutting diameter, parcels of similar volume, etc.). That they are simple to implement and monitor remains a substantial benefit. However, not all forest management plans are of the same quality or are implemented in full. The forest management model would therefore benefit from fine tuning. It is important to tailor forest management strategies to the specificities of the concession (in terms of stands, area, history of logging), the country and the economic operators involved (e.g. how engaged they are in sustainable management). That is not to say that forest management should take a "lowest-common-denominator approach". Alternatives could be considered, by pooling knowledge, to simplify technical procedures (e.g. by setting minimum cutting diameters for each ecological zone). When renewing these forest management plans, it will also be necessary to establish a normative framework for the arrangements proposed.

New legal and regulatory frameworks should be drawn up based on an assessment of the progress of the forest management plans, their implementation during the first rotation and the lessons learned. Proposals should then be made on the forest management rules and the procedures for drawing up the forest management plans for the second harvest cycle. These proposals will need to be discussed with the forestry administrations so they can be taken into account when regulations and standards are drafted.

2.2.2 Resource management and development

The natural forests of Central Africa are characterized by a very high diversity of species. There are approximately 150 species, able to provide at least 15,000 m³ logs/year. However, some species are more abundant. Indeed, the top five most populous species account for 26 percent of the available volume and the top 15 for 50 percent.

However, due to current market conditions, the low level of industrialization and the state of transport infrastructure, which weighs heavily on government budgets, operators tend to focus on a few species and those individuals with the best qualities, leading to total harvesting rates far below potential yields from sustainably managed forests.

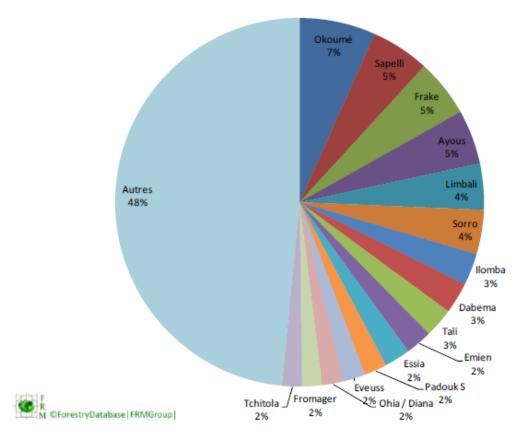


Figure 2.14 : Breakdown of net realizable volume by species in Central Africa (excluding Equatorial Guinea and the two Cuvette départements in the centre of the Republic of the Congo)

Table 2.11: Realizable volumes for the most abundant species (minimum net volumes over
250,000 m³/year)

Species group	Species	Gross	Min net vol m³/y	Max net vol m³/y ("2030" high vol scenario)	
		volume m³/y	("2018" baseline scenario)		
A : Most logged spec	ties				
1a : Sawnwood	Sapelli	2.390.000	1.440.000	1.730.000	
	Dabema	1.950.000	760.000	1.030.000	
	Padouk S	1.420.000	560.000	750.000	
	Beli	680.000	260.000	260.000	
	Bahia	660.000	260.000	350.000	
1b : Hard sawnwood	Tali	1.860.000	730.000	980.000	
	Niove	1.080.000	420.000	560.000	
	Azobe	1.000.000	390.000	520.000	
	Okan	740.000	290.000	390.000	
1c : Veneer	Frake	3.650.000	1.420.000	1.920.000	
	Ayous	3.430.000	1.340.000	1.800.000	
	Tchitola	1.100.000	490.000	610.000	
	Aiele	700.000	270.000	370.000	

