Global agri-food value chains for cereals in the MENA region, with mapping of players, trade flows, and product exchange.

July 2025

The STAPLES project partner Collegio Carlo Alberto (CCA), in collaboration with the Economic Research Forum, has authored a research deliverable providing an initial analytical study of global agri-food value chains[1] for cereals among six Middle East and North Africa (MENA) countries — Algeria, Egypt, Jordan, Lebanon, Morocco, and Tunisia — over the last two decades (1995–2023). Here we highlight the key findings and insights emerging from this study.

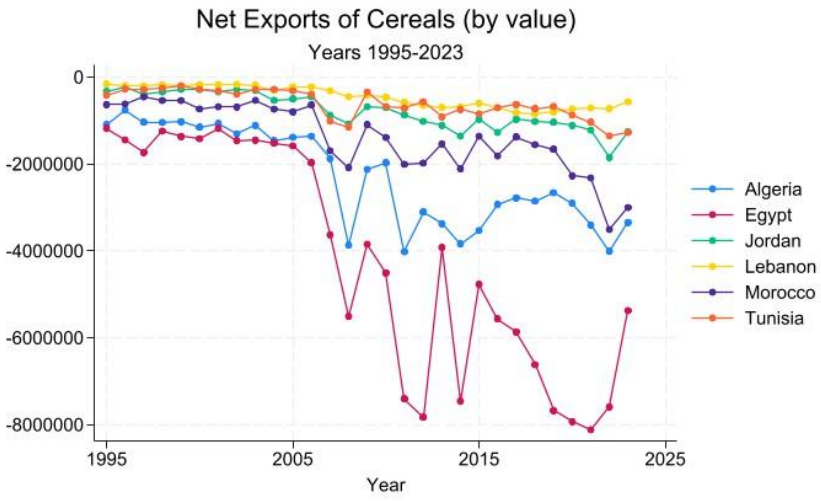
Key insights into the MENA region's cereal value chains

In the context of cereals, the cereal value chain includes the entire process, from growing the grain to delivering the final product to consumers. The study focuses on selected stages of this chain such as primary production (cultivation), and processing and transformation (milling). The report provides a comprehensive assessment of cereal trade in these countries, analysing disaggregated data over the two decades to highlight differences and similarities in exports, imports, participation in global and regional value chains, centrality, and shifts in trading partners, examined across different levels of processing.

Cereal dependence and agricultural constraints

Cereals form the backbone of diets in the MENA region countries, with wheat alone accounting for more than half of the total calorie intake in many nations. However, the region's arid climate, limited arable land, and water scarcity constrain local agricultural production, making MENA heavily reliant on imports to meet domestic demand, despite being cereal producers and exporters (Figure 1).

Figure 1: Net exports of cereals (selected MENA countries).



Source: Authors' own elaboration using BACI database.

[1] In the context of cereals, the value chain encompasses the entire process from growing the grain to delivering the final product to consumers. This study focuses on selected stages of this chain: primary production (cultivation), processing and transformation (milling).

The MENA region countries are generally *net importers* of cereals, meaning they import more than they export, to meet domestic food demand. Although some MENA countries have significant cereal production, the region as a whole remains heavily reliant on imports to ensure food security. They are among the most food-import-dependent countries globally speaking, particularly for staple cereals such as wheat, maize, and barley. The European Union, for example, significantly increased its cereal exports to the MENA region to address market disruptions—particularly in wheat—recording a 300% increase in July 2022 compared to the same month of the previous year.[2] The MENA region's heavy reliance on cereal imports makes its supply chains particularly sensitive to a combination of global and regional stressors.

This dependence exposes countries to global market volatility, geopolitical tensions, and supply disruptions—risks that have become increasingly evident amid crises such as the COVID-19 pandemic, the Russia-Ukraine war, and climate-related shocks. Therefore, securing reliable and resilient cereal supply chains in the MENA region is a strategic imperative, as it is critical for food security, political stability, and socioeconomic development across the region.

Securing cereal supply chains for resilience and stability

A secure cereal supply chain ensures the continuous availability of affordable food, especially for vulnerable populations. It also helps prevent the socioeconomic unrest that can stem from sudden food shortages or price spikes. For governments, safeguarding cereal flows involves diversifying import sources, investing in strategic grain reserves, modernizing port and storage infrastructure, and enhancing regional cooperation.

Moreover, boosting local cereal production where feasible—through improved irrigation, technology, and sustainable farming practices—can reduce over-reliance on imports and improve long-term resilience. Equally important is the development of robust logistics, transparent trade policies, and digital systems for early warning and supply chain management. Overall, securing cereal supply chains in the MENA region is not merely a food policy issue. It is a matter of national and regional stability.

