

Dreams to Industrialise - How can Africa Achieve its Long-Postponed Forest Industry Ambitions?"

by

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1. Long-Held Ambitions

1. I am approaching 70, yet when I studied Wood Science at University in the early 1970s, the ambition to move away from exporting raw logs and add value to tropical forest products was already old in tropical forest countries. All three regions – Africa, Asia-Pacific and Latin America – had the same ambitions and early log bans were already being adopted.
2. Some 50 years later, Tropical Asia and large swathes of tropical America have already largely industrialised in forestry - why then is it that in most timber-rich African countries local processing is still just an ambition rather than reality? Why is it mainly Africa that has fallen behind? Could it be that the benefits of local processing were exaggerated and that the countries found it more sensible to continue exporting logs? Or is it the more often highlighted problems of infrastructure and low investment? Whatever the case, why have such challenges picked specially on Africa, if at all?
3. I present some thoughts on the above not as dogma but as points for industry people present at this forum to discuss. I should warn readers that this is not an academic or peer-reviewed paper. The paper communicates observations that include some personal views, some of them speculative, but offered nevertheless to trigger debate about an area of great importance to African forestry.
4. The paper, significant part of which have a bullet-points format, starts with a recall of Africa's long-held ambitions and an outline of the current reality in terms of the state of play and factors that discourage value-addition. Then follows a brief section on experience with log export bans, showing their failure to on their own promote industrialisation. An obvious follow-up question is "Does Africa Still have Room to Industrialise?" under which I refer to changing consumer tastes, comparative disadvantage, and the chilling effect on forest industries of environmental campaigns. Towards the end, I ask "What will it Take?" before asking "Who Should Take the Lead?" and What Key Questions? – for both governments and the private sector.

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5.

2. The Current Reality

2.1 The state of play

6. It would be narrow-minded to dive straight into forestry without introducing key numbers on the African economy. Africa has nearly 17% of the global population but its contribution to world GDP is only around 2-3%; its share of trade is somewhere around 1.5-2% and in agricultural trade (including forest products) it is lucky if it exceeds 3% in any given year. To account for such a small share of GDP and trade can only be explained by low value-added to almost everything Africa produces: the continent is a quintessential exporter of raw materials. A dramatic example was highlighted at a recent continental Investment Conference in South Africa: Dlodla quotes African Development Bank President Adesina as saying *"When you see a situation in Ghana and the Ivory Coast account for roughly 65% of global supply of cocoa beans and Africa accounts for 75% of all of that, but only accounts for 2% of the \$120 billion chocolate market, something is wrong."*
7. Within forestry, an overall look at state of forest products manufacturing enterprise provides context before attention narrows to extent of processing relative to raw wood production. Asumadu (2004) reports that (as in rest of sub-Saharan Africa) the level of processing is low in the Congo Basin countries but also conveys the 2002 findings of Buttoud et al. that annually, total manufactured value added in Africa decreased from 4.3% during the 1980s to 2% in the 1990s – the drop being worst in the most forest-rich Congo Basin. Over the period 1990-1999, the rate of growth in industrial production decreased from 6.9% to -2.2% in Congo, from 10.4% to -1% in Cameroon, from 1.6% to -7.3% in the Democratic Republic of Congo and from 1.8% to 0.9% in Gabon. It is not a healthy activity.
8. With regard to Africa significance in global context, ITTO member data are a large-enough sample for tropical timber and they are summarised in Tables 1 and 2, for both of which the ratios are derived from actual volumes of production and exports. Focusing on year 2016, the most significant messages from the tables derived from ITTO data are the following:

Export shares of global totals:

- a. Africa accounts for only about 10% of production both for logs and processed products but covers 33% of log exports – this log dominance is its major divergence from the other two tropical regions;
- b. Asia-Pacific almost all the rest of tropical logs – Latin America exports hardly any;
- c. Asia-Pacific also heavily dominates processed exports (73%) while Latin America consumes most of it production domestically with its share of exports at only 15% but still higher than Africa;
- d. Africa is thus left behind not only in industrialisation but in overall production of forest products. *Solutions to industrialisation cannot ignore that Africa's total log production is very low and cannot at this scale support industries at the scale observed in Asia-Pacific or Latin America/Caribbean;*
- e. Given that the African totals come from many more countries than in other regions, the industries in Africa will necessarily be small and may well be below sound economies scale.

Shares of processed products to logs:

- f. In Africa, sawnwood is very dominant among processed products but is only 20% of the volume of logs in production (but is nearly 60% of export volumes);

- g. In the other two regions, sawnwood is also relatively small in volume but as a share of exports is very high relative to logs, especially so in Latin America, which exports hardly any logs;
- h. Plywood is almost wholly an Asian story; veneers are greater than plywood only in Africa, which is further evidence of its economies mostly producing and exporting raw or near-raw commodities rather than manufactures; and
- i. Between 2012 and 2016, it is only Africa where the share of processed products has remained practically stagnant in production but decreased in exports – by 9% points in the case of sawnwood. The African industry is thus not just small but the little that exists is also not performing well.
9. There are related findings in other studies. For example, according to Molnar et al (2011), concurs on the quite limited higher-value processing of wood in African producer countries, reporting that in Africa, most regional incremental demand for finished wood products (as well as for pulp, paper) is imported from China and other countries..

Table 1: ITTO producer member country production and exports of commercial tropical timber products in 2016

Region	Commodity group	Quantity ('000m3)		Share (%) of all ITTO producers	
		Production	Exports	Production	Exports
Africa	Logs	30065	3408	9.0	33.6
	Processed products ²	8223	2357	11.4	11.1
Asia-Pacific	Logs	188252	8547	49.4	57.1
	Processed products	42077	15515	58.5	73.4
L. Am/ Caribbean	Logs	168695	760	42.0	0.2
	Processed products	21625	3259	30.1	15.4
All ITTO producers	Logs	387012	12715	100	100
	Processed products	71925	21131	100	100

10. Asumadu (2004) mentions Côte d'Ivoire and Ghana as notable exceptions for some time - already by 1998, these two countries accounted for 83% of total African processed-wood exports. Since 1996, Ghana has been processing nearly 100% of its log production and there is respect for the log exports ban.
11. A Congo Basin White Paper by a group of agencies (Anonymous-2013) confirms that Gabon has the largest number of processing facilities in that sub-region; that Cameroon processes almost 75 percent of forest production while the Republic of the Congo is at only 51 - 65 percent. Gabon data are also reported with more detailed analysis by Terheggen (2011) and by the African Development Bank (AfDB) cited in Anonymous (undated) which revealed that in 2010 only about 40% of felled timber was processed locally despite a 2001 forestry code target by 2011 set at 75% and despite post-ban establishment of at least 33 new timber firms.

