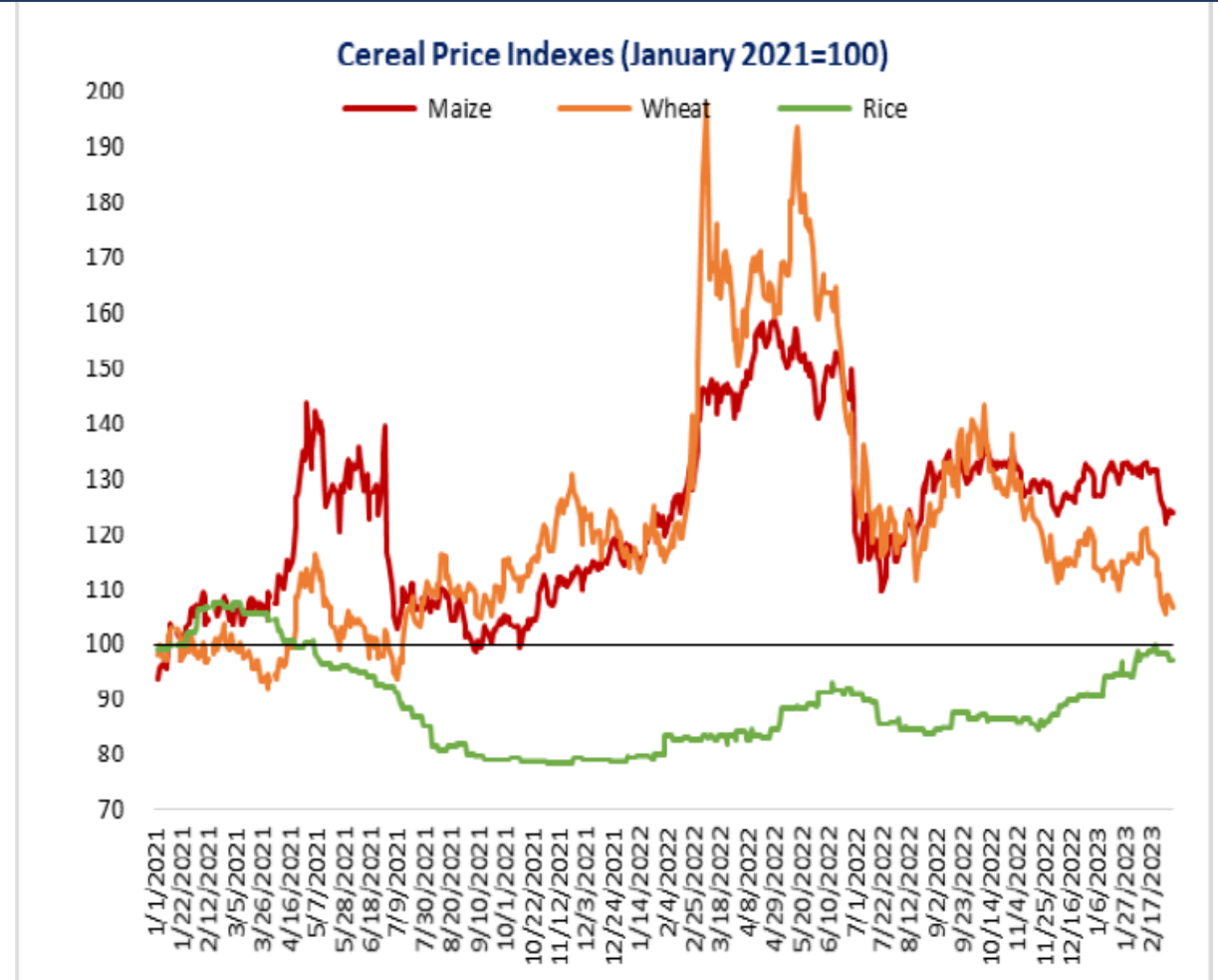
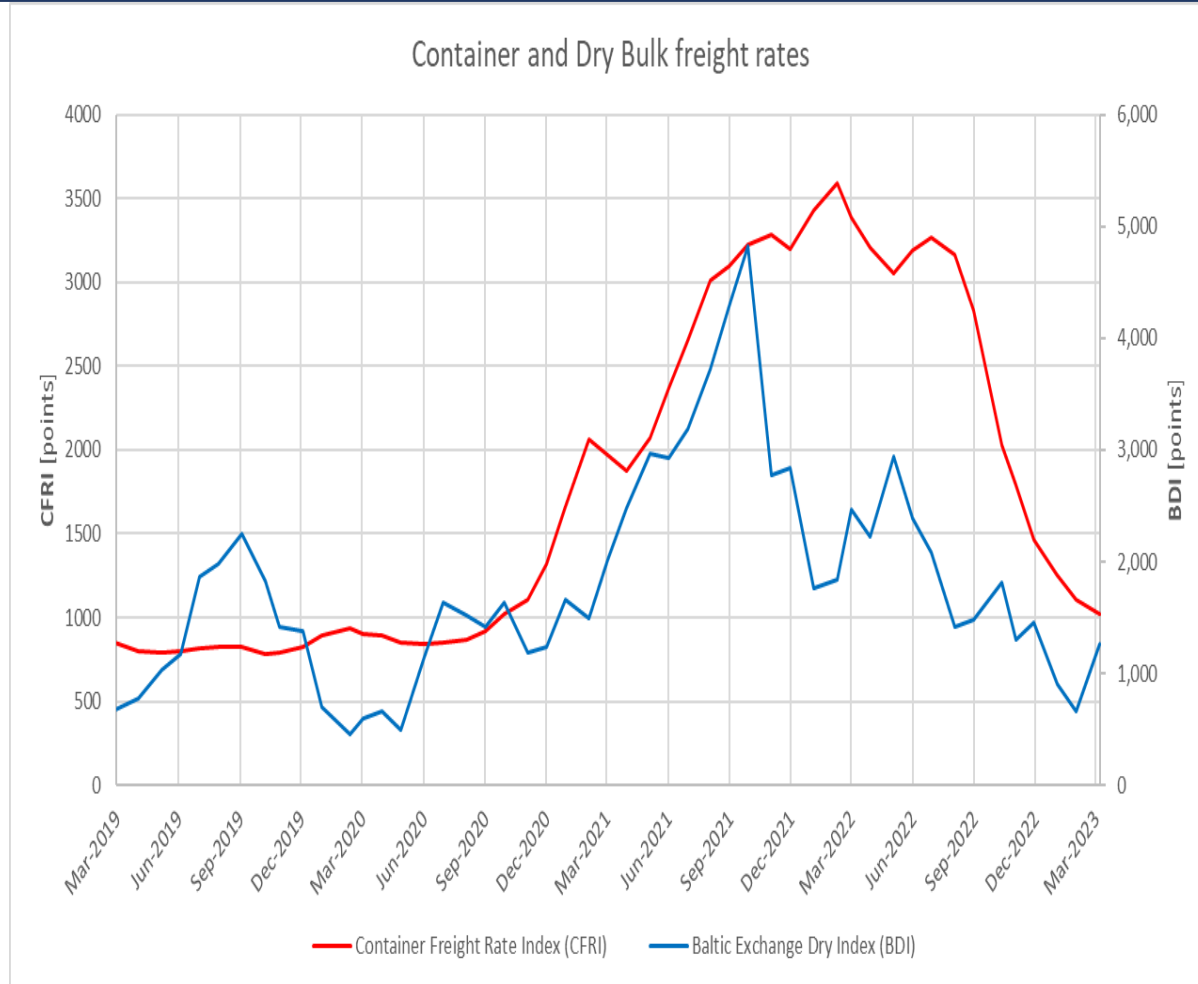