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continued on next page

Species group	Species	Gross	Min net vol m³/y	Max net vol m³/y
		volume m³/y	("2018" baseline scenario)	("2030" high vol scenario)
1d : Veneer and Sawnwood	Okoumé	4.830.000	1.880.000	2.710.000
Total species most l most abundant spec		25.480.000	10.500.000	13.970.000
B : Species with pot	ential for developm	ient		L
2a : Sawnwood	Limbali	2.930.000	1.140.000	1.540.000
	Essia	1.650.000	640.000	870.000
	Ohia / Diana	1.350.000	530.000	710.000
2b : Hard	Eveuss	1.410.000	550.000	740.000
sawnwood	Alep	1.000.000	400.000	460.000
	Manilkara	910.000	360.000	480.000
	Omvong	820.000	320.000	430.000
2c:Veneer	Ilomba	2.030.000	790.000	1.070.000
	Fromager	1.260.000	490.000	660.000
	Essessang	940.000	370.000	490.000
	Ozigo	760.000	290.000	290.000
Total species with p development amon species		15.060.000	5.880.000	7.740.000
C : Species with litt	le potential in the n	nedium term		
3 : Hard-to-market	Sorro	3.360.000	1.090.000	1.410.000
species	Emien	1.670.000	650.000	880.000
	Total species with little potential in the medium term among the most abundant species		1.740.000	2.290.000
Overall total (A + B	+ C)	45.580.000	18.120.000	24.000.000

Table 2.11 : Continued

Source: AfDB/FRMi 2018. Vision Stratégique et industrialization de la filière Bois dans les six pays du Bassin du Congo, Horizon 2030 – Rapport stratégique Régional.

In 2018,⁷ FRMi sought to assess two harvest scenarios to determine what impact improving industrialization and establishing a larger market would have. Put simply, the 2018 scenario reflects current typical practices extended to all concession areas and the 2030 scenario presents diversified harvests – both in terms of quality and species diversity –, improved processing and the creation of more diverse international markets and a strong local market.

Moving from the 2018 scenario to the 2030 scenario would increase harvests by 3.5 m³/ha (i.e. more than 33 percent) from currently logged species and by 2.5 m³/ha from newly added species.

Harvests do not currently reach the very conservative 2018 scenario. Cameroon realizes more of its potential available volume than other countries, while CAR and DRC are extremely underexploited.

⁷ Vision Stratégique et industrialization de la filière Bois dans les six pays du Bassin du Congo, Horizon 2030 – Rapport stratégique Régional. 2018

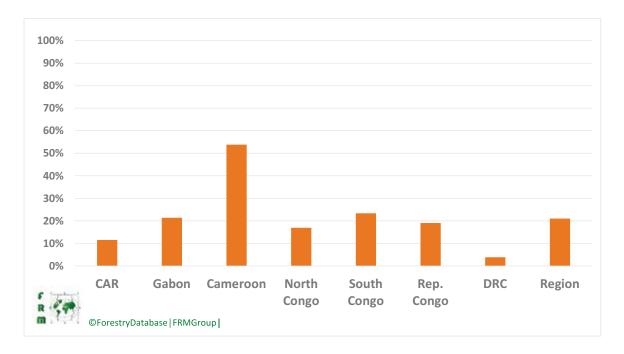


Figure 2.15: Current realization rate: Comparison of potential production (2018 scenario) and log production for all abundant species (groups 1 to 3)

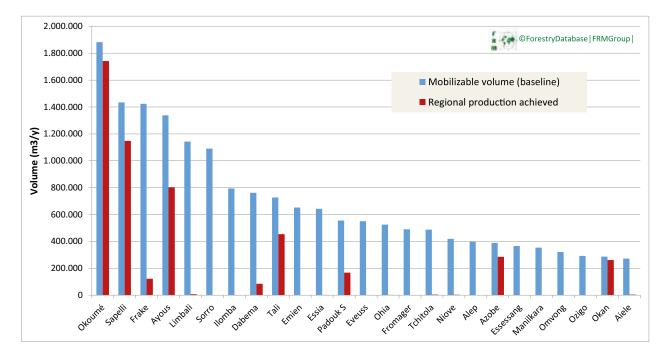


Figure 2.16: Current realization rate by species: Comparison of potential (2018 scenario) and realized log production for the 25 most abundant species (in m³/year)

At the regional level, harvest rates reach just over 40% of the potential available volume for the most commonly logged species and only 20% for the most abundant species.