² Sawnwood + Veneer + Plywood together. It is assumed that the ITTO data report processed products in net processed volume rather than roundwood equivalent terms.

Table 2: Summary of each commodity's ratio (%) within each region – where logs=100

Year	Commodity	Africa		Asia/Pacific		L Am/Caribbean		All ITTO producers	
		Produc	Export	Produc	Export	Produc	Export	Produc	Export
2012	Logs	100	100	100	100	100	100	100	100
	Sawnwood	20	58	14	67	13	239	14	75
	Veneer	3	8	1	8	1	6	1	8
	Plywood	1	4	6	71	2	163	4	58
2016	Logs	100	100	100	100	100	100	100	100
	Sawnwood	21	49	15	10	11	10404	14	102
	Veneer	3	5	2	18	1	191	1	12
	Plywood	2	2	6	84	2	3574	4	73
2016-2012 change in regional ratio of each commodity (% points)									
	<i>Logs</i>	-	-	-	-	-	-	-	-
	<i>Sawnwood</i>	+1	-9	+1	-57	-2	+10165	0	+27
	<i>Veneer</i>	0	-3	+1	+10	0	+185	0	+4
	<i>Plywood</i>	+1	-2	0	+13	0	+3411	0	+15

Source: Tables in https://www.itto.int/news_releases/id=5195

2.2. Factors that discourage value-addition

12. Some analysts have given thought to why Africa's industrial growth and performance is so poor. It is difficult to separate analytical fact from speculation, with some of the drivers mentioned being:
- According to the Congo Basin White Paper (2013), throughout that region it is often more profitable to export logs than to export sawn timber or other processed products;
 - Terheggen (2011) asserts for Gabon that "*Logging is ... a 'superior' technology allowing the appropriation of resource rents. These are largely diluted in processing due to production cost penalties such as high reservation wages, inadequate infrastructure, lack of skills, and the political economy of Gabon*" Under that country's circumstances, she believed that "adding-value" comes at a high economic cost;
 - Furthermore, Terheggen suggested that the "*...current comparative advantage in loggingis enforced by Chinese industry demands that have recently started to dominate the global tropical timber industry*";³
 - For Gabon, Terheggen (2011) also demonstrated through simulation that for a 3.43 million m³ fixed quantity of logs, processing locally is superior only in terms of employment – if the logs employment index is 100, sawnwood is at 300; veneer is at 304; and plywood at 636;
 - The benefits of processing locally are inferior in a number of other ways, however, i.e.: in *foreign exchange earnings*, the returns differ little, ranging from \$0.75 to 1.19 million. Logs yield \$1.05

³ China makes effective use of residues from logs. Before China came to dominate, it was France/Germany/Italy for Africa and Japan/South Korea for SE Asia, [which probably also found use for residues although the reconstituted wood panel dominance had yet to come to the fore.]

million, veneer 1.17 million, plywood 1.15 million, but sawnwood (at \$0.75 million) actually loses money relative to selling raw logs.⁴

- f. in *capital productivity ratios*: if return on logs is 100, the others are 21 (sawnwood); 5 (veneer), 2 (plywood);
- g. According to Amoah (2008), in Ghana, the aggregate price index of all products exported before the log export ban was up by 129% compared to -3.9% for the period during the ban. It thus appeared that while a log ban increased the volume share of value-added products, it could not guarantee higher prices [and overall returns?] to wood products; and
- h. Taken together, Terheggen (2011) found that drivers for expansion of forestry beyond the forest to value-added activity depended only partly on sector-specific policy – they also included the ownership of production and the nature of final markets.

3. Were Log Export Bans a Magical Bullet?

13. From decades back, there has been a knee-jerk perception that banning the export of logs would automatically force growth of domestic processing industry. Time has shown this view to be oversimplified. Within Africa, the best performers in industrialisation (Ghana, Cote d'Ivoire) have gone well beyond just log bans. In Asia-Pacific and Latin America, energetic pro-investment policies⁵ have probably done much more than log bans to foster forest industry growth.
14. Asumadu (2004) reports that the major wood producing countries in West and Central Africa all have log-export bans of varying severity, yet industry has not flowered in Africa (see [Tables 1 and 2](#)). In fact Asumadu even suggests that may even be counterproductive to impose log export bans when a country does not have the capacity to embark on competitive domestic processing. Which means bans must be accompanied by much else if they are to succeed. [Annex 3](#) gives some anecdotes on how log-export bans have worked and how/whether they have promoted the growth of domestic tropical wood processing.

4. Does Africa Still have Room to Industrialise?

15. Forestry is not the only sector in which Africa has failed to industrialise – it is way behind in all sectors. As said earlier, in fact this explains why despite having around 17% of the global population, Africa accounts for only 1.5-2% of global GDP: its economies and trade are dominated by low-value primary products whether minerals, timber, fisheries or agriculture and all else. It should shock us that Africa's second-largest and most-industrial economy (South Africa) is about the same in size as that of Singapore, a tiny island state which Africa labels a "fellow developing country".

⁴ Low return to processing are only part of the story; FAO (Van Hensbergen, 2016) reports that revenue returns to forestry under the concession system are poor - worldwide, gross revenues average about US\$ 6/ha/yr while in Africa the figure is US\$ 1/ha/yr. In a sample of countries, export revenues range from US\$ 0.20 to US\$ 233 per m³ of logs produced [- but this does not target Africa alone].