Improving Food Security through Resilient and Efficient Connectivity



Whilst shipping freight rates have eased from the highs seen during the pandemic, the price of cereals remains high and very sensitive to further disruption



And the recent disruption is not exceptional...



Vulcano eruption
Iceland

Nuclear disaster,
Japan

Hurricane Sandy
US

Regional floods,
Germany

Typhoon Halong
South East Asia

Port explosion
China

Tianjin bankruptcy
China



348 factory fires
Global

US/China trade war
US

Brexit
UK

Corona
Global

**Semiconductors
shortage**
Global

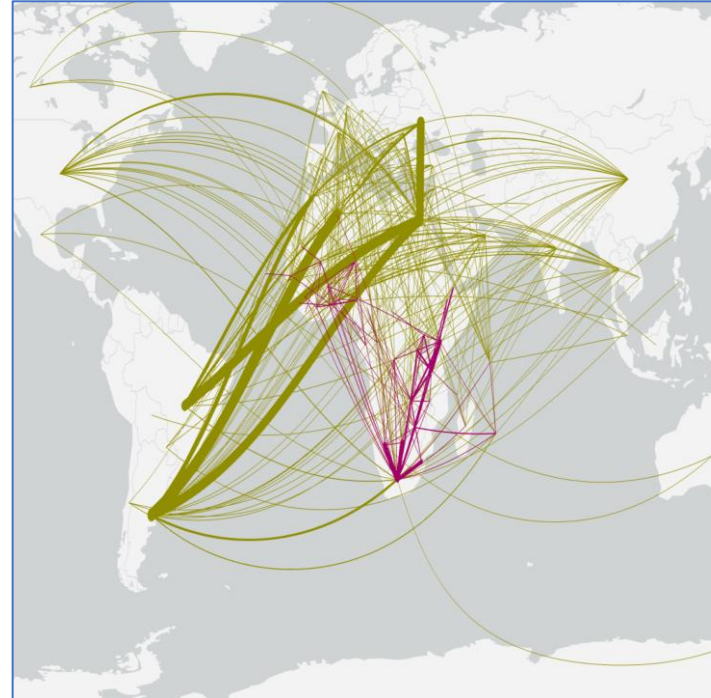
Ukraine war
EU/Global

...

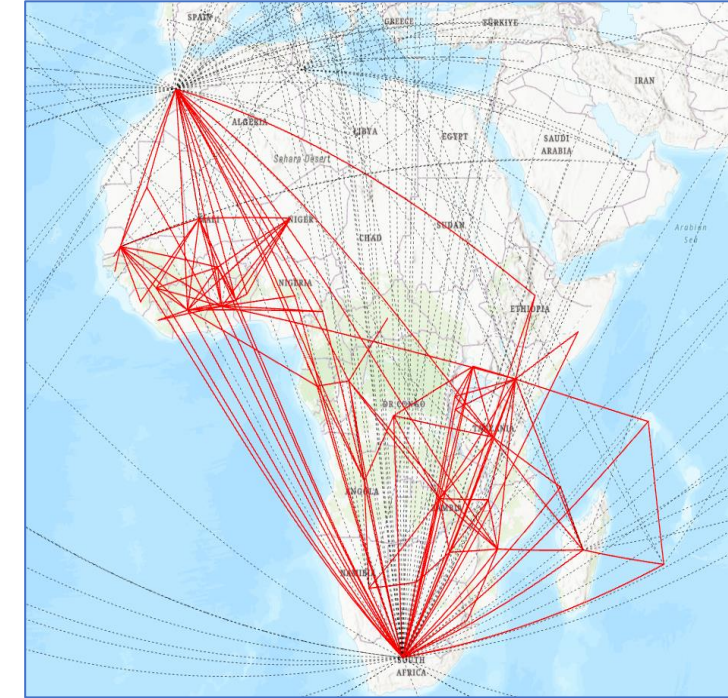
Providing resilient and efficient connectivity is essential to improve Africa's resilience to the next food crisis

Africa experiences a greater distance between food production/import and consumption sites. This distance results in:

