



Observatoire Europe-Afrique 2030

Case study :

**International supply chains: Comparative performances
of major ports in the Gulf of Guinea**

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Summary

This case study compares the performance of logistics chains passing through the ten main container ports in the Gulf of Guinea. The massive investments made (or in progress) in these ports have led to a significant improvement in the quality of port transit operations. As port efficiency improves, hinterland services become the weakest link in international logistics chains. The ports which will have the most efficient terrestrial links in the future will have the maximum advantage in attracting additional traffic. Conversely, ports served by an unsuitable network will gradually be marginalized. Whether it is ports infrastructure or road and rail networks, investment by states in the region are not based on concerted policies and prevent optimal allocation of financial resources. Several measures would significantly improve the situation. They revolve around three axes: Refocus port investment around a limited number of "hubs" based on the principle of complementarity; Complete the existing road and rail network, by maximizing sea / road / rail multimodality; Improve the quality of peri-port and road logistics services offered to carriers.

1 Context and objectives

The main ports of the Gulf of Guinea have made massive investments over the past fifteen years to increase their capacities and upgrade their infrastructure. Several new ports compete with existing ports.

This dynamic results in an improvement in the performance of the port passage. It will continue over the next years, however with significant disparities between ports according to their physical and geographic configuration.

Road and rail pre- and post-haulage are becoming the weak links in logistics chains, in terms of transit time, safety and delivery costs, penalizing domestic hinterlands which are far from ports as well as landlocked countries, and severely hampering the economic development of densely populated regions.

In this context, this case study aims to compare the performance of logistics chains passing through the ten main container ports in the Gulf of Guinea: Abidjan and San Pedro (Côte d'Ivoire), Dakar (Senegal), Douala and Kribi (Cameroon), Cotonou (Benin), Lomé (Togo), Lagos (Nigeria), Tema and Takoradi (Ghana). Ongoing extension and modernization projects are also included in the analysis (N'Dayane in Senegal, Lekki in Nigeria). These ports are all located in ECOWAS countries, with the exception of the Cameroonian ports of Douala and Kribi.

Overview of the main ports of the Gulf of Guinea



Many factors, sometimes unpredictable, are taken into account by shippers to characterize the quality of logistics chains: they can be confronted with political and social instability in the country, significant insecurity both in the cities and on the roads, dangerous meteorological conditions (tropical storms, floods, strong swells being frequent in some ports), the obligation to pay undue fees during road checks, the dangerousness of the roads due to their level of degradation, social movements in dockworkers or epidemics like Ebola.

This case study focuses on three factors that incorporate most of the above factors - costs, transit times and security. The analysis is structured around the three central "links" of international logistics chains: sea freight, port passage and terrestrial pre- and post-haulage.

2 Maritime transport

The ports of Abidjan, Cotonou, Lomé, Kribi, Tema and Takoradi are now able to receive large capacity container ships (up to 14,000 TEU). This makes it possible to significantly lower sea freight rates. However, on sea routes between Europe and West Africa, these rates vary over a very wide range. They are determined, among other things, by the degree of imbalance between incoming and outgoing flows and by the maximum capacity of the vessels that can be accommodated.

Examples of Europe-Africa Sea Freight Rates (USD per TEU)

Durban	Lagos (Apapa)	Tema
247	374	321

Source : SBM Intelligence

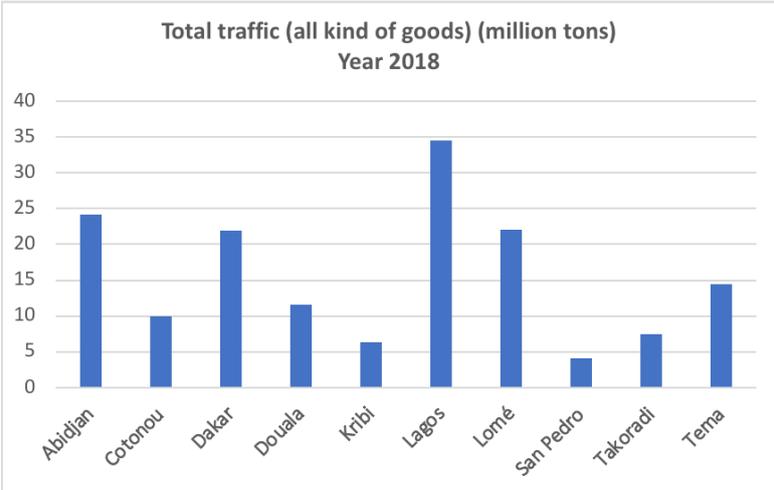
As a direct consequence of the increase in ships size, several ports are emerging as privileged hubs:

- Hapag-Lloyd has made MPS Terminal 3 in Tema its West African transshipment center
- Terminal Investment Ltd (TIL - a subsidiary of MSC) made Lomé its regional hub, enabling this port to become the region’s main gateway
- TIL uses the port of San Pedro as a redistribution platform to Takoradi, Freetown and Monrovia
- CMA-CGM uses the port of Kribi as a transshipment hub to Central Africa.

3 Port passage

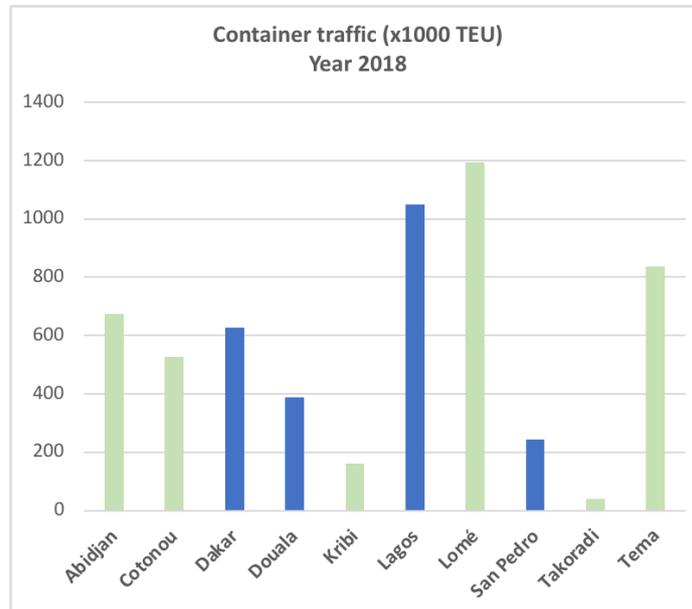
3.1 Total traffic

With 34 million tonnes (Mt) of goods handled in 2018, the port of Lagos (Apapa and Tin Can terminals) is the main port in the region, followed by Abidjan, Dakar and Lomé whose traffics are located in the range of 20 to 25Mt / year. The port of Kribi has been operational since March 2018.