⁵ [Lessons from elsewhere](#): Thiele (1993) reports on the example of **Indonesia**, which covers the most aggressive promotion of a domestic forest industry. "Starting in 1980, log export quotas were progressively tightened, until an outright ban was introduced in 1985. Likewise, exports of rattan, Indonesia's single-most important non-wood forest product, were gradually banned in 1986 (raw rattan) and 1988 (semi-processed rattan). A nearly prohibitive export tax on rough and semi-processed sawnwood followed in 1989. By sharply depressing log prices, the log export restrictions irresistibly attracted investment into sawmills and plywood mills. But there were some problems: (a) the effective protection granted to the wood processing industry led to major operational inefficiencies and thus to a loss of potential timber rent; (b) cheap logs meant less care in conversion efficiency - Indonesia's average conversion rates for sawnwood (1.8 m³ log input per m³ output) and plywood (2.3 m³ log input per m³ output) became among the lowest in Asia. Some analysts believe that in sawmilling, 1980s domestic value added was, at world market prices, even negative in some years.

16. In view of low industrialisation being a generic challenge in Africa, the solution to poor growth of forest industries /value added to timber products is unlikely to be found by focusing on the forest sector alone. Africa has to diagnose correctly and address the challenges for all manufacturing and for its overall economy. The limited forest industrialisation to date is the evidence of the sector's failure to capture opportunities and/or surmount hurdles in forestry but also from outside the sector. The future can be successful only if both internal and extra-sector issues are corrected.
17. Challenges from over and above the sector are mentioned under the section "What will it take?" – not all are economic in nature. Here, more attention goes to elements within forestry, some of which are presented in sections 4.1 to 4.3.

4.1 Changing consumer tastes

18. Perhaps among the most direct challenges is **change in market-tastes**. Other than the relatively plain-looking Okoume from Gabon, most prime African timbers were desired for their decorative appearance. They had rich colour and grain patterns that stood out whether in sawn timber or as both peeled and sliced veneers. They looked good and commanded high prices.
19. Fast forward to 50 years later, rich red colours can be artificially created in factories; most consumers are ignorant and do not care about complex grain patterns – they are happy with uniformly stained furniture or even painted material. For construction and general utility, they can but white woods from temperate countries or less decorative tropical timbers from South-East Asia.
20. Furthermore, many uses of wood in construction or furniture/fittings have also by now moved beyond solid wood (sawn, veneer, plywood) in favour of reconstituted panels. For this, one does not need Africa's prime species. In terms of industrial logic, including possibly for profitability, it may by now an advantage to import logs whose residues can be turned into useful panels that generally do not have to be especially attractive – they too can be stained to suit consumers' bland tastes.
21. What room therefore remains for Africa's special species to be processed? If the need is to serve the minority demand of a few discerning consumers world-wide, is this sub-market large enough to justify costly investment in processing in Africa? Or is it better to continue processing in consumer countries (China is both a consumer and a conduit country) that generally have better industrial and infrastructure capacities?
22. African countries should think hard about whether they have missed the boat – they are talking now about what they should have done ages ago when high demand for their species would have required factories with economies of scale.

4.2 Comparative disadvantage

23. African manufacturing in all sectors is failing due to low productivity and un-competitiveness of Africa (in all sectors) relative to other regions. Other regions and countries (including the now super-competitive China) faced the same challenges before: if they had just accepted this as fate, they would also be in Africa's current situation.
24. To claim that conditions for industry are not good in Africa and therefore processing there would not be competitive would mean implying that other regions succeeded because they always had the right circumstances. They did not. Indonesian leadership in tropical plywood production came from deliberate decisions to create comparative advantage, not to inherit it.
25. Furthermore, before adopting lack of comparative advantage as an excuse, one must ask: where did France, Germany and Italy get their advantage to process African timber in the pre-China days? Where did Japan and South Korea get theirs and why was it possible later for Indonesia to displace them in plywood manufacture? Within Africa, how did South Africa that had to create plantations

for lack of significant natural forests come to lead in production not just of sawnwood but of pulp, paper and boards?

26. Africa is probably the only region that believes that comparative advantage is God-given rather than an artificial construct that it must invest in, with no “free lunches” available. Capacity and comparative advantage must be created if Africa – even if it some initial pain – otherwise in forestry as in all other sectors Africa will remain a source of raw commodities for others to make serious profits on.
27. The combination of abundant natural resources and cheap labour does not amount to sufficient comparative advantage for investors to come to Africa rather than to process its raw materials elsewhere, such as in China or Europe. It is worth noting that Africa imports so much more than it exports and so has empty shipping space outwards that takes its raw materials (such as logs) relatively cheaply – this permanently favours outsiders importing African raw commodities for processing in foreign countries.
28. A recent review by Ekwewe (2019) in fact suggests that if it continues to think of forest resources and cheap labour as key elements of comparative advantage it will not go far. The two are only a foundation upon which real comparative advantage for competitive industry of global scale and quality can be built. The advantage of cheap labour will be overshadowed when manufacturing technologies rely on artificial-intelligence (AI) more than on human muscle and skills. Ekwewe believes that *“AI . . . [will] to distort the equilibrium of the global labour market, eliminating many factory jobs ... with AI advancements decreasing outsourcing, the availability of cheap wage becomes irrelevant”*.
29. To just boast of large remaining forests and abundant cheap labour will make Africa slide even further behind in future.

4.3 The chilling effect of environmental campaigns favouring preservation of tropical forests

30. There is also the chilling effect on demand and on willingness to invest in tropical timber processing caused by popular pro-environment concern directed at conserving tropical forests – these are buttressed by policy and legislation in the major market countries of Western Europe and North America. Messages that amount to an anti-tropical timber campaign are well reflected in Sizer and Plouvier (2000).
31. The environment for industrialisation has now become more adverse: processing opportunities were best before there were so many controls that have had a chilling effect on tropical timber trade: obsession with conservation of forests, imposition of extreme measures to certify legality and sustainability of harvests, concerns at any cutting of trees in a world worried about climate change. In addition, forest industry now has a bad name as an environmental destroyer.
32. But to think that the campaigns were directed at Africa in isolation would be to indulge in self-pity: other tropical regions suffer the same (even worse, if one reads the campaigns in favour of keeping the Amazon almost pristine and against developmental use of its land and resources). Thus Africa should not use this as an excuse for its specific failure.

5. What will it Take to Industrialise African Forests?

33. When failure is all encompassing - covering all sectors and the entire continent’s economy, it is time to look beyond economics in seeking an African renewal. Governments and the private sector in forestry must look beyond their comfort (discomfort?) zone and see what ails the African society that it cannot uplift itself. The failure of private investment in Africa is almost certainly mostly due to failure of government policy, commitment and discipline.