- **A high transport cost burden in food supply chains – at the local level transport and logistics costs can amount up to 50% of prices;**
- **Which means food costs can amount to 50 – 70% of household expenditures;**
- **In addition, frictions in the supply chain can lead to shortages and high temporal and spatial price volatility; and**
- **More than a third of food produced is lost, a value that equates to the annual volume of cereal imports.**



Maize trade, 2019 (volume). Only 36% of maize imported is from other African countries. South Africa is a major supplier to countries in its neighborhood. Significant flows on the east-southern Africa axis



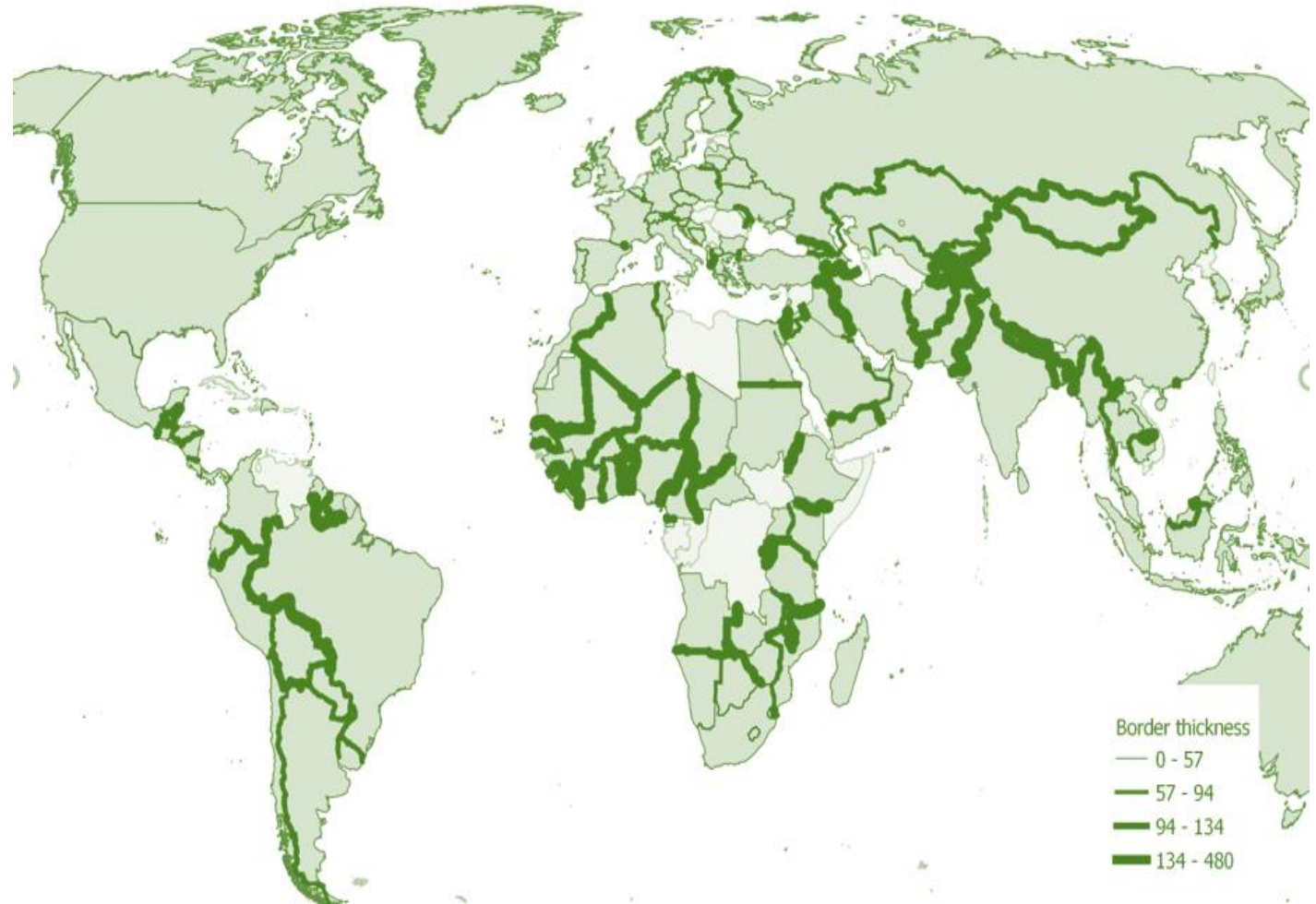
Fertilizer trade, 2019 (values). Morocco, Cote d'Ivoire and South Africa are major suppliers to other countries on the continent. Nigeria has largest number of processing plants, outside South Africa.

A major problem is that borders in many LDCs countries remain much 'thicker' than elsewhere

"Thickest" Bilateral Borders

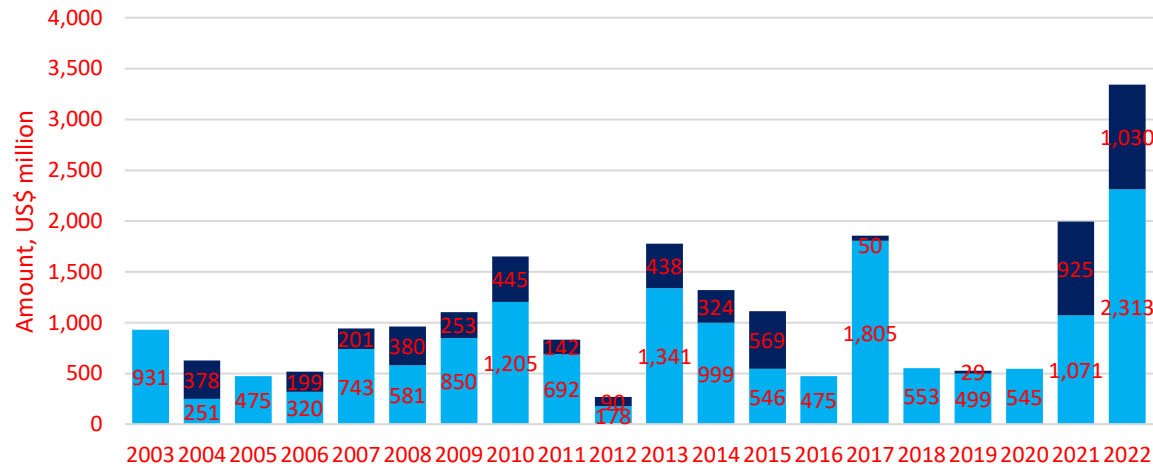
Country Pair	Percent ad valorem
Niger-Chad	479
Laos-Myanmar	479
Algeria-Mali	429
Chad-Nigeria	418
Central African Republic-DRC	322

