



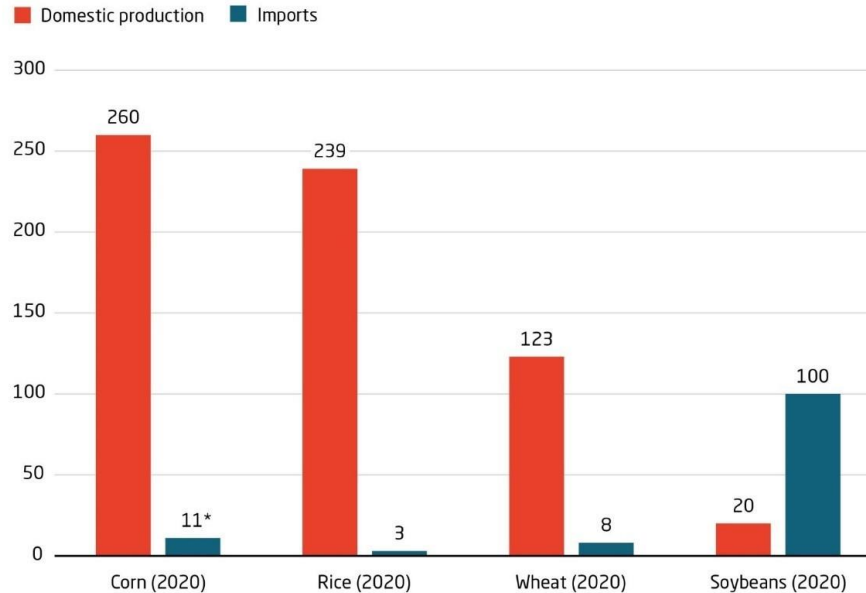
Geopolitics of Fertilizer Supply Chains |
October 26th 2023

**Fertilizer Supply Chains in Africa:
Decarbonization, Securitization and Green
Industrial Development**

**China as a Global
Agri-Business Player**

China can feed itself - for now

China's key foodstuffs: production vs imports
Million tons



* The NBS does not present annual corn imports, but this number was reported by the General Administration of Customs

Source: National Bureau of Statistics



China's radical food security strategy

- 95% Self-sufficiency rate in grains
 - Tools: import quota and tariffs, COFCO
- China holds world's biggest grain reserves
 - Maize (corn) 69 %, rice 60 %, wheat 51 %, 37 % soybeans (according to Asia Nikkei estimates)
 - “National supply in the domestic grain market is fully guaranteed and grain reserves are at a historical high level” (National Food and Strategic Reserves Administration, Nov. 2021)
- Despite being the world's largest food importer, China faces less exposure to global trade in staple supplies
- Substantial risks in feed grains for meat consumption

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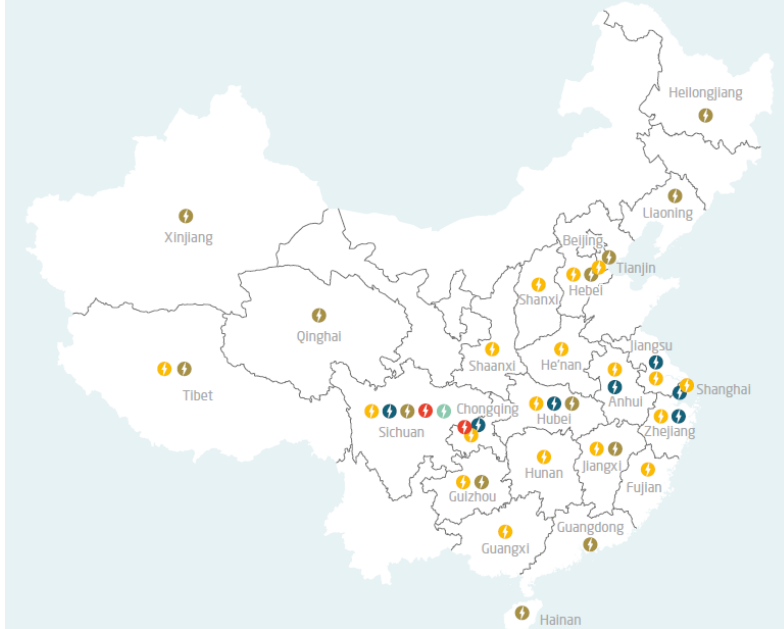
China food security challenges

Domestic supply shocks: e.g. September 2022

Calamities abound: some provinces struggle with multiple challenges

Documented natural disasters, energy shortages and Covid-outbreaks across different regions