34. After seeing other regions that faced the same hurdles to forestry development (as a whole) and forest industrialisation in particular, Africa must introspect about why it alone stagnated and sometimes even regressed. Africa does not have the luxury of shying away from the possibility (even likelihood) that its problems are largely self-inflicted and therefore demand its own attention rather than apportioning blame to others or subcontracting solutions to the international community.
35. With this said, Africa should mobilise the well-orchestrated efforts of public and private institutions to act on and invest in solutions – it is not short of diagnostic analysis or continue declarations of intent with anaemic follow-up. Put simply, Africa’s governments and private sector will jointly have to take ownership of what faces them, focus on opportunities and stop being daunted by seeing only problems. Africa should take heart from the success of other regions but develop solutions specific to its situation rather than copying what the winners did.
36. The actions I think it will take have been grouped below under “Intervention Areas”, as follows
 - 1: Mindsets and discipline
 - 2: Higher ambition and persistence
 - 3: Promote a local stake in the industry
 - 4: Grow the African market and negotiate fairer trade and investment agreements
 - 5: invest, invest, and invest . . .
37. The omission of investment in “*human and institutional capacity building*” is not accidental: it is the most critical but is so often stated it would be superfluous. In any case, *I believe that it is not so much capacity to develop policies, to plan and to execute that are lacking but discipline, self-confidence and “can do” attitudes. They are worsened by Africa’s long-nurtured tendency to act helpless and rely on the help of others.*

5.1 Intervention area 1: Mindsets and discipline

38. Africa’s development in all areas has been weak and a culture of laying blame on others instead of finding own solutions has taken root. Within its limits, Africa has invested heavily in education and institutional development yet its development in all sectors is dominated by outsiders often making the critical decisions – including in forestry. This suggests problems of mindset which if not solved will keep Africa dependent even if it is overflowing with its own natural resources and capacities.
39. As said earlier, I believe that it is not so much capacity to develop policies, to plan and to execute that are lacking but discipline, self-confidence and “can do” attitudes, alongside long-nurtured tendencies to rely on the help of others. Honest dealing and avoidance of corruption is a prime element in discipline. This applies to both public and private sectors in Africa with the division of labour that African governments must create (and support in practical terms) the conditions for both local and foreign private investors/operators to want to invest in their economies (including key public-goods investments) while private sector investors respect national priorities, invest adequately then with honesty apply their energies to running efficient and competitive businesses.
40. Without being dogmatic or forcing others to agree, my perception is that the improved-mindset needs can be ranked as follows: self-confidence, discipline, ambition and refusal to be satisfied with small achievements – Africa is the continent of endless pilot-scale trials that never grow and mainstream. It is also tempting to mention two other things but which would cause too much offense to be highlighted:
 - a. failure to demonstrate patriotism in economic terms; and
 - b. failure to feel and to act upon a sense of shame when all other regions are steaming ahead and Africa remains stubbornly behind in all aspects of development.

41. AS implied earlier, it would be well in all this to recognise that much of Africa's failure to industrialise (which applies to all sectors, not just forestry) is self-inflicted. Not only has there been inadequate determination but also a tendency to be satisfied with too little – these attitudinal challenges are probably more important than we all realise. Declarations are made and even laws passed but not implemented. Plans are adjusted to suit donor preferences or are implemented only in areas which donors or investors are interested in. Plans are made but if donors and external private investors show no interest nothing gets done and Africa becomes a spectator rather than actor in its own development.
42. Internally in the forestry sector, another critical attitudinal challenge is to assume that having abundant forest is adequate comparative advantage to launch forest industries – in reality having the forest is only the lowest rung on the ladder: a country has to apply political commitment to sustain investment into creating effective comparative advantage from good infrastructure, good institutions, effective incentives, investment and human capacities.
43. The consortium of ATIBT, FAO, ITTO ProInvest, ACP and the EU (2013) has proposed sensible strategic action areas to developing wood processing in Central Africa; they can apply to West Africa too and include - ensuring a firm political will and a favourable business climate; guaranteeing facilitated access to inputs and production means; creation of a structured wood value chain; and structuring up profitable formal markets. But in the end, all these are a detail to fall under the mindset changes necessary to make it all possible and sustainable.
44. It is embarrassing but perhaps worthwhile to mention that a self-confident Africa will not be possible if the continent continues to be externally dependent for basics such as food (it is the leading recipient of food aid) and daily necessities such as medicines. Extreme external dependence in mundane matters makes it difficult for others to respect Africa's preferences and voice.

5.2 Intervention area 2: Higher ambition and persistence

45. Ambition and persistence are sub-sets of the mindsets issue already covered above. Africa is geographically centrally located among three the major economic regions: Asia, the Americas, and Europe. Yet it does not get affronted that it does not capitalise on this to be the major trading partner of any of them (except in a few cases for oil, coal or diamonds).
46. Africa is dominant in natural endowment of many commodities but one would not realise it from the little developmental benefit Africa shows. This is not a self-correcting situation whether in forestry/forest industries or other sectors. And Africa will only achieve more if it too gets the level of ambition and persistence in action that other regions have used.

5.3 Intervention area 3: Promote a local stake in the industry

47. Gabon can serve as an example, because with modest variations, its ownership profile of forestry businesses mirrors the norm. Terheggen (2011) reports that as of 2009, 52% of all industrial concession areas in the country belonged to European-owned companies, 21% to Malaysian ones, 16% to Chinese-owned firms and 7% to Gabonese nationals (generally also the smallest ones- and involved in only logging and sawmilling- they are absent from both veneer and plywood manufacture). By 2011, European-owned companies' share had fallen to around 40% and that of Chinese companies had risen to 28%, with minor changes amongst Malaysian (19%) and Gabonese-owned firms (8%). It is ironic that among the large owners are businesses from countries that not more than 4-5decades ago were equally poor with the African countries and were also colonised by Europe or dominated by it.
48. Terheggen (2011) reports impressive progress in local processing but from a very low base-: over a ten-year period (1997-2007) the quantity of Gabon exports rose by 770% (sawnwood), 300% (veneer sheets) and 130% (plywood). Yet the bigger picture remains unsatisfactory and this cannot change if public policy does not enable local businesses to go beyond the scale of Small and Medium

Enterprises (SMEs) which can only compete domestically or locally. The question is why there is little movement forward despite in Gabon (Anonymous undated) a variety of fiscal incentives⁶ to attract foreign direct investment (FDI) in downstream timber processing and facilitate local participation in the nascent industry.