- Any solution needs to be holistic involving: trade policy; logistic services; non-tariff barriers; transport infrastructure; and border management

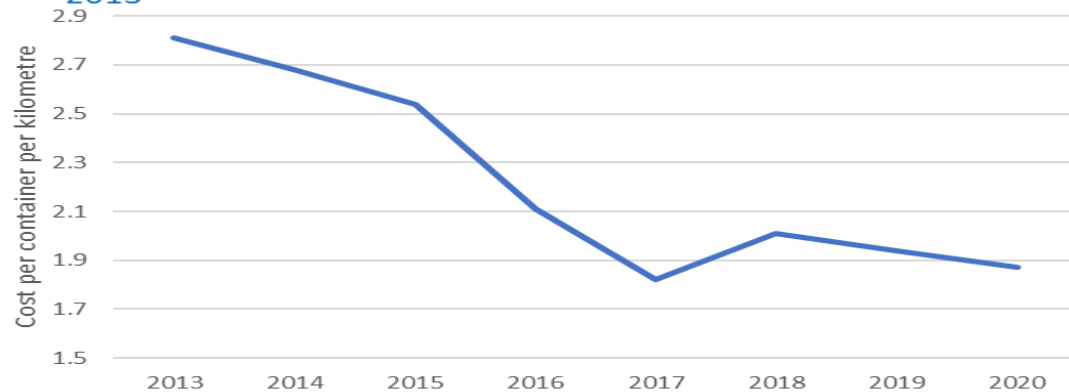


The World Bank has invested significant amounts on regional transport integration in Africa

Transport GP Regional Corridors/Food Crisis vs Total Lending in Africa Region, FY03-22



Central Corridor: Costs in 2020 were a third lower than they were in 2013



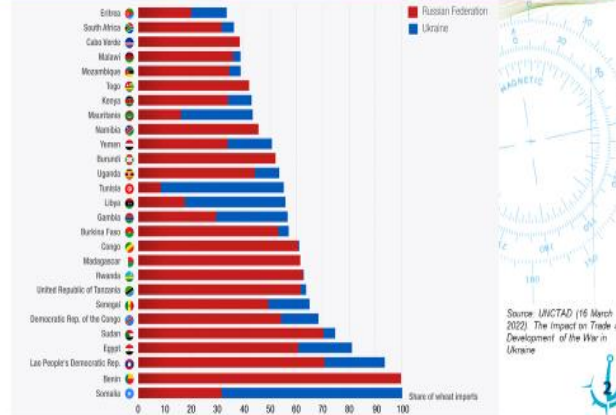
- After a sharp decrease over the period 2016-2020 the regional corridor program is now growing again, reaching 46% of total transport lending to Africa in FY21 and 31% in FY22.
- Regional transport operations have improved infrastructure and reduced time and cost for trade (IEG, 2019)

The World Bank recently used logistics modelling to identify alternative routes for cereals trapped in Ukraine

Ukraine is among the world's top ten grain producing countries



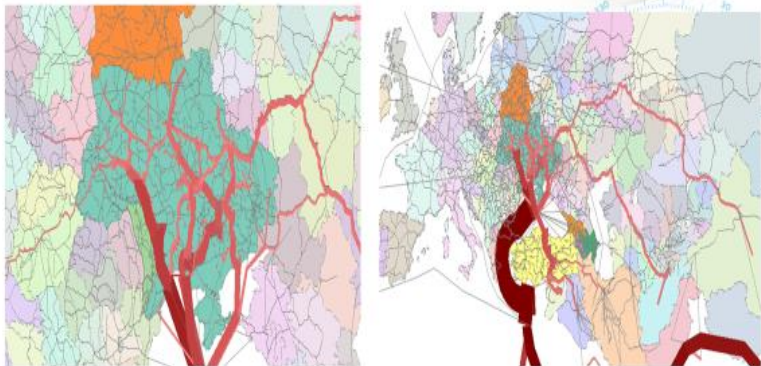
Many LDCs are highly dependent on Ukrainian grain



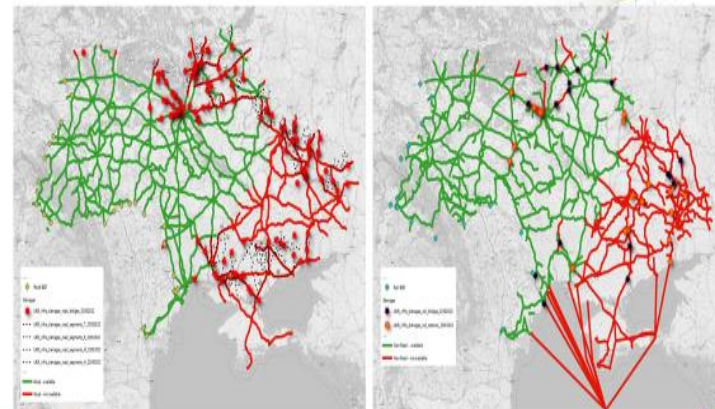
95% of all grains are usually exported by sea