🔥 Extreme heat/drought 🌊 Energy shortage 🦠 Covid 🔥 Wildfire 🌋 Earthquake



Long term issues

- **Issues:** soil exhaustion, pollution, drought, freshwater resources
- **6 % decrease of arable land** between 2009 and 2019 1.28 million sq km (Ministry of Natural Resources)
- **Urbanization and an ageing rural workforce** are estimated to bring a grain supply gap of about 130 million tons by the end of 2025 (Chinese Academy of Social Sciences)

Food supply - a matter of national security concern

Selection of recent measures

14th 5- Year Plan (2021-2025)

- Aims include greater output through agricultural and rural modernization and supply guarantees for grain and other foodstuffs
- Annual grain production target of more than 650 million metric tons

Seed supply

- Push for domestic self reliance in seeds / **“the computer chips for agriculture”**
- Greater **use of technology** to stabilize crop yield and ensure supplies (2021 Document No 1)
- Support of domestic biotech companies and increased approval of GM products standards

Anti-corruption

- Zhang Wufeng, former director of the National Food and Strategic Reserves Administration, is under investigation by China’s anti-corruption agency (June 2022)
- Sweeping crackdown on sector is reaching high into senior levels of government

Grain reserve management

- China’s state stockpiler Sinograin and top state-owned grains trader COFCO have set up a joint venture China Enterprise United Grain Reserve Co. Ltd (Aug 2022)
- Restructuring to streamline management of the China’s huge grain reserves

Fertilizers policy: between carbon emission goals and food security concerns

Industrial policies & protectionist measures

- China's fertilizer industry has been undergoing a significant transformation with focus on sustainability, efficiency and technological innovation
- increased investment in research and development to enhance competitiveness of fertilizer products; techniques that allow the most efficient use of fertilizers

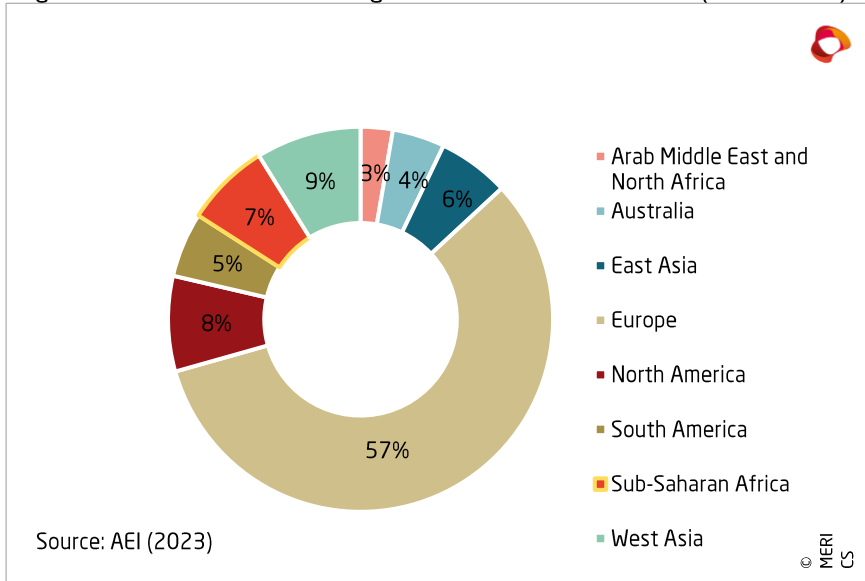
Carbon neutrality goals by 2060

- Goals to reduce production and application of mineral fertilizer due to targets to peak carbon dioxide emissions before 2030 and achieve carbon neutrality by 2060
- "Action Plan for Zero Growth of Chemical Fertilizer Use by 2020" (adopted in 2015)
- China's use of fertilizers has peaked at 74 million tons in 2015 and has since declined to 44.44 million tons in 2021

China's global agricultural activities in comparison

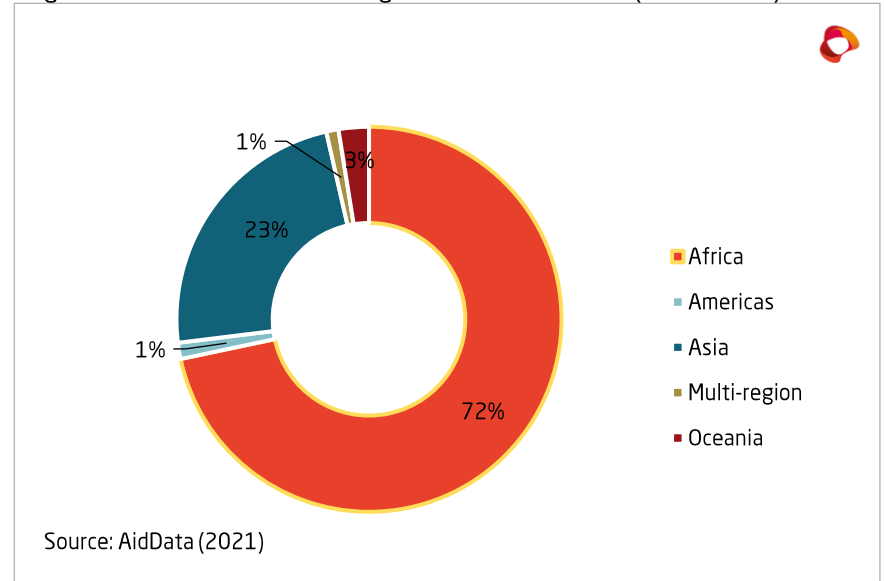
Sub-Saharan Africa is not a significant destination of China's agricultural investments