49. To move forward will require that both the governments and the private sector stop accepting as “the natural order of things” that local companies always have poor performance and show (as described in Anonymous 2013) “..... *low yields and an underutilization of the residues and by-products. Wood processing through to the finished product is carried out mainly in the informal sector and supplies a market that is not governed by the same rules of taxation, traceability and work specifications and requirements as the formal industrial sector*”. This may mean public-policy support⁷ for them to become consortia or for the most promising to grow with ambition rather than sustaining hand to mouth business ambitions and practices.

5.4 Intervention area 4: Grow the African market and negotiate fairer trade and investment agreements

50. Africa, a major exporter of crude petroleum, uses almost entirely foreign refined motor fuels; despite being heavily agricultural, it converts none of its petroleum into fertilisers or other agro-chemicals. In forestry, though forest-rich, much wooden furniture and finished products in Africa today come from abroad, including much that is made from logs Africa exported in the first place. These are signs not just of an immature but of a diseased economy.
51. Indeed in forestry, the Global Environment Fund (GEF) (2013) predicts that Africa will be an importer rather than exporter of wood – a status it has long achieved in food. GEF reports that Africa’s consumption of sawn wood has for the past 50 years grown from 75 million m³ in 2010 - faster than in other regions of the world. Consumption is projected at 300 million m³ by 2030, a compounded annual growth rate (CAGR) of 7.1%. This contrasts with the growth rate of African natural forests which is just enough to replace what is today harvested - some 675 million m³ per year (about 1.0 m³ per ha per year).
52. The future for which African forest industries should include intention to supply domestic demand- GEF (2013) mentions that traditional export markets are becoming increasingly closed to African wood (e.g. EU and US timber regulations, environmental and climate change related requirements etc.).

5.5 Intervention area 5: invest, invest, invest . . . there are no free lunches

53. Not enough investment is occurring now: for example, according to Asumadu (2004) the investment in value added production in the forest and wood products sector decreased in Cameroon from 2.3% in 1996 to zero in 1999. In the Democratic Republic of Congo, average annual growth rate in investment ranged from negative 5.1% (-5.1%) in the 1980s to negative 2.7% (-2.7%) in the 1990s. In the preceding section, mention was made to the incapacity of natural forests (average sustainable yield 1m³/ha/year) to supply Africa’s future needs. The need for investing is therefore not just in industries but also in forest resources is clear and (given the time it takes trees to mature) that forests investment must start now.

⁶ Chief among them value-added tax (VAT) reimbursements, sector-specific tax reductions and the establishment of a Special Economic Zone (SEZ) in Nkok, where 40% of plots are dedicated to timber processing activities [Nkok SEZ offers single-window business services, a 10-year tax holiday on operations, exemptions on Customs duties for equipment imports and flexible labour policies].

⁷ According to Asumadu (2004), in Malaysia, Philippines, Indonesia and Thailand, strong government support for the sector was the major factor for success. There was overall improved economic management for favourable investment climate, and active support for the emergence and development of indigenous entrepreneurs.

54. Physical investments would mainly be in plantations, processing facilities, infrastructure to access the raw materials, to store and trade in processed outputs. Amoah (7) stresses that most remaining African wood is in Central Africa where it remains inaccessible where transport infrastructure is particularly inadequate, a fact also highlighted by the White Paper on Congo basic strategy (2013) in addition to many ports being inefficient – or in some cases even non-operational. Electricity supply is often expensive and subject to frequent power cuts.
55. Using plantations for special focus (they support industrialisation more easily, as seen in South Africa): establishment of plantations can deliberately place them near existing transport routes for easy access. It helps that, according to Sand and Lewis (2012) Africa offers among the lowest plantation establishment costs of any region in the world. It has an estimated 300 million of the global 500 million hectares of degraded land (formerly forested tropical land not being used for agriculture, settlement, or other purposes). The GEF (2013) estimates that at present only about 1% of global timberland investments are in Africa – the future is wide open for growth.
56. The “soft” investments in human and institutional capacities are essential and need no elaboration – they are essential for higher productivity and quality. But as stated earlier, all the financial investments into assets count for nothing if the attitudes remain negative (Intervention areas 1 and 2).
57. In the forest industries field, Asumadu (2004) has highlighted the following as reasons for the generally low level of domestic wood processing in sub-Saharan Africa:
- a. domination of the forest and wood products sector by foreign business interests - particularly in Central Africa⁸;
 - b. the small size of the national and international markets for their products;
 - c. the use of inadequate obsolete processing equipment mismatched to the generally high quality logs. This partly justifies exports of logs to be processed in modern manufacturing facilities in Europe and Asia, particularly China;
 - d. the generally low volumes of per hectare log production, which increases the unit cost of production; and
 - e. the increasing demand from Asian countries, particularly China, for high quality tropical African logs.
58. All these reasons for under-developing processing and favouring log exports can only be surmounted if Africa invests. The White Paper on the Congo basin strategy (2013), believes tax incentives alone are not enough – but also control of confusing multiplicity at many government levels of “parafiscal” or informal levies. For Central Africa, investment can hardly pay when the CFA franc value already makes international competitiveness a challenge.
59. The argument that road infrastructure is a major barrier may at times have been exaggerated: why can Chinese business use the same poor infrastructure to extract logs of low per-hectare intensity, transport them halfway around the globe, and sell them back to Africa yet local processors without facing international shipping say they cannot afford it?
60. The Congo Basin White Paper (2013) highlights the high cost of money - for both local and foreign investors, both the duration and rates of borrowing conditions are prohibitive for both large and small investors. Funds are a problem not just for capital investments but also working capital.

⁸ According to Asumadu (2004), “the absence of a thriving indigenous private sector has led to the domination of foreign companies, especially in harvesting, primary processing and transport. In most cases foreign companies are focused on immediate benefits rather than long-term investment”.