Among the most abundant species, only sapelli and okoumé are harvested at levels close to the potential volumes laid down in the forest management plans.

To reach the 2018 scenario, it will be necessary to improve infrastructure and reduce the parafiscal burden.

To reach the 2030 scenario, it will be necessary to follow forest management plans more closely. Currently, only an estimated 70 percent of assigned forest are actually harvested annually. Higher levels of industrialization will be required to increase harvests and specialized operators will need to be set up. Formal supply chains will also require access to local and regional markets.

2.3 The future of the wood subsector

2.3.1 The challenge of industrialization

Sustainable industrialization of the wood subsector in the Congo Basin: Recommendations of a regional study by the African Development Bank

Despite the enormous potential offered by forests in the Congo Basin, over the past 60 years their wood has been harvested and exported in its raw form to countries outside Africa, while African countries have imported finished wood products. The missed economic opportunities are incalculable. The Congo Basin operates on the fringes of the global wood subsector, accounting for 1 percent of global sawnwood production, 6 percent of tropical sawnwood production, 5 percent of tropical logs, 7 percent of tropical veneers and 1 percent of tropical plywood and little to no secondary or tertiary wood processing.

The poor performance of countries in the Congo Basin can be attributed to the under-industrialization of the wood-processing sector. Indeed, most wood is still exported in the form of logs. Knowledge of what forest resources are available is also inadequate, there are few plantations, production fails to make the most of the diverse range of tree species available and operators are slow to remove standing and felled trees.

As a pillar of Africa's structural transformation, industrialization is a key priority for the African Development Bank (AfDB). The diversification of African economies for inclusive and green growth is a key objective for both countries and the Bank. Given that the majority of Central African economies depend on finite natural resources like oil, they have been advised to change their industrial structure to diversify their economies and take advantage of the opportunities offered by renewable natural resources like timber. Following this advice will put them on a trajectory of sustained growth and long-term human development.

The AfDB's regional study on the sustainable industrialization of the wood subsector recommends that countries take 10 key steps to establish an operational framework for the implementation of this vision by 2030. These steps are:

- Ban log exports;
- Increase the area of sustainably managed forests from 50 million to 75 million hectares;
- Intensify forestry concession harvests from the current 7 million m³ to 15 million m³;
- Transition to a new industrial model, in which all logs undergo primary processing and secondary and tertiary processing increases by 50 percent;
- Expand plantations outside forests;
- Strengthen the legal regime and management rules applicable to forestry concessions;
- Reduce tax distortions between countries and increase intra-African trade;
- Strengthen institutions and legislation;
- Invest heavily in logistics and energy infrastructure;
- Foster a new climate of trust between the banking sector, forestry investors and the wood subsector.

Box 2.7: Recent decisions taken by the Economic and Monetary Community of Central Africa (CEMAC)

While there are already various restrictions on logs exports in every country of the region, in September 2020, the Central African Economic and Monetary Community (CEMAC) decided to impose an export ban of logs by January 2023 (originally set for January 2022, the decision was postponed for a year). The Democratic Republic of Congo also joined this decision. While this decision needs to be ratified by the countries, it is certain that sooner rather than later, log exports will be banned in the region. Forest industries are not prepared to adapt in the short term to the implementation of this measure. The capacity is not available to transform the whole volume locally, like is the case today in Gabon and there are no government strategies to develop the sector in the short to medium term. Furthermore, with a log export ban, the importance to develop wood products and find new markets for lesser used species, also called "lesser known timber species", is becoming urgent, the logs will no longer be exportable to the Asian markets.