Regional distribution of China's agriculture related investment (2005-2023)



Africa is China's main food aid recipient

Regional distribution of China's agriculture-related ODA (2000-2017)



COFCO China Key Agri-Trade Actor

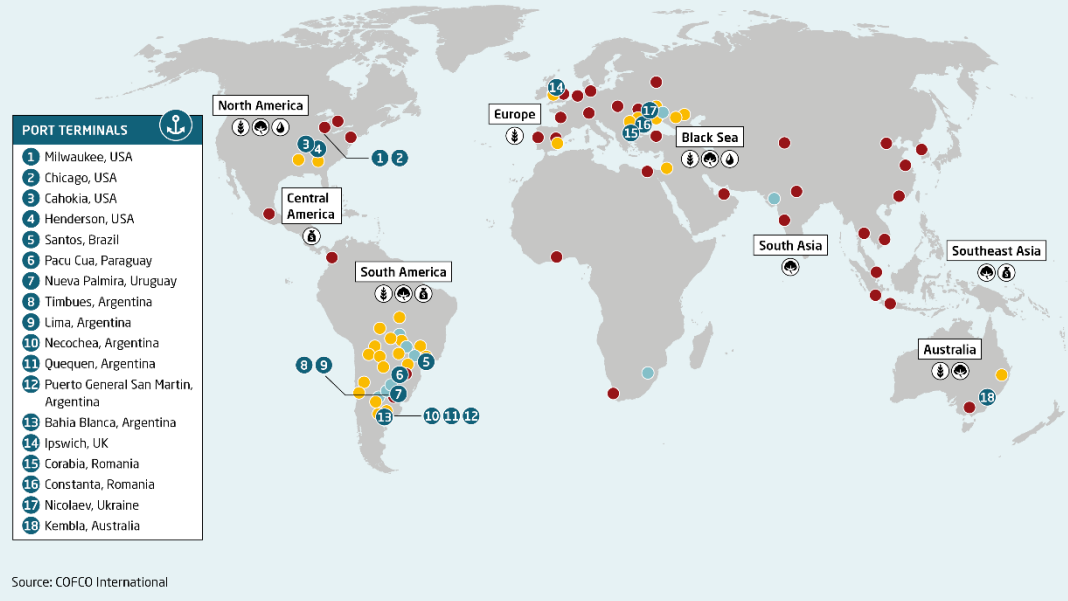
COFCO Group (China Oil and Foodstuffs Corporation)

COFCO trades globally, is most concentrated in three regions

The bread baskets of the American midwest and the Black Sea and the growing soybean center of the Rio de la Plata region

● Warehouse and storage ● Processing ● Port terminal ● Main commercial/trading offices

Export center: ☉ Cotton ☪ Grains ☴ Oilseeds ☪ Sugar



COFCO

stabilizes supplies and market prices for commodities though countering any local shortfalls through imports

- In contrast to the 'ABCD companies', COFCO trade links lead back to China
- Revenue: 76.8 billion USD
- Little COFCO presence in Africa

China is turning to Africa to bolster food security

Agricultural trade

2022/2023 Crisis Management

Questions

- Chinese food imports increased from 13 billion USD in 2000 to 161 billion USD in 2020, but Africa's share is just 2.6%
- China-Africa summit: Xi announces to boost China's imports from Africa to 300 billion USD a year by 2035 with agricultural products likely to play a key driver
- "Green lanes": provinces plan to create Africa-focused FTZ, and connect to major African hubs
- Biggest single buyer of Ukrainian grain following Black Sea Grain Initiative (88 out of 33 mn tons)
- China's import has increased slightly, 13% increase in grain reserves spending
- Assistance: 3 million USD to the World Food Program and 50 million USD to the China-FAO South-South Cooperation Trust Fund, Capacity training as part of the Global Development Initiative (GDI)
- No substantial releases from grain reserves since beginning of the Ukraine war
- Will China increase investments in agricultural investments in Africa? What are the challenges for investments?
- Faced with decarbonization and energy-related challenges at home, will China turn to other countries to produce fertilizers?