6. Who Should Take the Lead?

61. Africa must largely take the lead to solve a problem that is largely self-inflicted or which it has allowed outsiders to inflict upon it. But the problem is not so much failure to grow forest industries as to develop the economy in all its aspects. Many countries in Africa which were at comparable levels of development with Asian and Latin American ones are now receiving development aid from their former income equals.
62. The phenomenon of exporting raw materials is not limited to the forestry sector: it dominates African trade in fossil fuels, hard minerals, agricultural commodities, fishery products and all else. Despite over 50 years of political independence which confers the right to self-develop, Africa is (sometimes increasingly) a net importer of many basic needs, from food to motor fuels to wood and pulp/paper products, despite having the world's largest reserves of still unused or under-used land and water for production or being a key exporter of crude petroleum and gas.
63. Clearly, in Africa the conditions are unfavourable for all manufacturing and not only in forestry. And the solutions cannot be carried by the forestry sector alone, let alone by its still-nascent private sector.
64. This is a governmental and societal problem and if governments do not step up to the plate, the private sector will not succeed in industrialising forestry or any other sector. Personal views as to what needs changing have been expressed above, of which I believe the most important are under section 5 "What will it take?" and specifically Intervention Area 1 "*Mindsets and discipline*" and Intervention Area 2 "*Higher ambition and persistence*".

6.1 African Governments

65. Within this, African governments must enable the private sector to invest and make a difference by:
 - a. Making political commitment a reality by acting on policies and laws they often already have to add value to their natural resources, including timber;
 - b. Investing in critical transport and related infrastructure or in better operations of what is already in place to make access to raw materials affordable;
 - c. Complementing natural forests with planted ones that can be planted deliberately close to key transport routes for easy harvest;
 - d. Negotiating better trade and investment deals with main partners so that continuing importation of raw materials is progressively upgraded up value chains by collateral investment agreements;
 - e. Reviewing concession agreements so that the stick of log-export bans is sweetened by sensible and profitable benefits for foreign investors from processing in Africa, even if there may be initial losses (absorbed by the state) from so doing;
 - f. Valuing their own markets more and serving them better thereby also building capacities to serve better even markets further afield; and
 - g. Acting with determination to support greater local-entrepreneur (or consortium) leadership in industry: in cannot be that after nearly 60 years of political independence, all the forest concessions in Africa are still held by foreign investors just like in much more capital-intensive sectors like oil and deep-level mining. Some form of business incubation may prove necessary.

6.2 The private sector

66. But the private sector cannot just sit back: local entrepreneurs now predominantly in the SME category should stop being atomised and organise among themselves into consortia that can grow into industry champions for their countries. Some of this may involve initial incubation of corporate champions by governments (provided corruption does not kill these) or partnerships with foreign investors that are already established in the sector. It goes without saying that such players must do this with goodwill and honesty and not with intent to defraud the state by abusing incentives for their growth.
67. Foreign investors must also behave with honest commitment and not with intent to defraud their host countries - they cannot continue peddling the half-century old argument that industry in Africa cannot be competitive against shipping logs for processing in their home countries. Japan and South Korea used that argument before Indonesia forcefully took over domination of plywood manufacture.
68. The international community needs to go beyond being neutral analyst to being a catalyst for developmental dialogue to bring improvement to the forest economy of Africa through encouragement of both governments and the private sector for action that is needed. ITTO would obviously be a lead player in this more pro-active role.

7. What Key Questions?

69. On the issue of Africa's lagging forest industries, the ambition of the Lome meeting is to discuss what can be done to get better outcomes. *My suggestion is that, despite this being a private sector forum, most questions whose answers can make a difference must be directed at government policy and action.* But some must be directed at the private sector. The selection follows.

7.1 For Governments

70. The focus should be on domestic African governments and not to have them escape responsibility by dragging in public donors. Given that industrialisation has failed *in all sectors* including many where Africa has abundant natural resource endowments, what key policy changes and accompanying investments can unlock the industrialisation potential, including the willingness of the private sector to grow beyond raw material extraction?;
71. *In the forestry sector*, what policy interventions (both policy and investment incentives) can governments adopt:
- a. to make industrialisation attractive to the private sector, given that in many cases, private profitability is better for trading in raw logs? [*for long-term sustainable development while government policy should value private profitability, it may have to even more value national economic rather than financial profitability*];
 - b. to encourage local (domestic) entrepreneurs to organise and group so that they have a chance to emerge as champions in forest industry and trade development?;
 - c. to introduce, upscale or otherwise make more effective any measures to incubate and otherwise grow local businesses in forest industries?;
 - d. to establish well-managed and corruption-free accessible sources of funds dedicated to promoting value-added forest industries based on rich natural forests?; and,

- e. given the increasing inaccessibility of many natural forests, especially in humid Central Africa, to promote establishment of industrial wood plantations to support profitable future processing industries and trade based on them?

7.2 For the private sector

72. The domestic entrepreneurs must stop glorifying small and medium enterprises and seize the ambition for some of them to become giants and champions of their countries' forest industries. The serious sector development efforts cannot forever be subcontracted to foreign companies. The domestics should introspect and organise themselves to move forward. The questions to answer may include:
- a. What prevents mutually-beneficial cooperation and mentorship between large foreign companies and smaller local ones?
 - b. What makes local entrepreneurs apparently accept that "the natural order of things" is for them to be marginal in their own countries' industries? and,
 - c. What can make industry work with governments to see the value beyond immediate profits that industrialisation would yield in Africa? – manufacturing skills, mainstreaming into global trade networks, collateral infrastructure development drawn by the industry etc?

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Annex 1: AFRICA IN GLOBAL COMPARISON