On the one hand, the private sector must be quite innovative in its business model, for example looking for new markets and investing in new wood processing units, to ensure its sustainability in the long term. Other options to consider may include: payment for environmental services, pharmaceutical industry, partnerships with medium and small-scale enterprises, collaboration with universities and research institutes and last but not least, training the local workforce, from machine operators to sector managers.

On the other hand, governments need to put in place a wide range of tools and measures to enable the processing industry to develop. Every country of the Congo Basin has its own characteristics, but there are common elements that require joint efforts involving all stakeholders.

Governments are urged to create an enabling environment to attract new investments in wood processing units, developing in the first place a solid strategy to further develop the forest and wood industry sector: policy makers have to create attractive fiscal incentives with a transparent structure and with efficient administrative processes to access those incentives; access to financing at affordable and competitive interest rates; fight against illegal logging and trade of wood products; invest in the development of skilled human resources at all levels; promote the use of legal and sustainable wood for public procurement; encourage the construction of wooden houses; implement necessary measures to participate in the African Continental Free Trade Area (AfCFTA); continue investments in infrastructures, such as in the road network, railway, seaports, but particularly for the interconnection of inter-African markets. Policy makers should also remember that it is not realistic to force investments in value added products, such as wooden furniture, because Asian markets will always be more competitive in the medium term.

Government and the forest industry should work together in the development of wood products standards for local and regional markets. National research institutes should invest in the design of furniture for the local small and medium scale enterprises and provide training opportunities for their production.

The above mentioned elements needed to further develop the wood industry in the Congo Basin are only achievable if the governments, the private sector, the civil society and the international donor community work together towards the same objective: to develop a sustainable, legal forest based industry.

If this vision is implemented successfully, jobs will be created in the primary processing sector, increasing from 40,000 today to over 100,000 by 2030, with more jobs in the secondary and tertiary processing sectors. The wood subsector's contribution to national GDP will also double. This will not however happen without substantial investment. It will be necessary to inject EUR 3 billion of private funds into the regional economy. The AfDB plans to invest USD 35 billion over 10 years as part of its industrialization strategy. This will help Africa to increase its GDP from industry from just over USD 700 billion to over USD 1,720 billion by 2030.

Box 2.8: The wooden eco-house and wood frame subsector

Zero log exports from CEMAC countries by 2022: Towards the development of the wooden eco-house and wood frame sector in the Republic of the Congo, for a more advanced and diverse approach to wood processing

In the Republic of the Congo, houses in poorer neighbourhoods are built using (often untreated) boards or sapwood. These houses therefore are quick to build and cheap, but fragile.

The construction of wooden houses dates back to colonial times, but it was in 2010 that the authorities first decided to make a sustained effort to promote this type of construction. There are three main reasons for this:

- To promote the use of local materials in response to the scarcity and rising price of cement;
- To undertake all stages of wood processing locally, an objective set out in the country's legislation;
- To help combat climate change.

Wood does not conduct heat well, so wooden dwellings remain liveable during increasingly frequent periods of intense heat and help to limit injuries and damage in the event of a fire.

When developing its wooden eco-house project, the Republic of the Congo drew inspiration from countries with a proven track record, such as Russia and Guyana, whose capital, Georgetown, has a similar climate to the Republic of the Congo and is constructed primarily from wood (80 percent). Representatives from the Ministry for Forests, and the companies CIB and IFO visited these countries in 2010 and 2011 to see what they could learn.

Thanks to the government's efforts, forestry companies have made significant investments in this sector. CIB is currently taking a leading role in this project, which has now built more than 150 eco-houses.

Prices vary depending on the type of house and on patterns of supply and demand. It should also be noted that the lifetime cost of construction largely tips the balance in favour of wooden eco-houses and, moreover, delivery times are short.

Promoting the production and consumption of legal sawnwood on national markets

While the economic and social importance of domestic wood consumption in Central Africa is now recognized, demand is mainly met by sawnwood from informal sources. This sector will continue to play an active role in Central African economies and will only grow with the implementation of policies that support them to flourish. Taking advantage of the growth of domestic markets to put these operations on the path to legality and sustainability is therefore a major challenge.