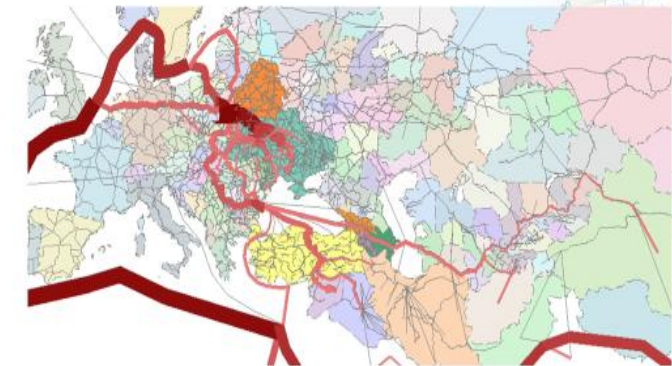
Scenario 01 Pre-war (volumes of 155,000 mt per day)



Unavailable network parts – Road and Non-Road

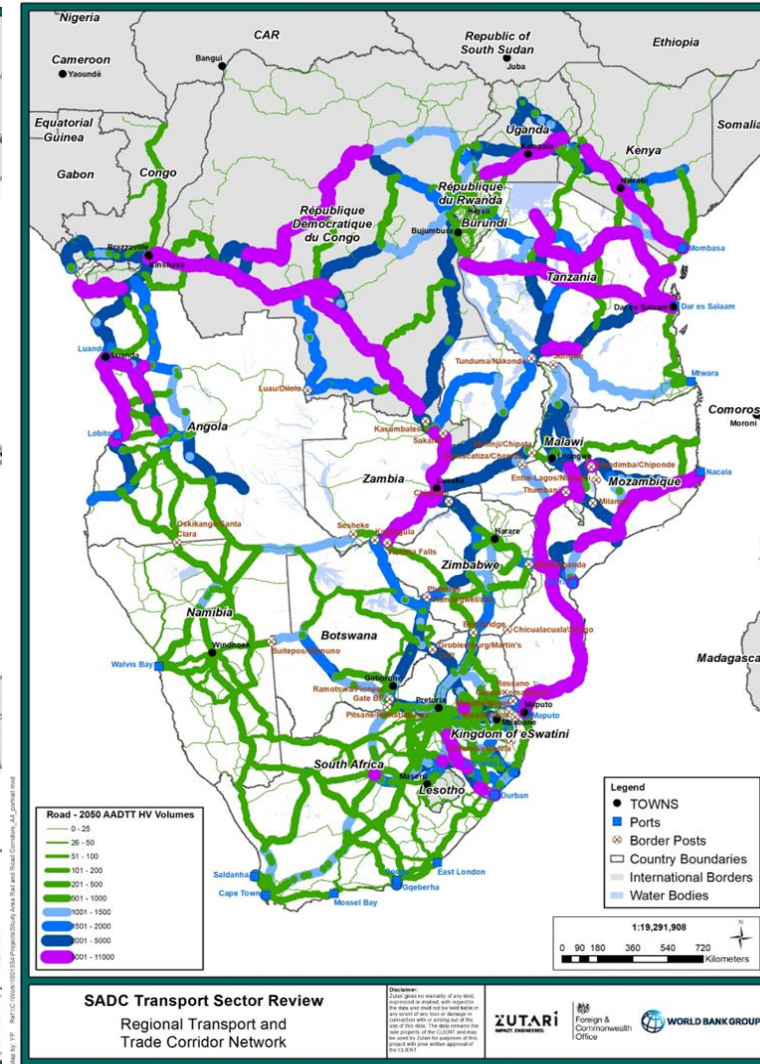
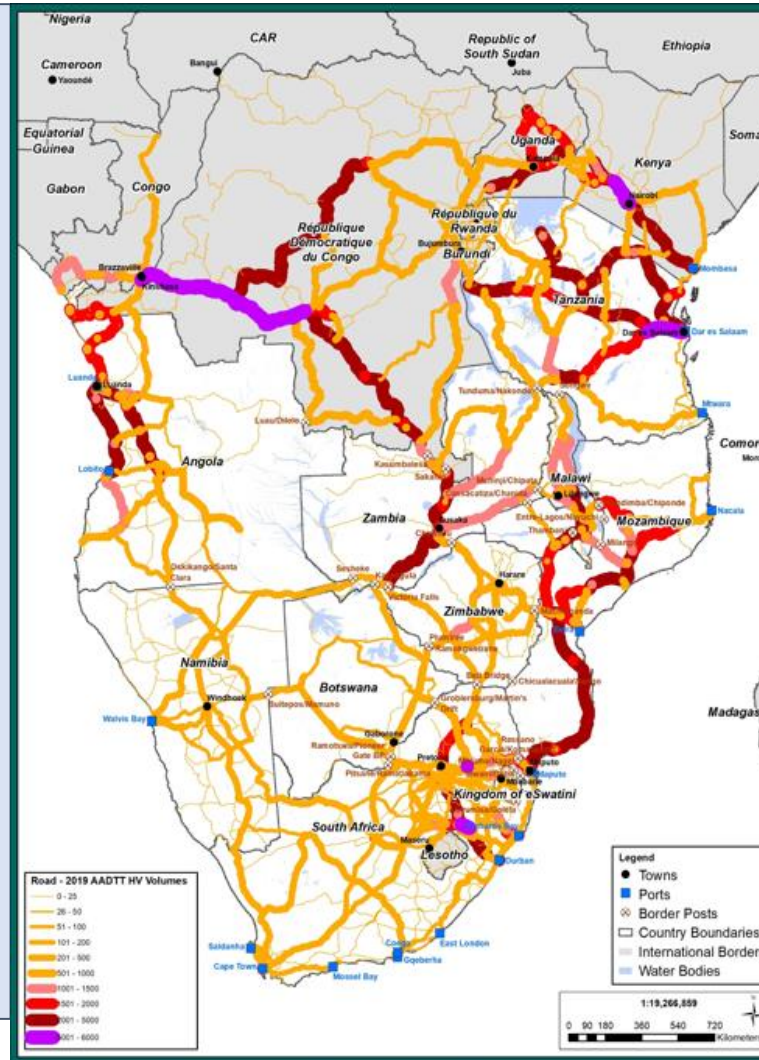