(a) Raw regional summary

Year	Commodity	Production	Exports	Within region**		Inter-regional comparison**	
		('000m3)		Where logs = 100		Region's ratio, where all ITTO producers = 100	
				Production	Exports	Production	Exports
YEAR 2012							
Africa	Logs	30065	3408	100	100	-	-
	Sawnwood	5987	1974	20	58	143	77
	Veneer	919	274	3	8	300	100
	Plywood	425	137	1	4	25	7
Asia-Pacific	Logs	188252	8547	100	100	-	-
	Sawnwood	26569	5749	14	67	100	89
	Veneer	2669	716	1	8	100	100
	Plywood	11423	6054	6	71	150	122
L America/Caribbean	Logs	168695	760	100	100	-	-
	Sawnwood	22481	1819	13	239	93	318
	Veneer	1222	47	1	6	100	75
	Plywood	3398	1239	2	163	50	281
2012 All ITTO producers	Logs	387012	12715	100	100	-	-
	Sawnwood	55036	9542	14	75	100	100
	Veneer	4810	1037	1	8	100	100
	Plywood	15246	7429	4	58	100	100
YEAR 2016							
Africa	Logs	32065	4160	100	100	-	-
	Sawnwood	6820	2048	21	49	150	48
	Veneer	897	203	3	5	300	42
	Plywood	506	106	2	2	50	3
Asia-Pacific	Logs	185423	7074	100	100	-	-
	Sawnwood	27859	7757	15	110	107	108
	Veneer	3242	1247	2	18	200	150
	Plywood	10976	6511	6	84	150	115
L America/Caribbean	Logs	157618	23	100	100	-	-
	Sawnwood	16816	2393	11	10404	79	10200
	Veneer	1247	44	1	191	100	1592
	Plywood	3562	822	2	3574	50	4896
2016 All ITTO producers	Logs	375106	12387	100	100	100	100
	Sawnwood	51494	12656	14	102	100	100
	Veneer	5386	1512	1	12	100	100
	Plywood	15044	9041	4	13	100	100

Source: Tables in ITTO https://www.itto.int/news_releases/id=5195

** = rough orders of magnitude only since ratios derived from rounded-up %ges.

(b) Summary of each commodity's ratio (%) by region – where logs=100

Year	Commod	Africa		Asia/Pacific		L Am/Caribbean		ITTO producers	
		Produc	Export	Produc	Export	Produc	Export	Produc	Export
2012	Logs	100	100	100	100	100	100	100	100
	Sawnwood	20	58	14	67	13	239	14	75
	Veneer	3	8	1	8	1	6	1	8
	Plywood	1	4	6	71	2	163	4	58
2016	Logs	100	100	100	100	100	100	100	100
	Sawnwood	21	49	15	10	11	10404	14	102
	Veneer	3	5	2	18	1	191	1	12
	Plywood	2	2	6	84	2	3574	4	73
2016-2012 change in regional ratio of each commodity (% points)									
	<i>Logs</i>	-	-	-	-	-	-	-	-
	<i>Sawnwood</i>	+1	-9	+1	-57	-2	+10165	0	+27
	<i>Veneer</i>	0	-3	+1	+10	0	+185	0	+4
	<i>Plywood</i>	+1	-2	0	+13	0	+3411	0	+15

Source: Tables in https://www.itto.int/news_releases/id=5195

Annex 2: EXAMPLES OF INCENTIVES FOR FOREST INDUSTRIALISATION
(in addition to any log-export bans)

Country	Incentives provided
ASIA PACIFIC	
Papua New Guinea	<p>According to the PNG Forest Authority (PNGFA):</p> <ul style="list-style-type: none"> • the government does not provide any investment incentives. • exporters pay an export tax of 28% on the FOB price of logs exported from PNG.
Myanmar	<p>Myanmar provides the following general incentives:</p> <ul style="list-style-type: none"> • exemption from income tax for up to five consecutive years for an enterprise engaged in the production of goods or services. • exemption or relief from income tax on profits of the business that are maintained in a reserve fund and subsequently re-invested within one year after the reserve fund is made; • right to deduct depreciation of machinery, equipment, building or other capital assets used in the business at the rates prescribed by the Myanmar Investment Commission (MIC); • relief from income tax of up to 50% of the profits accrued on exported goods, that are produced by any manufacturing business; • exemption or relief from customs duty or other internal taxes on machinery equipment, instruments, machinery components, spare parts and materials used in the business, and items which are imported and required to be used during the construction period of the business;
Indonesia	<p>Among the measures supporting FDI in Indonesia are:</p> <ul style="list-style-type: none"> • reductions of duty on imported inputs and capital equipment; • additional incentives for investment in export; • reduction of VAT; • exemption from duty; • simplified formalities for requests for building permits and other permits. <p>In addition, there are specific incentives to foreign and national industrial companies which choose to set up business in one of Indonesia's 7 Customs areas (Free Zones).</p>
Malaysia	<p>The policy on wood products also varies from region to region. For Sabah, the incentive for downstream processing comes in the form of preferential royalty system. A higher royalty is imposed on logs for export than for the domestic market. Other incentives:</p> <ul style="list-style-type: none"> • Export of finished products is exempted from export royalty (tax) while primary products have an export royalty. • At the Federal level (applicable to all regions), pioneer status which allows exemption of tax up to a certain number of years are given to promote downstream industries, namely those producing value-added products. • For Sabah, the royalty on logs for export is two times higher or more (ranging from RM 125 to RM350/m³ for regular species) as compared to logs for the domestic market (Currently: RM90/m³).

Country	Incentives provided
AFRICA	
Liberia	<p>Capital Investment Requirement:</p> <ul style="list-style-type: none"> • At least US\$1 Million ranging up to US\$20 Million for any investor. • At least US\$500,000 for business with 100% Liberian ownership. <p>Investment incentives include:</p> <ul style="list-style-type: none"> • 30% off cost of equipment and machinery (capital allowance); • 10% off the cost of building and fixtures used in manufacturing process that produced finished products having 60% local raw material; and • equipment and machinery, specialized vehicles, raw materials, capital spare parts, and other specialized capital goods to be used in the project are exempted from import duty up to 100 percent of their dutiable value.
Cameroon	No log ban but at least 60% of logs produced to be processed domestically.
Gabon	<ul style="list-style-type: none"> • Gabon is establishing a free zone whereby a suite of incentives such as tax holidays, duty exemptions, concession financing among others are provided for companies operating in the free zone. • In addition companies can benefit from VAT suspension for imported materials used to build wood transformation factories. • Exporters pay 1.5% export tax on the FOB value of processed timber (sawn wood and veneers.)
Ghana	<p>General investment incentives include the following:</p> <ul style="list-style-type: none"> • custom duty exemption for industrial plant, machinery and equipment imported for investment purposes; and • listed companies enjoy corporate tax of 25% and newly listed companies enjoy 25% corporate tax for the first three years; • There is also Location Incentives (tax rebate) for manufacturing industries located in the regional capitals. • Guarantees against expropriation of private investments provided under law are buttressed by the Ghanaian Constitution. Other investment guarantees include: • free transferability of capital, profits and dividends; • insurance against non-commercial risks – Ghana is a signatory to the World Bank's Multilateral Investment Guarantee Agency (MIGA) Convention; • Double Taxation Agreements (DTAs) [to rationalize tax obligations of investors in order to prevent double taxation] have been signed and ratified with France and the United Kingdom. DTAs have been signed with Germany and concluded with Belgium, Italy and Yugoslavia.
LATIN AND SOUTH AMERICA	
Brazil	<p>Local and foreign investors are generally treated equally as regards investment incentives and tax concessions.</p> <ul style="list-style-type: none"> • There are no special federal tax incentives to attract foreign investors. • Many state and local governments offer investment incentives in the form of reductions in indirect taxes. • Tax concessions are available for choosing to locate in the poorer Northeast and Amazon regions, including reductions in federal income tax. • Incentives are available for the promotion of exports. • Special incentives are provided for companies that operate at an Export processing zones, including tax suspension, currency exchange freedom (i.e. they are not required to convert into Brazilian Real the foreign currency obtained with exports) and they have simplified customs procedures. They also receive favourable income tax treatment.