While suppliers are generally seen as the main drivers of better efficiency and sustainability, buyers also play a decisive role in the evolution of markets. It is necessary to analyse the practices of both suppliers and buyers to propose meaningful changes that will improve the performance of a market.

Among Central African countries, Cameroon has without doubt engaged most actively in comprehensive discussions about how its internal wood market operates and has analysed both wood consumption patterns and production methods (Lescuyer et al. 2016), which has allowed it to propose promising and sustainable solutions.

On the demand side, public and private demand can be split into four market segments:

- <u>Urban markets</u>: 830,000 m³ of sawnwood is sold per year, mainly in the form of planks, formwork boards, battens and rafters (Cerutti and Lescuyer 2011), of which 12–18 percent are thought to be from legal sources. The average price of one cubic metre on these markets is around XAF 80,000. Half of the buyers surveyed would agree to pay 10 percent more to buy sawnwood from legal sources. The buyers surveyed also stated that they could bear a 45 percent increase in the current price of sawnwood before turning to alternative products.
- 2. <u>Carpentry workshops</u>: Cabinets, beds and doors are the highest selling products. Almost all urban consumers are looking for the best value for money and there is little interest in sourcing legal or sustainable sawnwood.
- 3. <u>Furniture shops:</u> Beds are the main items of furniture sold by these shops. Buyers in Yaoundé and Douala are rarely concerned about the legality of the material used to make the furniture sold at retail.
- 4. <u>Public procurement</u>: Domestic and international public bodies are yet to develop an effective strategy to promote the procurement of legal sawnwood. However, the Cameroonian Government is the main buyer of sawnwood and furniture on the domestic market. Classrooms are the subject of the majority of its calls for tenders.

To meet demand from these segments, there are four supposedly legal sources of sawnwood and furniture on Cameroon's domestic market:

- <u>Community forests</u> (CF): While these forests were a success in the 2000s, they have ultimately
 had little impact on the legal production of sawnwood and the multitude of requirements
 imposed by the administration have hindered the growth of this sector. The total production of
 community forests has languished below 10,000 m³ of sawnwood per year, at a cost of at least
 XAF 150,000 per cubic metre of cut wood.
- 2. <u>Timber Logging Permits</u>: These permits allow operators to log around 160 m³ of sawnwood each. Following a decade-long suspension, the Ministry of Forests approved 51 permits in 2012, covering a maximum volume of 8,000 m³ of sawnwood. The use of timber logging permits is expensive, resulting in an estimated cost of XAF 280,000 for one cubic metre of sawnwood.

- 3. <u>Industrial processors</u>: Though this market segment is small, 145,000 m³ of sawnwood was produced by industrial sawmills. While this sawnwood is low quality, it is priced 30–50 percent higher than other sawnwood. In addition to official sales, scrap from industrial sawmills can be found on urban markets and is not monitored.
- 4. <u>Imports of wooden furniture:</u> Imports have doubled since 2007, reaching a volume of around 10,000 m³.

This analysis of the demand for and supply of sawnwood shows that there are two major obstacles to the emergence of a domestic market for legal sawnwood in Cameroon. On the one hand, buyers' willingness to accept higher prices for legal timber is not sufficient to cover the current cost of sawnwood from legal sources. On the other, the maximum production volumes of artisanal sawnwood from legal sources is currently only able to meet a small proportion of consumers' needs.

Reducing the cost of producing legal sawnwood is the most frequently cited solution and has to a certain extent been tried. It remains difficult to implement policies to boost the supply for many reasons (cost of implementing timber logging permits, poor community forest governance or weak interest from industrial processors). The government has, however, designed and trialled measures to force companies to increase their supply to urban markets, particularly from their managed concessions.