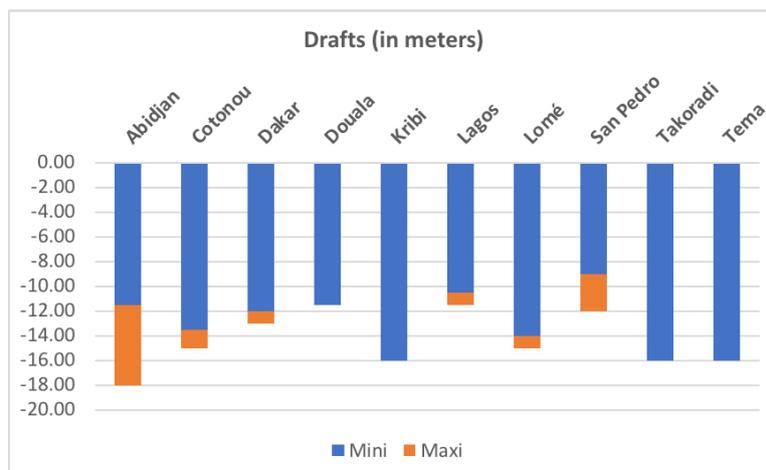
3.2 Container traffic

The ports of Lagos and Lomé have become the main hubs for container traffic in the area. The proportion of transshipped containers is relatively low in Abidjan (18%) but reaches 56% in Dakar, 75% in Kribi and 77% in Lomé.



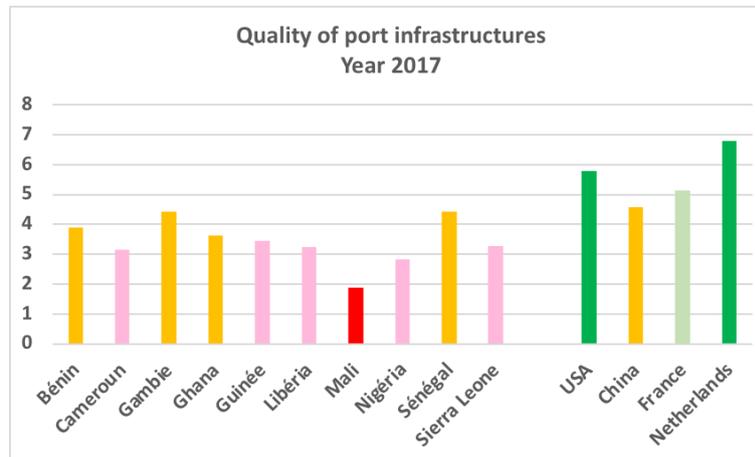
3.3 Drafts

The draft is a key factor in competitiveness. The terminals in Abidjan, Cotonou, Lomé, Kribi, Tema and Takoradi ports are now able to accommodate vessels of 8,000 to 14,000 TEUs. In contrast, Dakar, San Pedro and especially Lagos and Douala are penalized by weaker drafts.



3.4 Strengths and weaknesses of the ports range

The latest survey carried out by the World Economic Forum on the quality of port infrastructure shows that the African ports covered by this study all have infrastructure of a lower quality than that of reference ports such as the large Dutch and American gateways.



Source: World Economic Forum - Indicator 2.04: "Quality of port infrastructure". The indicator is rated on a scale of 1 (very poor) to 7 (excellent).

Note: Data for the following countries are not available: Burkina Faso, Côte d'Ivoire, Guinea Bissau, Niger and Togo.

Abidjan: The recent increase in draft has significantly improved the attractiveness of the port. Administrative and customs procedures are still complex. Frequent traffic jams make it difficult for trucks to circulate in the port area and access to the port. The deregulation of stevedoring has resulted in lower transport prices and shorter delivery times. On the other hand, the often poor condition of the trucks fleets of small carriers means that the movements of containers have become very uncertain with high risks of breakdowns and accidents.

Cotonou received in 2015 the prize for the port with the best attractiveness at the "Awards" of the Association for the Management of West and Central Africa Ports. The port struggles to take advantage of its geography as a transit point to the huge Nigerian market, yet within easy reach.

Dakar is the first deep-water port in sub-Saharan Africa to be hit by ships from Europe, the United States and Canada, and the last to hit in the ascent. However, the port has been left behind by Lomé, Lagos, Tema, and Abidjan in terms of efficiency: handling a 40,000 t vessel can take around 20 days, compared to five in more efficient ports. Since the shutdown of the rail line between Dakar and Bamako, the port of Abidjan has been increasingly competing for traffic from / to Mali (five years ago, 75% of traffic between the port of Dakar and Mali left by train).

Douala is severely penalized by its shallow draft. Side-to-quay handling delays can reach several weeks.

Kribi is supposed to relieve congestion at the port of Douala located 180 km further north. Its extension is in progress. The port has opted for a 20 to 30% reduction in service costs in order to attract economic operators. However, road and rail services are incomplete. Today, only the Kribi-Edéa road [near the Atlantic coast] serves the port. The Kribi-Ebolowa road, which the government has just announced will be repaired, will accommodate goods to/from southern Cameroon and northern Congo.

Lagos (Apapa and Tin Can Island) is facing a congestion problem which is causing a shift in container traffic to Benin and Togo. The port has lost 30% of its container traffic in the past five years.

Lomé has become the first West African transshipment port. MSC has positioned its container transshipment terminal, while Bolloré favors national and hinterland. The ongoing reforms aim to reduce the average port transit time from 72 hours in 2016 to 24 hours in 2022 and to increase the volume of containers handled to 3.1 MEVP in 2022.