Scenario 05c_CONT (immediate, short and medium term) 94K per day, 2.8,mmt per mth, 34 mmt pa



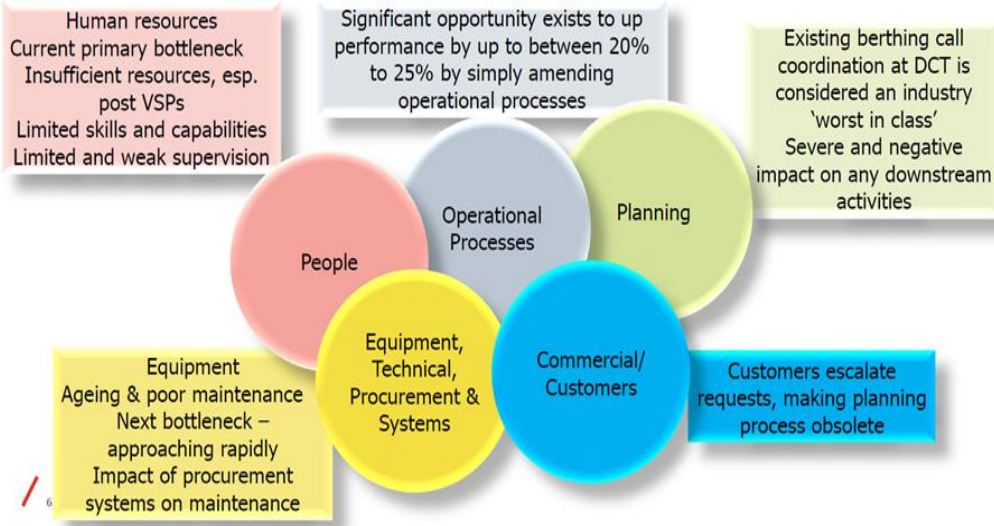
We are now utilizing these same techniques for food and fertilizer supply chains in Africa

- A new generation of trade and transport connectivity projects is being prepared that tackles binding constraints along the entire supply chain for specific commodities (e.g. Green and Resilient Trade Corridor Project in Southern Africa [manganese, chrome, containers, and agricultural products]);
- The design of these projects is informed by a suite of regional trade and transport freight models to systematically assess connectivity needs under a range of scenarios, decarbonization, resilience, road to rail policies etc. and re-envision solutions for green, efficient and resilient connectivity; and
- Joining these sub-regional models to form an Africa Freight Logistics Model will enhance the Bank's ability to assess the growing number of connectivity initiatives by us, and others.



Ports are a key part of the logistics chain – but no SSA port handling food staples performs well in the CPPI 2021

The challenge facing Durban, one of Africa's major ports for fertilizers:

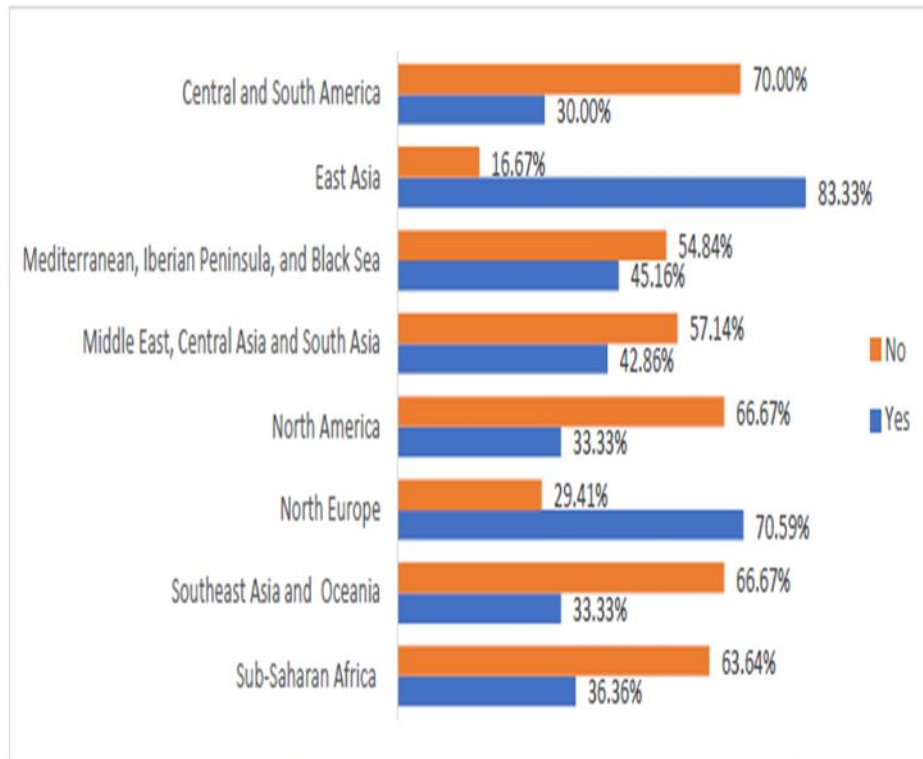


Investment is needed in people, equipment and systems. Tremendous potential for process optimization exists throughout the terminal processes – performance improvements of 20-25 percent alone