High import concentration and cereal trade risks

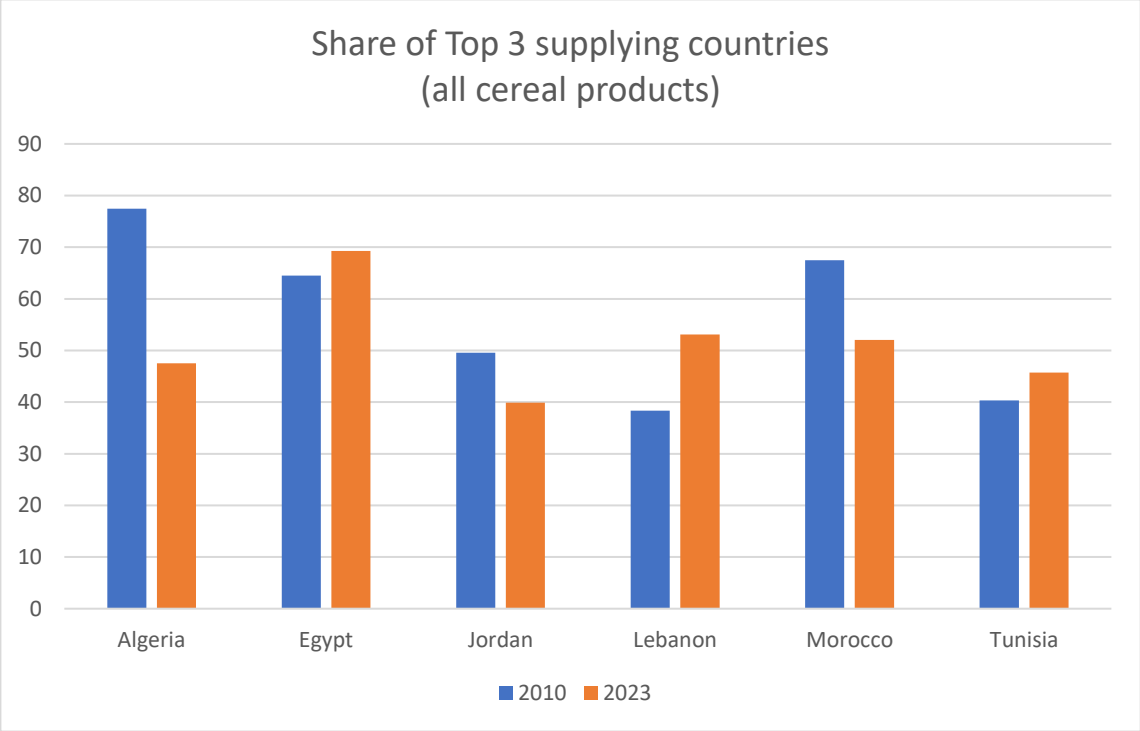
As one of the major sources of vulnerability to external shocks is high import market concentration—i.e., a country's reliance on a small number of suppliers—the report examines its evolution for cereal imports by processing level (unprocessed, semi-processed, and processed) across the countries under study (Figure 2). The data show a rather high import market concentration in 2023, ranging from 40% to above 69% of cereal imports (for Jordan and Egypt, respectively) being supplied by the top three supplying countries.

Although concentration is rather high for all the countries under examination, a major distinction stands out between countries that have experience a decline in concentration since 2010, and those that instead have experienced a further increase. For half of the selected countries – Algeria, Jordan

[2] https://agriculture.ec.europa.eu/media/news/latest-monthly-agri-food-trade-report-eu-boosts-its-exports-cereals-2022-10-26_en

and Morocco – import market concentration has declined since 2010. For the other half – Egypt, Lebanon and Tunisia – concentration has increased.

Figure 2: Dependence on main cereal exporting partners (2010–2023).



Source: Authors' own elaboration using BACI database.

Regarding import concentration by level of processing, the report shows a rather high supplying country concentration for unprocessed, semi-processed, and processed cereals across the six MENA countries for the period 2010-2023. These results highlight the need for targeted trade diversification strategies for all categories: unprocessed, semi-processed, and processed cereal imports. While some countries focus on diversifying raw cereal imports, they remain vulnerable in the processed category, due to limited domestic processing capacity, as well as to trade ties with a few key exporters of finished cereals, as confirmed by the network analysis of trade flows performed in the report.