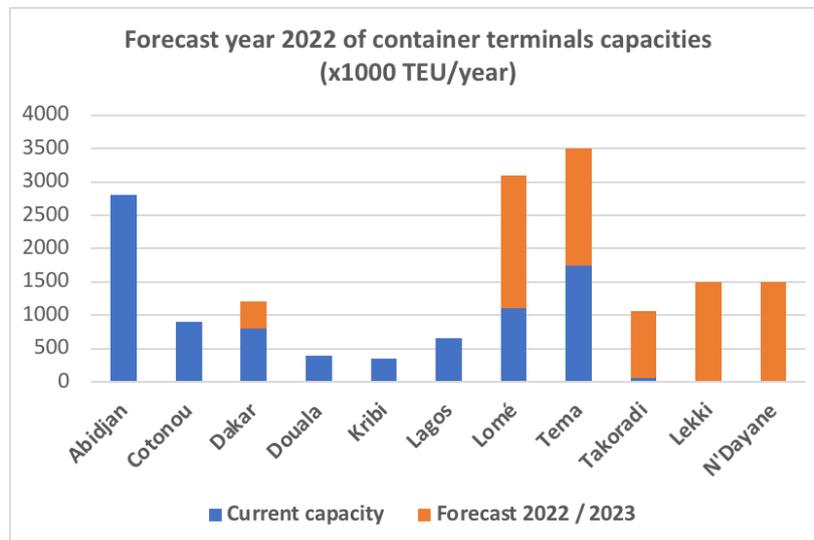
San Pedro has seen its influence erode in recent years. In terms of distance, this port should be the natural port of Mali and Burkina Faso, but with degraded road infrastructure, transporting foodstuffs for import and export remains complicated. In addition, the configuration of the port makes it difficult for large ships to access and the strong swells frequently force operations to slow down. Most of the activity is based on exports (cocoa, timber) from Ivory Coast, cotton from Burkina Faso and Mali, and transshipment from MSC vessels. So if it's easy to get wagons or even trucks down from the north, they won't have freight on the way up, which increases costs dramatically.

Takoradi accommodates container ships on a multi-purpose quay dredged to a depth of 16 m.

Tema received in 2015 the prize for best performance at the "Awards" of the West and Central African Ports Management Association. The productivity achieved at the MPS dock is considered to be among the best in West Africa, with an average of 35 movements per hour of dock.

3.5 Port projects

The graph below illustrates the foreseeable increases in container terminal capacity by 2022.



Cotonou plans to enlarge the entrance to the basin, to extend the quays of the south terminal by 150m, to increase the draft of this terminal to 15m and to create a new berth of 150m at the north terminal.

Ndayane is located at the outlet of the future special economic zone located 50 km south of Dakar, which will be the largest in the country. Its theoretical capacity will be 1.5 MTEU and its draft of 20m. It will help decongest the port of Dakar, frequented by nearly 2,000 trucks per day. The investment amounts to approximately USD 2 billion. However, the PPP negotiated with DP World is experiencing major bottlenecks.

Douala plans to build a 2nd container terminal but the characteristics and the construction schedule are still unclear.

Kribi is building a second container terminal with 750 m of quays.

San Pedro is engaged in a multi-phase investment plan to strengthen container handling capacity.

Takoradi is building five new berths, which will be able to accommodate larger capacity vessels. The Atlantic terminal will have storage space of one million TEUs, compared to current container traffic of around 55,000 TEU / year

Tema is carrying out phase 2 of its expansion project, which will triple the port's current container capacity. The new container terminal will have a 1.4 km long quay housing four embarkation stations, a marshalling yard, a 3.5 km breakwater, a 19 m deep port access

channel and various related port services and infrastructure. The port successfully commissioned the first two locations in June 2019. The third location is under construction.

Deepwater port projects in Nigeria

Lekki (Lagos State): Free zone including a deepwater port. Under construction. Initial capacity of 1.5 MTEU, to be subsequently increased to 2.7 and then 4.7 MTEU. Draft: 16m. Vessel capacity: 14,000 TEUs. The platform is expected to receive its first ships by 2022.

Badagry (Lagos State). Free zone including a new deepwater port. Draft between 13.5 m and 17 m. Project under arbitration.

Ibaka (Akwa Ibom State): Deep water port. In study phase.

Olokola: Free zone project with deepwater port.

Warri (Delta State): Deepwater port + Abuja-Itakpe-Warri railway line.

3.6 Quality of port services

Most terminal operators are seasoned professionals who know their stuff and have competent and well-trained staff. As they operate the vessels of their parent company, among others, they have every interest in being efficient in their operations and competitive in their prices.

Improving the future performance of ports will therefore require investments linked not to infrastructure but to external services which intervene as soon as a container has passed the stage of "ship to quay" handling. These improvements mainly concern the terrestrial access to ports, truck parking spaces, container storage and loading / unloading, customs schedules and night movements.

Access to ports

Ports located in a highly urbanized area are strongly penalized by urban traffic congestion. The example of Lagos is revealing. According to the Canadian firm CPCS, 6,000 of the 16,000 container trucks that enter and leave Lagos every day are queuing up at the Lagos port complex. On average, each truck spends between two to six days in line, to cover a distance of less than 5 km. According to the Manufacturing Association of Nigeria, it is more expensive to transport goods from Lagos to Kano than to make the China-Nigeria sea route.

The additional transport costs resulting from road congestion vary greatly depending on the port considered. In Tema, for example, they are of the same order as in Durban, which is the benchmark, while in Lagos they reach new heights.

Cost of local transport from the port to warehouses located close to large cities

(US\$ per TEU)

Durban	Lagos (Apapa)	Tema
208	1750 / 2055 (375 two years ago)	285

Source : SBM Intelligence

Parking spaces near the ports

The majority of the ports covered by this study are constantly congested due to the lack of car parks for trucks. As all carriers arrive at the port area at the same time, they often engage in a merciless struggle to enter the port first and unload the containers for export. There are therefore hundreds of teams that tend to park as close as possible to the terminal entrances. This considerably penalizes the traffic flow. Some trucks can wait up to 10 days before they can unload.

In Abidjan, during the cocoa and cotton milking period in Mali, an employee of a company located in this sector can take up to two hours to travel the two kilometers which allow him to leave the sector in the evening to return home. In addition, schedules regulation prohibits the movement of trucks from 6 a.m. to 9 a.m. and from 5 p.m. to 8 p.m. This is explained by the fact that the main industrial zone of Abidjan (Yopougon) is located opposite the port. As this area brings together the main importers, the majority of trucks go there and have to cross the city. Thus, during the hours of offices arrivals and departures, they are prohibited from moving around.

One solution would be to create parking spaces away from ports, because there is hardly any space available near the ports, and to add comfort services such as toilets, showers, rest areas and small shops to allow drivers to eat. It is also essential to ensure the safety of drivers, equipment and freight. This solution was tried in Abidjan a few years ago, but it did not work for two main reasons: the cost of parking was a deterrent for drivers and no structure was provided for registering trucks as they arrive in order to allow them to have an entry order at the terminal.

Storage and loading/ unloading of containers

The problem is similar to that of parking spaces. Most ports are penalized by the lack of structured zones, allowing shippers and distributors to carry out loading and stripping operations without having to increase the number of breaks in loads.