Country	Incentives provided
Guatemala	<p>Firms established in order to manufacture and export their products may benefit from a range of tax exemptions, including:</p> <ul style="list-style-type: none"> • a 10-year total income tax exemption and a 1-year import duties and VAT payment suspension, allowing for the processing of imports and their export as finished products. • Industrial firms organized within duty/tax-free zones can benefit from an income tax exemption up to 12 years, as well as exemptions from payment of import duties on raw materials and equipment and VAT on imports for the manufacturing process. • VAT and import duty exemptions apply to machinery and equipment. • Income tax exemptions last only through the commercial operation stage of the project with a time limit of 10 years, which also applies to VAT and import duties.
Peru	<p>Peru provides the same incentives to both domestic and foreign investors. For all investments, the Government guarantees stability in:</p> <ul style="list-style-type: none"> ☑ in regulations related to non-discriminatory treatment between domestic and domestic investors; ☑ income tax regime; ☑ the right of investors to use the most favourable market exchange rate; ☑ freely available foreign exchange; ☑ right of free repatriation of profits, dividends and royalties; and ☑ reimbursement of VAT during the pre-operation stage (commissioning of plant and equipment) for a minimum of 2 years.
Suriname	<p>Suriname provides the following incentives:</p> <ul style="list-style-type: none"> • one year income tax holiday with an initial investment of at least \$5,000 or a 6 percent (or 10 percent if at least 80 percent of produced goods/services are exported) reduction in income tax if the investment amounts to at least \$100,000; • if at least \$20,000 of investment is made in regions approved by government, net income (for the purposes of income taxes) can be reduced by 20 percent or 10 percent if at least \$1,000 of investment is made in an environmentally protected area; <p>After the first and up to the ninth year that a company/manufacturer has started, the company is free from the levying of income tax) if:</p> <ul style="list-style-type: none"> • profit is from a new business; and it is working in agriculture, herding, aquaculture, forestry, mining, or tourism; • No import duty on goods brought in for business resources if import value is at least \$10,000 or on goods used to make a product if value is at least \$5,000 if goods are used within one year • If an investor invests in an area chosen by the government, there is a tax reduction of 10 percent on the total wages paid to their workers for a total of 5 years.

Source: adapted from Table 6 in "Guyana Forestry Commission, (2016): **Proposed National Log Export Policy (2016 - 2020)**. February 2016".

Annex 3: ANECDOTES ON EXPERIENCE WITH LOG-EXPORT BANS

AFRICA

With a few exceptions, Africa's story is that log bans do not work well in inducing industrialisation – at least where no collateral measures are in place. The Environment Investigation Agency (EIA) (2018) reported that from January 2014 to March 2018, over 89 percent of African log exports to China – worth over 6.7 billion dollars – originated from countries with total or partial log export bans. Other anecdotes include:

- Central Africa: their analysis indicated that none of the logging companies operating in Congo have respected the 85 local processing/15 raw exports quota rule during the period from 2008 to 2017;
- Eastern Africa: Mozambique (reportedly Africa's largest log exporter by now) exported almost a million tons of logs to China in violation of the export ban and related regulations in 2017 - year the Parliament banned the export of unprocessed timber with effect from January 1;
- Nigeria: They report with surprise that even threatened species are being exported, stating "*the largest fraud in recent history of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), EIA's new analysis indicates that Nigeria is still the largest exporter of rosewood logs to China, despite a longstanding export ban and increased control requirements under CITES.*" Reportedly, Nigeria has exported twice as much rosewood to China in 2017 (over 630,000 tons) than in 2016 (311,000 tons);

Van Hensbergen (2016) noted that instead of development of an internal processing capacity, an outcome of log bans has at times been a surge in illegal export of logs. In other countries, the sudden imposition of log export bans has apparently led to the (at least temporary) collapse of the export market. Lescuyer et al (undated) observed this in Cameroon where the 1999 log export ban reduction in log exports from 1.8 million m³ in 1998 to about 200,000m³ in 2001. But thereafter, sawnwood exports almost tripled from 1995 to 2008 – now stagnated at about 600,000m³. It appears that companies did build sawmills (due to force by the law) but few built efficient modern ones able to competitively produce quality finished products.

Ghana's relative success in further downstream processing indicates the benefit of having other government fiscal incentive measures simultaneously with the log export bans and export taxes.

ELSEWHERE

ITTO (2017) reports that many significant producer countries in Asia and the Pacific have applied some form of log export ban—notably Cambodia, Indonesia, Lao PDR, the Philippines and Thailand.

Much literature on log bans/controls is available for Guyana. That country's Office for Investment (undated) has published measures to encourage added value. Restriction of log exports is included but is not over-emphasised; instead, the Guyana Forestry Commission mentions measures such as increasing efficiency and productivity of wood processing operations, and provision of competitiveness-enhancing incentives to the wood processing sector. As stated by the Guyana Forestry Commission (2016), "*...a National Log Export Policy is not seen as a panacea for all development priorities for the forest sector, but [only] as a core prerequisite for stimulating existing and potentially new and emerging added value activities in the sector*".

In a survey of existing mill capacity, the Guyana Forestry Commission (2016) found **2010 total log production** was 320,000 m³ but with aggregate processing capacity at 600,000 m³ (inclusive of plywood processing this gave only **53% of total installed capacity**). The conversion efficiency is historically and currently 40% on average, with no significant improvement over many decades.