A complementary approach could be to boost private and public demand for legal sawnwood. Some consumers are already willing to pay more for legal products. Moreover, the Cameroonian Government has shown its support for requiring all public contracts to source legal sawnwood, which could have a symbolic impact on public perceptions and act as a catalyst for change in the wider economy.

In view of this, there are several measures that Congo Basin countries could consider implementing in the short term: (1) better identifying and publicizing the volumes of legal sawnwood available on the domestic market; (2) removing regulatory barriers that hinder the formalization of the sector and that reduce the volume of legal timber on the domestic market; (3) continuing to promote domestic demand for legal sawnwood; and (4) facilitating transactions between buyers and sellers of legal sawnwood.

		Sawnwo	Furniture				
	Community forests (2012, maximum)	Logging permits (2012, maximum)	Industrial processors (2010)	Informal (2010)	Carpentry (sample in 2015)	Retail (sample in 2015)	Imports (Customs stats 2015)
Cut volume (m³)	9,060	8,000	144,156	668,354	22,000	6,946	10,600
Cost price at market (XAF/ m³)	150,000	281,250		80,993			
Turnover (XAF million)	1,359	2,250		49,647	8,000	3,992	5,300

Table 2.12: Summary of annual volumes, prices and turnover for sawnwood and furniture sold on Cameroon's domestic market

Source: South-West Regional Development Project (CIFOR) 2021

Towards the development of intra-African trade in tropical timber: A case study on the Republic of the Congo

Exports of forest products from Central African Forest Commission (COMIFAC) countries to other African countries are low, coming in at less than 5 percent of the volume exported. Most exports to the continent are destined for North Africa. Exports mainly take the form of dry and green sawnwood as well as veneer, prepared logs, chips (mainly in the early 2010s) and finished products in lower quantities.

There are several reasons for the low volume of exports to African countries south of the Sahara:

- Purchasing power is low in the region;
- Asian and European markets are more attractive than African markets;
- Production and market structures are similar across COMIFAC countries and there is no need to import goods similar to those available locally;
- There is a lack of transport infrastructure between African countries (road, rail, maritime);
- Some countries are very high risk due to conflict and terrorism; There are administrative and tax barriers to exporting.

Several factors could improve the trade in wood products between African countries in the medium term:

- Establishing a free trade area and improving trading arrangements;
- The emergence of a middle class;
- The development of new products, both in terms of species and processing, making it possible to create niche markets;
- The development of long-distance communication infrastructure, which has proven effective in the case of the DRC-East Africa road and the increase in exports.

Increasing the popularity of 'promotional' species and increasing buyers willingness to accept products that have minor defects will reduce the pressure on flagship species and on the forest in general, which would be more conducive to sustainable management.

Conclusions

Production forests are, for the most part, managed on the basis of management plans, which have proven to be a valuable tool for planning harvests. This management model still needs to be refined and tailored to the specificities of each concession (ecological diversity, area, history of logging), while upholding management rules that ensure sustainability.

Despite the very high diversity of marketable species, demand from the wood subsector is focused on a fairly small range of species (50 percent of production in the Congo Basin is provided by around 15 species, while about 150 species could be utilized). This situation is linked to the fact that integrated companies (that both harvest and process the wood) have not succeeded in commanding profitable prices for these so-called 'secondary' species. One major challenge for the wood subsector is increasing the industrialization of the wood-processing segment (following the model in Gabon, which, after banning the export of logs, has set up a Special Economic Zone where around a third of Gabon's logs are processed). Industrializing this subsector will however require better infrastructure and a more skilled workforce. Managing and formalizing production for the domestic market is also a challenge because it is mainly served by illegal operations. Given that this segment accounts for a significant proportion of harvests, the sustainability of forests as a resource is therefore jeopardized without contributing to state coffers. To formalize this sector governments will have to amend national regulatory frameworks, increase demand for legal sawnwood and facilitate transactions between buyers and sellers.