Customs schedules

Customs services are generally open during the day (from 8 a.m to 6 p.m.) while private actors work 24 hours a day. The resulting downtime has a very negative impact. Ships continue to unload their cargo overnight, piling up on docks and storage areas while waiting for customs offices to open. At the port of Abidjan, operations to remove import containers from the terminal can only begin when customs open around 8 a.m. As the trucks cannot drive outside port areas before 9 a.m., they are therefore immobilized while customers have opened their factories or warehouses at 7 a.m. Permanently open customs services would allow better traffic flows and avoid congestion.

Night movements

In most of the ports concerned, deliveries of imported containers to customers rarely take place at night, as stevedores and customers have divergent interests. Indeed, even if this requires paying drivers for night hours and hiring companies to secure transport, this generates significant savings for stevedores due to the linear optimization of their fleets and a faster recovery of empty containers. On the other hand, customers see more drawbacks since they have to pay night staff and strengthen the security of their sites. It should be possible to find financial compensation for customers who agree to open their warehouses at night.

3.7 Cost of port passage

It is difficult to get precise information on the costs of port passage, as the invoicing procedures are very complex. Invoices are sent by freight forwarders to importers and exporters. Port authorities, terminal managers, ship owners and customs send them their invoices and forwarders pass them on to customers by adding their costs. In addition, there are a lot of ancillary costs that are added to the main costs, such as security parking, demurrage of container parking, handling fees outside the terminal and delivery on site. For 50% of the containers, customs fines appear as declaration errors.

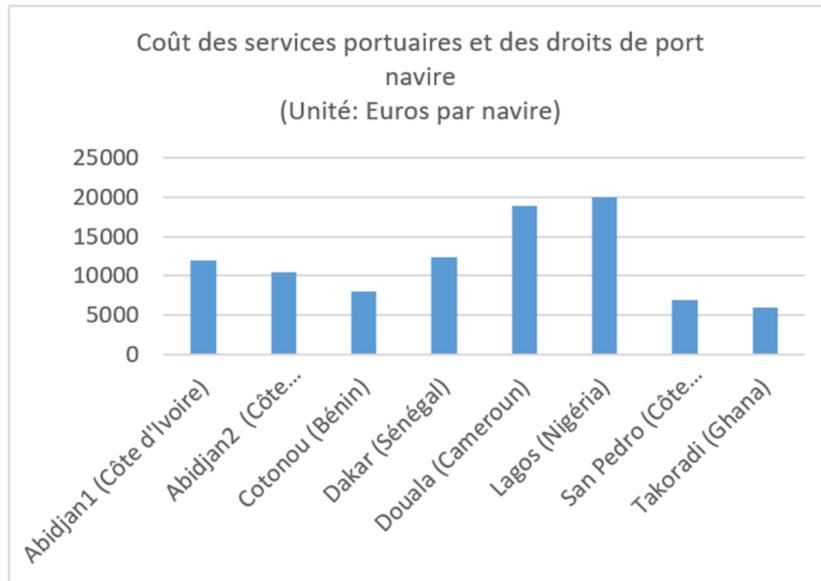
The ports of the Gulf of Guinea charge generally high tariffs, with some exceptions as Durban for example, which is the benchmark on the African continent. The investment underway in Lagos should make it possible to lower the cost of port passage from 2022.

Examples of port transit costs (USD per TEU)

Durban	Lagos (Apapa)	Tema
180	457	284

Source : SBM Intelligence (Nigéria)

The graph below, although relatively old, illustrates the considerable differences in port service tariffs and ship port fees among African ports. The ports of Douala and Lagos charge particularly high tariffs.

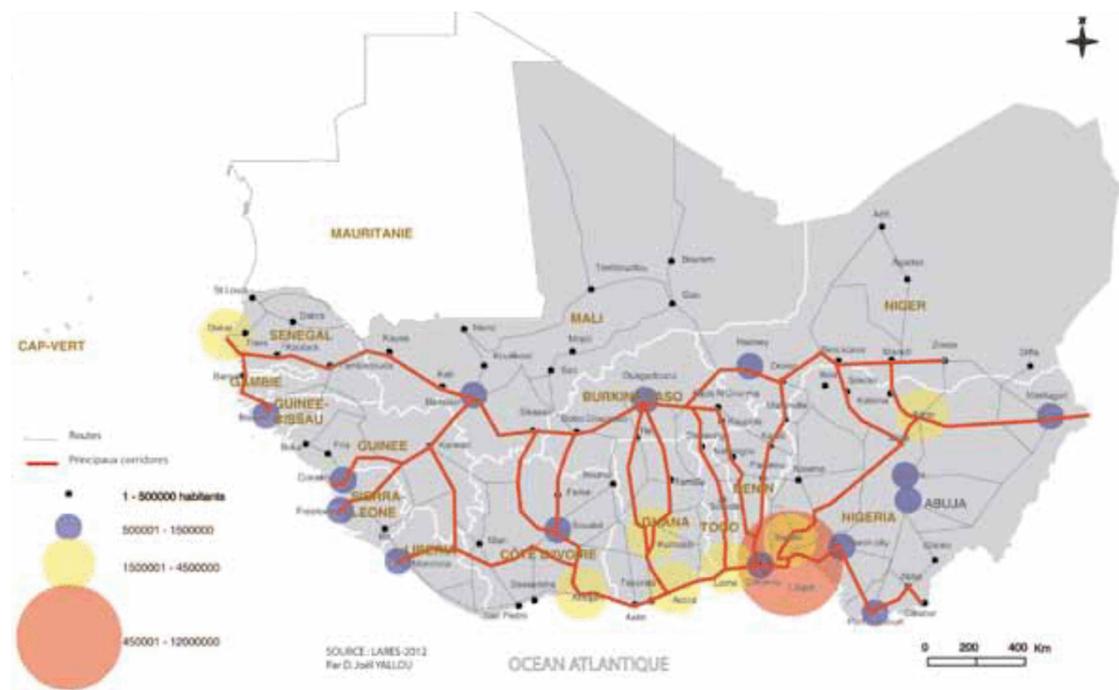


Source : Market study on container terminals in Western and Central Africa – MLTC/ Catram – January 2013