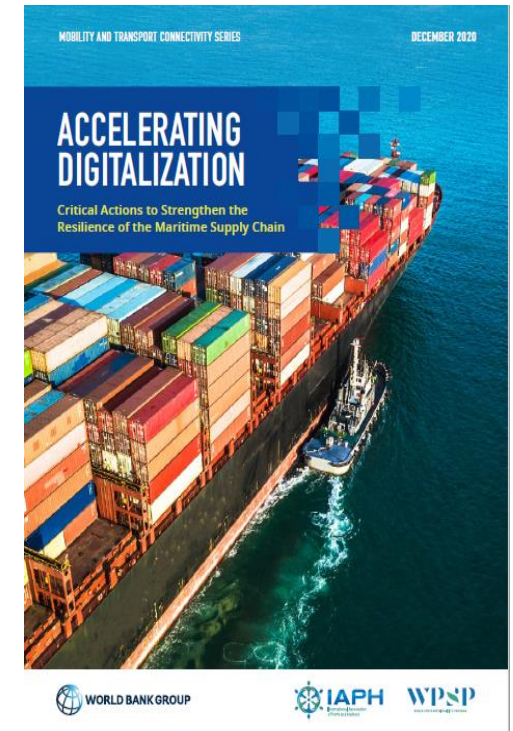
Part of the problem is the lack of digitalization, which can bring significant benefits to improve their performance and resilience

Figure 17: The presence of port community systems (PCS)



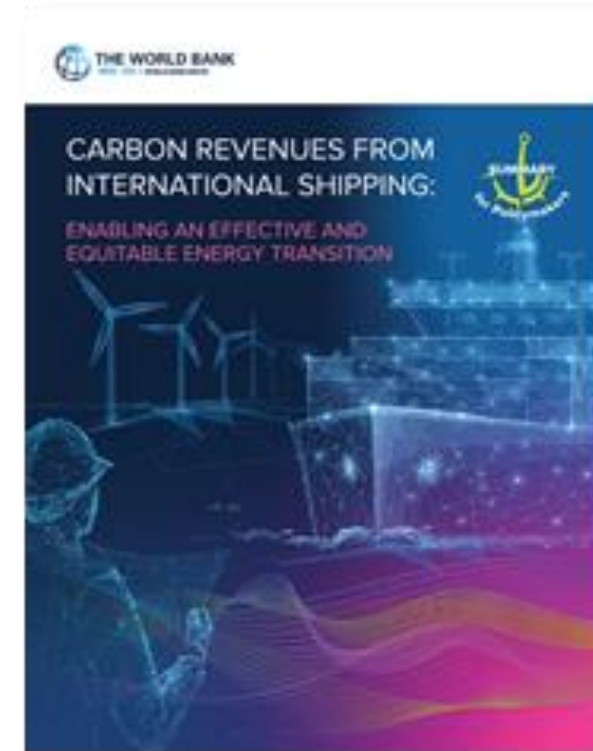
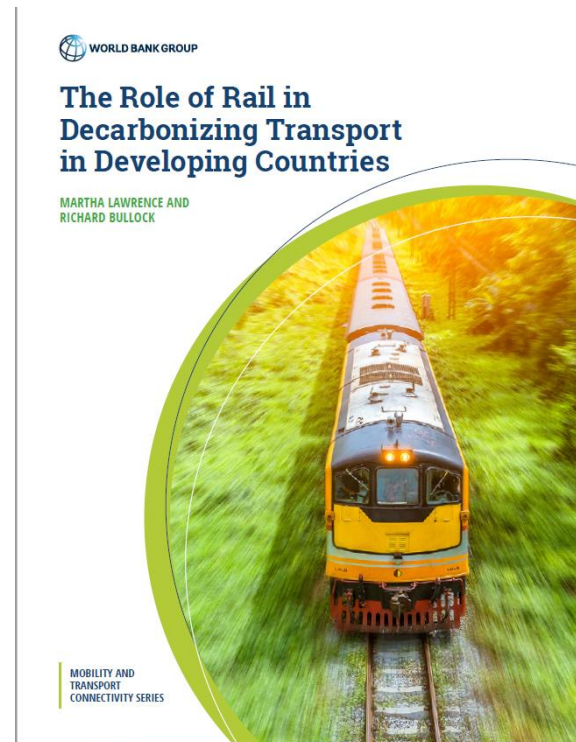
Source: Maritime Street database (2021)

- As of November 2020, only 49 of the 174 member states of the International Maritime Organization (IMO) possess functioning port community systems (PCSs);
- In SSA, only 36.36 percent of reporting ports (n=11) had an operational PCS; and
- New survey underway now.



Improving logistics for food security also provides an opportunity to decarbonize transport

- Moving from road to greener modes (rail or river-based transport);
- Greening freight services (trading of used vehicles, scrapping programs, professionalization of trucking industry, reducing empty backhauls);
- Enhancing the climate resilience of transport infrastructure and services; and
- The World Bank are also actively participating in the dialogue at the IMO and elsewhere over the decarbonization of the maritime sector. This could potentially generate \$40-60 billion in carbon revenues annually to offset climate impacts in LDCs and SIDs.



In conclusion

- Logistics costs can represent up to 50% of food prices, which means food costs can account for 50 – 70% of household expenditures in the poorest countries;
- Recent crises have shown that freight costs can increase tenfold in a short period of time, with major implications for food supply chains;
- The Bank's regional logistics corridor projects combine hard infrastructure investments and soft trade facilitation policies and have been effective at reducing logistics costs; and
- To further enhance the impact of these projects, we are working on a new generation of regional projects, informed by new modelling approaches, with attention to port performance, digitalization, and the climate footprint of global food supply chains.