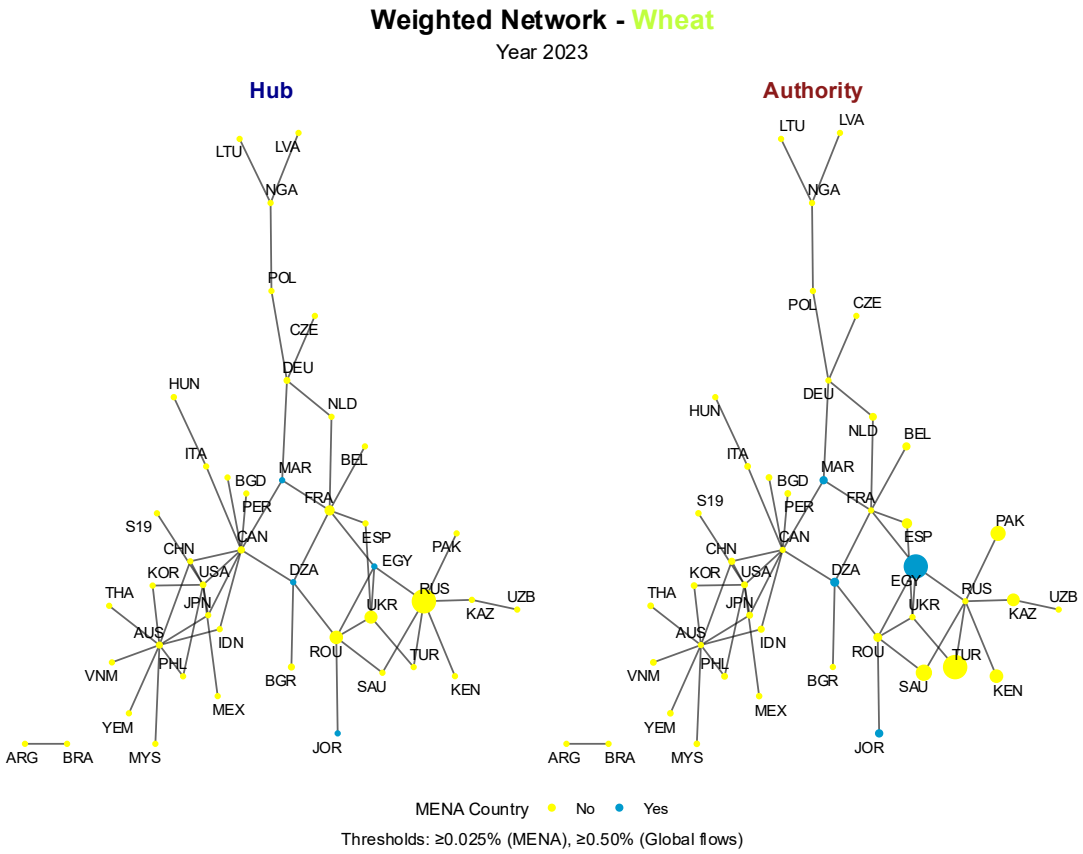
Egypt's role in the wheat trade network

The network analysis confirms Egypt's prominent authority role in the wheat trade network, driven by its strong ties to major global wheat hubs—namely Russia, Romania, and Ukraine—despite a reduction in its centrality following the Russian invasion, as illustrated in Figure 3. In contrast, Algeria and Morocco appear to have diversified their sources of wheat supply more extensively.

While authority scores typically signal a country's centrality in receiving goods from key exporters, this is not necessarily beneficial. In Egypt's case, a high authority score indicates a strong dependence on a limited number of major suppliers—primarily those located in geopolitically sensitive regions. This level of reliance increases vulnerability to external shocks, such as trade disruptions, geopolitical tensions, or climate-related supply issues. Therefore, centrality in the import network—particularly

when concentrated around a few hubs—may reflect a structural weakness rather than a position of strategic influence.

Figure 3: Weighted representation of the wheat trade network (2023).



Source: Authors' own elaboration using BACI database.

Trade performance and vulnerabilities

The analysis of the trade performance and structure of cereal trade in the selected countries shows that cereal supply chains in the region are vulnerable to a wide range of stressors, some of which will be explored in future in-depth reports. These stressors can disrupt production, transportation, trade, storage, and distribution, putting pressure on already fragile food systems. The most significant stressors include geopolitical instability and armed conflict, global market volatility, climate change and environmental stress, and supply chain disruptions.

The STAPLES project is part of the PRIMA Programme supported by the European Union under Grant Agreement No. 2333.