4 Inland pre- and post-haulage

4.1 Description of hinterlands

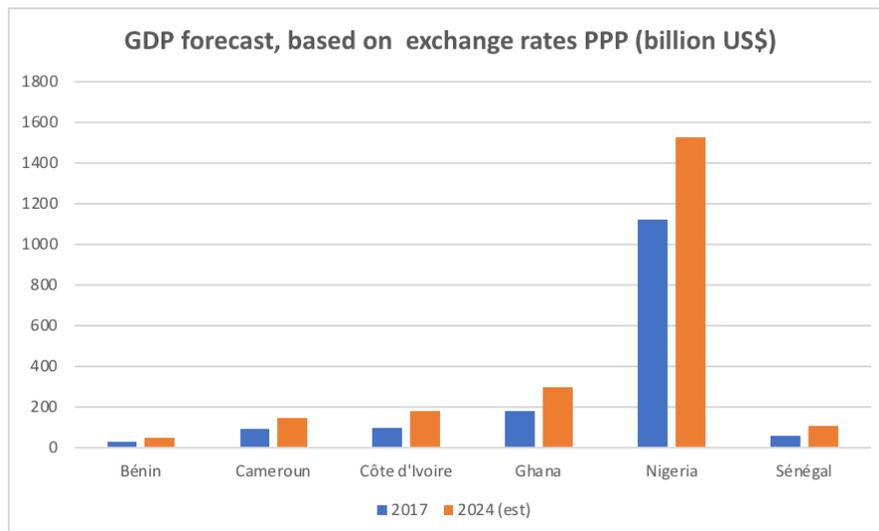
The map below highlights the main densely populated areas in ECOWAS and Cameroon. These areas extend over an east-west strip approximately 800 to 900 km deep.



Source : L'état du commerce en Afrique de l'Ouest, rapport annuel 2012 - Centre Africain pour le Commerce, l'intégration et le Développement.

Domestic hinterlands

Nigeria, Africa's leading economic power, accounts for over 70% of ECOWAS's GDP. In 2017, Nigerian GDP was almost double the cumulative GDP of the other five countries analyzed in this case study. By its geographic dimension and its economic potential, Nigeria represents by far the biggest medium / long-term stake for the import / export flows of containerized goods.



Source: IMF, World Economic Outlook

Landlocked countries

The main flows of goods between the major ports of the Gulf of Guinea and the landlocked countries go to Mali, then Burkina Faso, the Central African Republic, Chad and northern Guinea Conakry. In total, they represent 6.3 Mt, around 4% of total goods having passed through the ports concerned in 2018.

Main flows of goods between seaports and landlocked countries
(x 1000 tonnes/year - Year 2018)

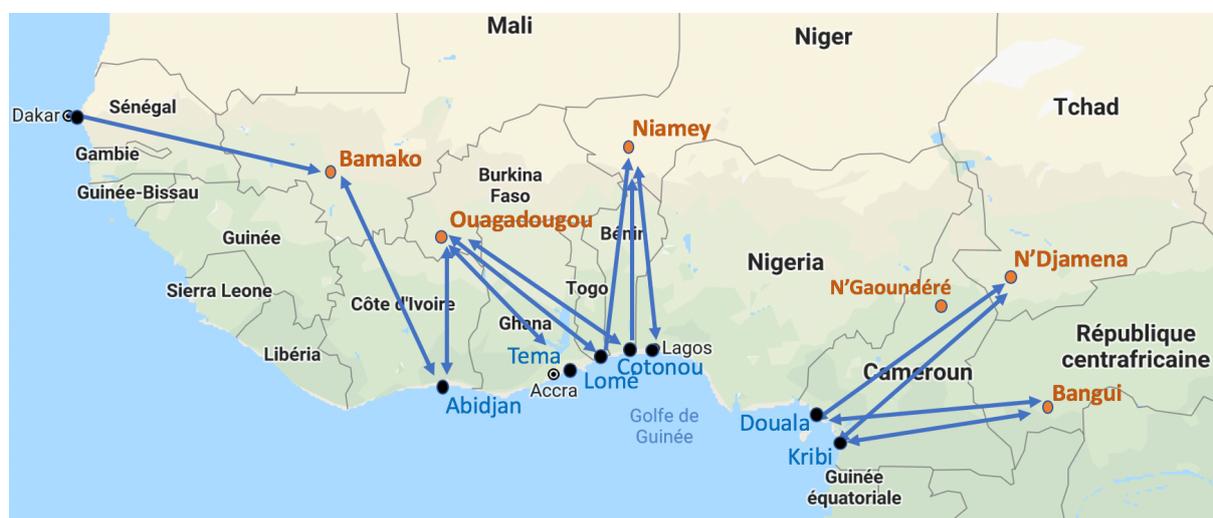
	Abidjan	Cotonou	Dakar	Douala
Mali	540		3800	
Central African Republic				502
Burkina Faso	1090			
Chad				252
Other landlocked countries			80	
% of port traffic	17%	49%	18% (Mali)	

4.2 Road transport services

A heterogeneous road network

Despite the investment efforts on many roads, a significant proportion of the main African roads is in a very degraded state. Some of them, which have become impractical, sometimes lead to considerable detours and force carriers to use unsecured tracks. So is the road linking Abidjan and San Pedro called the "Coastal". Built about thirty years ago, it is now difficult to use, despite some scant work done recently (holes filled with sand). The distance from Abidjan to San Pedro by this road is 335 km, but if you have to make the detour to Gagnoa there is 504 km to go, which is more than 30% additional distance on the transport bill.

Main road corridors between ports and landlocked countries



The table below shows that each landlocked country has at least two possible routes to import / export its goods. If the distances corresponding to these competing routes are very close, one of the two routes is generally more attractive in terms of transport time.

Distances on the main axes of penetration towards landlocked countries (in km)

	Abidjan	Cotonou	Dakar	Douala	Kribi	Lagos	Lomé	Tema
Bamako	1141		1262					
Ouagadougou	1159	1013					953	922
N'Djamena				1850	1859			
Bangui				1438	1411			
Niamey		1021				1063		

Source : Google Maps

Unreliable transport providers

The condition of the motor carrier fleet is problematic. Large shipowners such as Maersk, Bolloré and CMA-CGM have subsidiaries which have a fleet in excellent condition, but they generally refuse to allow their vehicles to leave port cities. They only make deliveries within a radius of a few kilometers around the ports. For deliveries or loadings of containers outside these areas, they leave end customers free to choose the carrier. Apart from the shipowners' subsidiaries there are a few serious and well-equipped transport companies, but their prices are very high.

Most customers opt for small local carriers who offer very low rates but have vehicles in poor condition, usually uninsured and often breaking down. In the event of an accident or loss of freight, they have no way to reimburse and it is a dead loss for the customer.

This has led importers who perform regular services to invest in own account fleets. This is the case for 50% to 70% of the traffic on the Abidjan-Ouagadougou axis.

Most of the clients prefer the cheap solution despite the risks. Until the existing laws relating to the condition of vehicles are enforced, the situation will not improve.