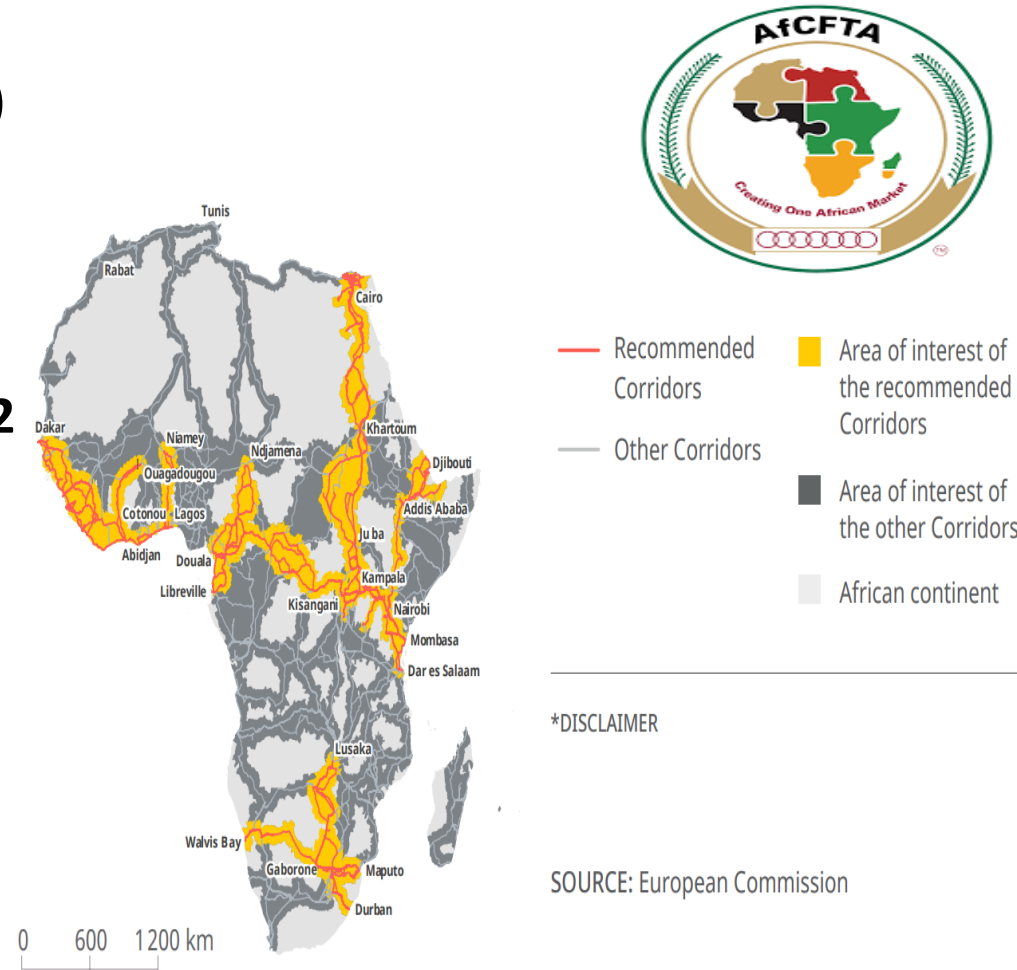
Happy to answer any questions?



Annex

This will be done in concert with partners, to support the implementation of AfCFTA

- **The World Bank is actively supporting implementation of the African Continental Free Trade Agreement (AfCFTA, March 2018) which seeks to harness market and trade opportunities locally, regionally, and internationally.** It has established the largest free trade area in the world — 55 nations, 1.3 billion people, \$3.4 trillion of GDP;
- **The World Bank estimates that aggregate gains in output of \$212 billion or 1.3 percent relative to the baseline in 2035 could be attained;**
- Key African partners include: Africa Union, RECs, corridor management institutions, and the countries.
- Potential financing partners include: the EC (Development Gateway initiative), AfDB, bilateral partners.
- Private partners: business community, IFC/MIGA.



There are also many examples of earlier Connectivity projects contributing to food security

- Cameroon-Chad Transport Corridor (FY22, \$538M)
- Lome-Ouagadougou-Niamey Economic Corridor (FY22, \$470M)
- Horn of Africa Gateway Development Project (FY21, \$750M)
- Southern Africa Trade and Transport Phase 1 and 2 (FY13, \$213M and FY15 \$69M; FY22, \$22M AF)
- Western and Central Africa CEMAC Transport-Transit (FY07, \$201M; FY10, 11 and 13 AFs for \$454M)
- Liberia Southeastern Corridor Project (FY19, \$29M)
- Burkina Transport Modernization and Corridor Trade Facilitation (FY17, \$20M)
- Cote D'Ivoire Transport Modernization and Corridor Trade Facilitation (FY17, \$30M)
- Eastern and Southern Africa Regional Transport and Trade (FY15, \$500M)
- Abidjan-Lagos Trade and Transit (FY12, \$90M)
- First and Second Central Transport Corridors in Tanzania (FY04, \$122M and FY08, \$190M; FY13 \$100M AF)
- Transport Corridors Improvement in Mali (FY04, \$49M)
- Northern Corridor Improvement in Kenya (FY04, \$207M, and FY09, \$253M AF)
- Uganda Northeastern Corridor (FY14, \$244M)

Project	PDO
Lome-Ouagadougou-Niamey Economic Corridor Project (P16838)	to improve regional connectivity and socio-economic community infrastructure along the corridor between the capital cities of Togo, Burkina Faso, and Niger.
West Africa Food System Resilience Program (FSRP): Phase 1 (P172769) and Phase 2 (P178132)	To increase preparedness against food insecurity and improve the resilience of food systems in participating countries.
Food Systems Resilience Program for Eastern and Southern Africa (P178566)	To increase the resilience of food systems and preparedness for food insecurity in Project areas
Tanzania Roads to Inclusion and Socioeconomic Opportunities (Rise) Project (P164920)	To improve rural road access and provide employment opportunities for population in selected rural areas and build capacity in the sustainable management of rural roads incorporating community engagement approaches.
Resilient Transport for Agricultural Productivity and Commercialization	Compliment/scale up rural road corridors identified under MCA and promote resilient infrastructure to agricultural areas. Climate vulnerability assessment to be done on the particular selected corridors for resilience building.