Insecurity and administrative hassles

Most journeys are dangerous due to the risk of attacks and racketeers. To this context of insecurity is added the time lost due to checks, estimated at 50 minutes every 100km on average on sections such as Cotonou-Niamey, Dakar-Bamako or Lomé-Ouagadougou.

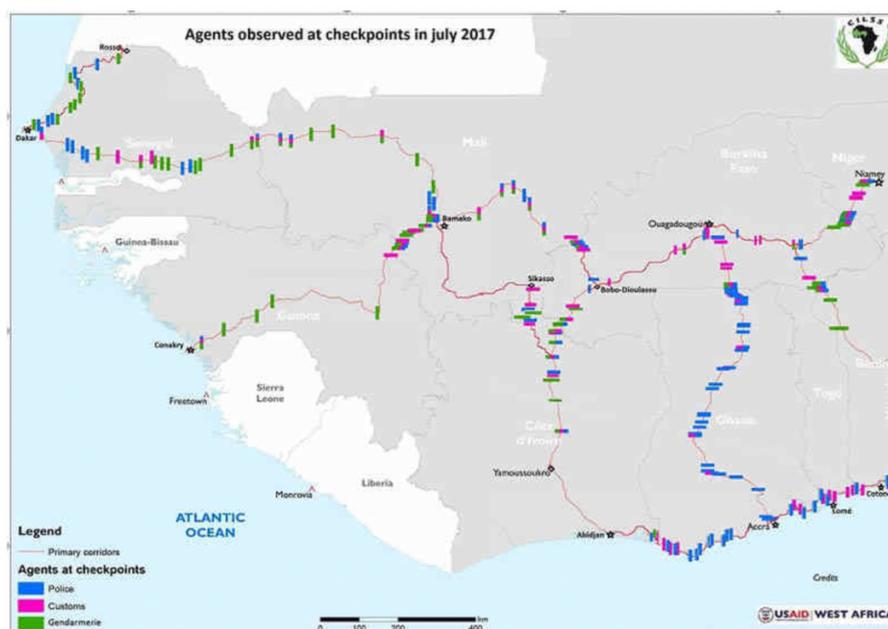
The port of Lomé has secured the transit of goods to Burkina Faso and Niger, with a road convoy service under escort of the Togolese security forces from the port to the border, at a rate of at least four movements per week. This service is highly appreciated by users because it eliminates the risk of racket along the Togolese route, while ensuring the physical safety of the drivers.

On the Abidjan-Ouagadougou corridor, armed bands stop vehicles and steal cargoes. The carriers move in convoys of several dozen vehicles. The drivers are also victims of "informal taxes" levied by certain representatives of the "authorized bodies" all along the Ivorian journey. These "taxes" can amount to more than € 1,000 between Abidjan and the border, considerably increasing the cost of transporting a container. If the products are high added value, the financial loss represents only a small fraction of the value of the containerized goods. Conversely, it becomes prohibitive with products with low added value.

On the N'Gaoundéré-Bangui and N'Gaoundéré / N'Djamena sections, transport is dangerous and the only way to escape it is to form convoys.

The map below illustrates the intensity of "red tape" on some major agricultural product transport routes.

Mapping of road harassments (July 2017)



Source : Enquête Juillet 2017 sur les tracasseries routières au Sahel et en Afrique de l'Ouest - Article No. 11 - UNCTAD Transport and Trade Facilitation - Newsletter N°76 - 2017

Excessive transit times

According to the AfDB, the average speed on African road corridors is only 6 km/h in West Africa, when factors such as border controls and port crossing times are taken into account. It takes between 5 and 32 days for a truck to transport its cargo from the port of Abidjan to Ouagadougou. Compared to the distance of 1160km of the trip, and assuming the truck is traveling 10 hours per day, this corresponds to an average speed between 3.6 and 23.2 km/h.

Deadlines and procedures at the various stages of importation and transport by road

Voie Routière	Délai minimum	Délai moyen	Délai maximum
Débarquement du navire, sortie du port	1 jour	10 jours	18 jours
Transport terrestre et passage frontière	2 jours	4 jours	8 jours
Traitement au terminal Ouagadougou	2 jours	3 jours	6 jours
Total observé	5 jours	17 jours	32 jours

Source : Transport et logistique en Afrique : Analyse économétrique et évaluation du corridor Abidjan Ouagadougou (FERDI-2019). A partir des informations collectées auprès du Conseil Burkinabé des Chargeurs.

The minimum time corresponds to the exit of goods from the port when the importer has fully anticipated all administrative procedures. The average time corresponds to operations subject to uncertainties at the level of the various stakeholders in the transport and logistics chain, often importers or their representatives. The maximum delay is due to culpable improvisations, generally due to the importing customer or his representative in the application of the procedures.

4.3 Rail transport services

The rail transport services from / to the hinterlands is overall very insufficient and inefficient.

Main rail freight axes



In Ivory Coast, a 1,250 km railway line links the port of Abidjan to north-western Burkina Faso. For transport to Mali, it is possible to use the rail to Ouagadougou (which has a transshipment station) and then transfer the containers to trucks to extend the trip to Bamako. The journey time is around 30 hours. The traffic on the Abidjan-Ouagadougou rail route is boosted by the fact that the wagons bring up all imported goods and come back down with the exports but also with products intended for local Ivorian consumption, such as certain vegetables or even livestock (zebus, sheeps).

The port of San Pedro has no rail connection. An old project is again under study to cover the cocoa zone (western Côte d'Ivoire), as well as Mali, Burkina Faso and northern Guinea.

In Cameroon, a rail axis connects Douala to Ngaoundéré (northern Cameroon), where several stevedoring companies have transshipment terminals that allow freight to be loaded onto trucks to continue the journey to Bangui and N'Djamena. The train journey is cheaper than by truck but much longer. The journey can take several days with stops. In addition, the

train does not leave unless all the flat cars are full. Conversely, a road convoy leaving very early one morning can arrive in N’Gaoundéré the next morning.

In Nigeria, there are currently no heavy freight rail lines. A rail link to move containers between Lagos and Kano is scheduled for 2021, as well as the commissioning of a dry port in Kano.

In Senegal, the activity of the Dakar-Bamako rail line has been suspended since 2018. All traffic is now carried out by road (more than 250 trucks per day).

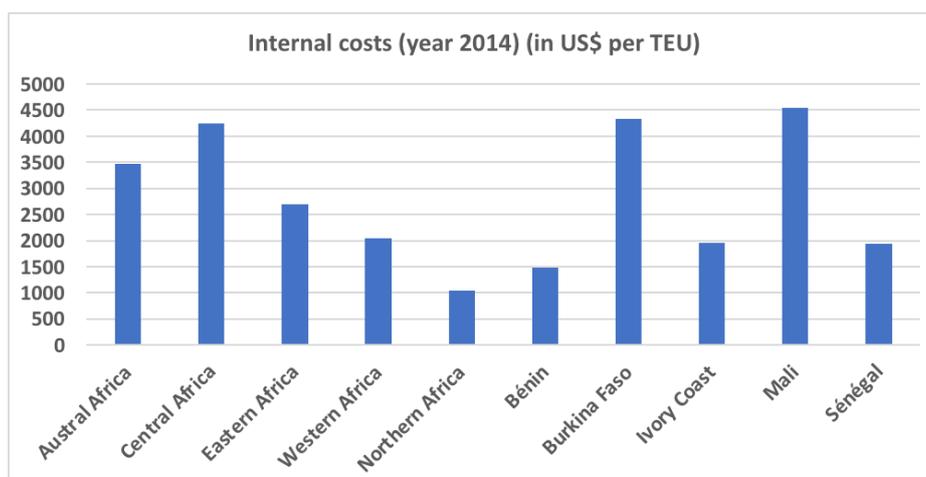
4.4 Terrestrial transport costs

It takes between 1,500 and 2,250 euros to send 2 TEUs from one of the major ports to Ouagadougou. If we compare these figures with those cited in previous chapters, it appears that the cost of the "land transport" link is much higher than the costs of the "sea freight" and "port passage" links.

Terrestrial transportation cost of two 20’containers or one 40’ container (euros)

	Abidjan- Ouagadougou	Cotonou- Ouagadougou	Tema- Ouagadougou	Lomé- Ouagadougou
Trip with return	2250	1800	2025	2025
Trip one way	1800		1575	1575

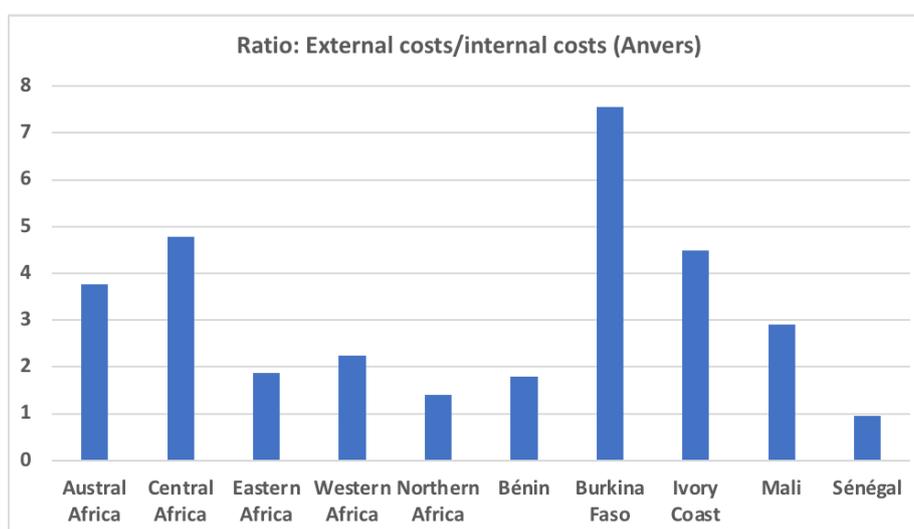
The graph below reveals that the internal costs of transport and logistics on various destinations in West Africa can vary by a ratio of 1 to 3, with a minimum for Benin and a maximum for a landlocked country such as Mali.



Source: Transport et logistique en Afrique - Analyse économétrique et évaluation du corridor Abidjan-Ouagadougou – FERDI – Janvier 2019¹

In the case of a container leaving from Antwerp, internal transport and logistics costs are almost always higher than external costs (with the exception of Senegal) and peak in the case of landlocked countries.

Ratio: "Internal cost (from the African port to the final recipient)" / External cost (from Antwerp to the African port) "in the case of a 20' container shipped from Antwerp



Source: Transport et logistique en Afrique - Analyse économétrique et évaluation du corridor Abidjan-Ouagadougou – FERDI – Janvier 2019

¹ International transport and logistics costs are given by a freight forwarder located in Roissy-en-France. They refer to the year 2016. Data on the cost of the imported container correspond to the cross-border trade section of "Doing Business" 2015.

This finding corroborates the diagnosis of the African Development Bank, which observes that the costs of road freight transport in Africa are on average 70% higher than those observed in emerging Asian countries. These costs are particularly penalized by the high margins of road hauliers, which often reach 60 to 160%, especially in West Africa.

5 Conclusions

For the 10 countries concerned, improving transport and logistics is a major socio-economic and environmental issue

At the socio-economic level, a more efficient freight transport system would open up entire regions and secure populations, especially in northern Nigeria and Côte d'Ivoire, as well as in the Sahel countries. Reducing transport costs and times would promote the economic development of heavily populated regions that are not in the immediate vicinity of port areas and would reduce the prices of many common consumer products. From an environmental standpoint, the development of large-scale maritime cabotage and new rail freight lines would help reduce greenhouse gas emissions and nitrogen oxides.

The investment policy in freight transport infrastructure is penalized by the lack of coordination between the states of the region

The massive investments made (or in progress) in the major ports of the Gulf of Guinea have led to a significant improvement in the quality of port transit operations. The offer is increasingly adapted to the needs of shippers and shipowners in terms of handling time, container ship capacity and container storage. The port landscape is gradually settling, with on one side several ports showing good performance and on the other ports whose quality of service is hampered by structural or organizational factors. However, port public investments in the region have not been based on concerted policies over the past fifteen years. The capacity race in which most ports have entered results in a non-optimal allocation of money and could prove to be unproductive in the medium term. Today, no less than 20 container terminals "sprinkle" the coast between San-Pedro and Lekki, in thirteen different ports. Over a distance of around 1000 km as the crow flies, this corresponds on average to a port every 125 km, each aiming to become an intercontinental "hub"!

Land pre / post haulage is the weakest link in logistics chains

As port efficiency improves, hinterland service becomes the weakest link in international logistics chains. The deteriorating state of many roads and railways, insecurity and red tape translate into disincentive transit times and costs for shippers. These logistical constraints hamper the development of entire densely populated regions. The attractiveness of a seaport depends greatly on the quality of road and rail connections with its hinterland. The ports which will have the most efficient connections in the future will have maximum advantages in attracting additional traffic. Conversely, ports served by an unsuitable road and rail network will gradually be marginalized.

The weakness of the inland logistics is an obstacle to the development of the manufacturing sector

Three conditions must be met, among others, to convince manufacturing enterprises to set up in a region: The existence of an efficient logistics offer, the electrical power available in quantity and quality, and the security of goods and people. When one of these three factors is not satisfied, the probability of seeing a manufacturer investing in a given area is greatly compromised. The difficulties encountered by shippers in carrying out their inland pre- and post-shipments therefore constitute a crippling obstacle to the development of the manufacturing sector, both for the supply (import) and for the exports of manufactured products. This is particularly the case when these chains are in direct competition with other emerging economies on standard products with low margins, such as the textile/clothing sector. More than direct logistics costs, "hidden" costs prevent stock minimization and delivery deadlines.

Nigeria's essential but ambiguous role

Since the election of President Buhari in 2015, the country's protectionist policy has intensified. For a long time, Nigeria was reluctant to ratify the agreement to create the African Continental Free Trade Area. This seemed mainly due to the fear of seeing the Nigerian market inundated with foreign products, mainly in the agricultural sector. Nigeria finally joined the AfCFTA in July 2019. But in August 2019, it closed its borders with Benin. This measure is indicative of a hesitant policy, divided between protectionism and openness. From Nigeria's attitude will depend the possibilities for optimizing regional supply chains.

6 Recommendations

The previous chapters have highlighted the many obstacles that hinder the supply chains passing through the ports of the Gulf of Guinea. A few key measures would significantly improve the situation. They revolve around three axes:

1 /: Refocus port investments around a limited number of "hubs", based on the principle of complementarity

2 /: Complete the existing road and rail networks, by maximizing sea/road/rail multimodality

3 /: Improve the quality of peri-port and road logistics services offered to carriers.

Refocus port investments around a limited number of hubs, based on the principle of complementarity

Three or four "hubs" would be sufficient on the range between Côte d'Ivoire and Nigeria, to develop efficient logistics organizations, based on complementarity with feeding activities in other ports. The selection of ports with the optimal characteristics to ensure this role of "hub" at regional level (entry-exit port for intercontinental maritime flows) could be done on the basis of the following criteria: nautical qualities of the basin, draft, available storage and handling area, quality of land entrances and exits.

Complete the existing road and rail networks, by maximizing sea/road/rail multimodality

The network shown on the following map would radically improve the fluidity of the flow of goods within the zone and would provide a logistical framework conducive to the development of an integrated manufacturing sector.

In addition to the three or four maritime "hubs" and the ports dedicated to cabotage mentioned above, this diagram is structured around:

- A massified rail axis dedicated to combined transport and block-trains, connecting the port of Lekki to several dry ports located in central and northern Nigeria.
- About ten penetrating roads (north-south) connecting the ports to their domestic hinterlands and to landlocked countries. Nigeria's Lagos-Kano-north axis follows part of the route of the Trans-African Highway Corridor n°2 Algiers-Lagos.
- Three cross-roads would ensure the smooth flow of agricultural and manufactured products between the countries of the zone. The northernmost transverse axis corresponds to the route of the trans-African road corridor n°5 Dakar / Ndjamena (Trans-Sahelian). It is completely paved, except for about 800 km in western Mali. Several sections are in poor

condition and some are being rehabilitated. The southernmost transverse axis corresponds to the route of the trans-African highway corridor n°7 Dakar-Lagos (CAAL). It connects Abidjan to Lagos via Accra, Lomé and Cotonou. This axis concentrates 70% of the regional economy of West Africa. About 80% of the corridor is paved. Finally, the Lagos-Yaoundé-Bangui section is part of the trans-African road corridor n°8 Yaoundé-Mombassa. The central transverse axis connecting the northern regions of the coastal countries does not exist to this day.

Priority investments for competitive regional logistics



-  Gateway
-  Feeder port
-  Penetrating road
-  Railway freight link
-  Road transverse axis
-  Existing Transafrican road corridor

Such a network would require the construction or rehabilitation of 12 to 15,000 km of 2 x 2 lane or 2 lane roads and 700 km of rail lines with gauge B1, in addition to the investments already made within the framework of the intercontinental corridors current program promoted by the African Union, the African Bank for Development and Nepad. This would represent an additional investment of around 60 to 70 billion euros.

Improve the quality of peri-port and road logistics services offered to carriers

Improving the logistics offer begins with building up efficient truck fleets in terms of reliability and atmospheric pollutant and CO2 emissions. In addition to financial incentives, this implies strict enforcement of regulations related to vehicle maintenance and safety.

Several measures are essential to improve the quality of port and peri-port services: Encourage the creation of container loading / unloading areas in the immediate vicinity of sea ports and dry ports, encourage the creation of parking spaces for trucks near ports by providing essential comfort and safety services, aligning customs schedules with the needs of economic players in order to facilitate the removal of import containers from terminals at night or very early in the morning, put an end to red tape on the main roads and improve the safety of drivers and cargo.

It is at the cost of such proactive measures that the investments made over the past 15 years in improving port infrastructure will find their full justification.

7 Bibliography

Review of maritime transport (UN-2019)

Transport et logistique en Afrique : Analyse économétrique et évaluation du corridor Abidjan Ouagadougou (FERDI-2019)

Opportunity and Growth Diagnostic of Maritime Transportation in the Eastern and Southern Africa (UNCTAD-2018)

Indicateur "Quality of Port Infrastructure" (World Economic Forum-2018)

Container cargo handling charge (ship to gate) (Knoema)

Strengthening Africa's gateways to trade (PWC – 2018)

Seaport competitiveness: A comparative empirical analysis between North and West African countries using principal component analysis- (2015)

Analysis in West Africa Using Data Envelopment Analysis (DEA) Model – Scientific Research – Avril 2015

Définition des critères de performance pour l'attribution des « Ports Awards » - Fondation APA

"Quality of port infrastructure" (indicateur 2.04) - World Economic Forum

Comparison of port efficiency between Eastern and Western African ports using DEA Window Analysis - IEEE

Western Africa - Making the Most of Ports in West Africa (2016 – World Bank)

Global Pricing Comparator Study- Ports Regulator of South Africa – 2019

Logistics and Supply chain development in Africa – 2019

The Journal of Commerce (USA) - Port Productivity White Paper - July 2014

Conseil Burkinabé des Chargeurs

Sites internet des autorités portuaires et des opérateurs de terminaux.

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Created in 2016, the Observatory promotes competitive and sustainable investment in manufacturing sectors in Africa, by providing managers of European and African enterprises and policy makers with strategic analysis on the following issues:

- What are the challenges for European and African companies?
- Is co-production an opportunity to optimize value chains?
- An alternative to Asia and Central Europe?
- Which are the most attractive African countries?
- What are the potential benefits and risks?

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