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Fifty Years of Food Security in Egypt (1975–2025): Wheat Dependence, Bread Subsidies, Land Reclamation and the Limits of Self-Sufficiency

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Abstract

Egypt is the clearest case in the Middle East of a country whose food security depends on a single imported staple. Between 1975 and 2025 its population roughly tripled, from about 37 million to more than 107 million, while the cultivable area confined to the Nile Valley and Delta grew far more slowly. This review traces the country's food-security trajectory across five decades using production and trade data from the United States Department of Agriculture, yield statistics from the World Bank, national strategy documents and the peer-reviewed literature. Domestic wheat production rose almost fivefold, from about 2.0 million tonnes (Mt) in 1975 to roughly 9–10 Mt in the 2020s, driven by improved varieties and a doubling of yields. Consumption, however, rose from about 5.7 Mt to 18–20 Mt, so that imports climbed from 3.8 Mt to around 12 Mt per year in 2017–2021, making Egypt one of the world's largest wheat buyers and leaving self-sufficiency at 46–49% in 2023–2024. The universal baladi bread subsidy, defended since the 1977 bread riots, has served as the backbone of household food access, reaching about 70 million people, but its fiscal cost exposes the state to global price and currency shocks, as shown in 2008, 2011, 2016 and 2022–2024. The first increase in the subsidised loaf price in three decades (from 5 to 20 piastres in June 2024) marked a turning point. Egypt ranked 77th of 113 countries in the 2022 Global Food Security Index. The review concludes that full cereal self-sufficiency is neither feasible nor necessary, and that resilience will depend on water productivity, diversified import sourcing, strategic storage, targeted social protection and climate adaptation in the Delta.

Keywords: *Egypt; food security; wheat imports; self-sufficiency; baladi bread; food subsidies; land reclamation; Nile; Global Food Security Index; climate change*

1. Introduction

Food security, as defined at the 1996 World Food Summit, exists "when all people, at all times, have physical and economic access to sufficient, safe and nutritious food" (FAO, 1996). The definition rests on four pillars: availability, access, utilisation and stability. Egypt illustrates how these pillars can move in opposite directions. Food availability, measured in calories per person, has long been high by regional standards, and outright hunger is rare. Stable access, however, depends heavily on the state's ability to import and subsidise wheat. That ability is in turn exposed to world prices, the exchange rate and the foreign-currency position of the central bank.

The period from 1975 to 2025 spans several distinct policy regimes:

- the late state-socialist economy and Sadat's *infitah* (opening);
- the structural adjustment programmes of the 1990s;
- the global price crises of 2007–2008 and 2010–2011;
- the currency float of 2016;
- the Russia–Ukraine war and the foreign-exchange crisis of 2022–2024.

Each period left a visible mark on wheat production, imports and bread policy. This review synthesises those changes and assesses what they imply for the next quarter-century.

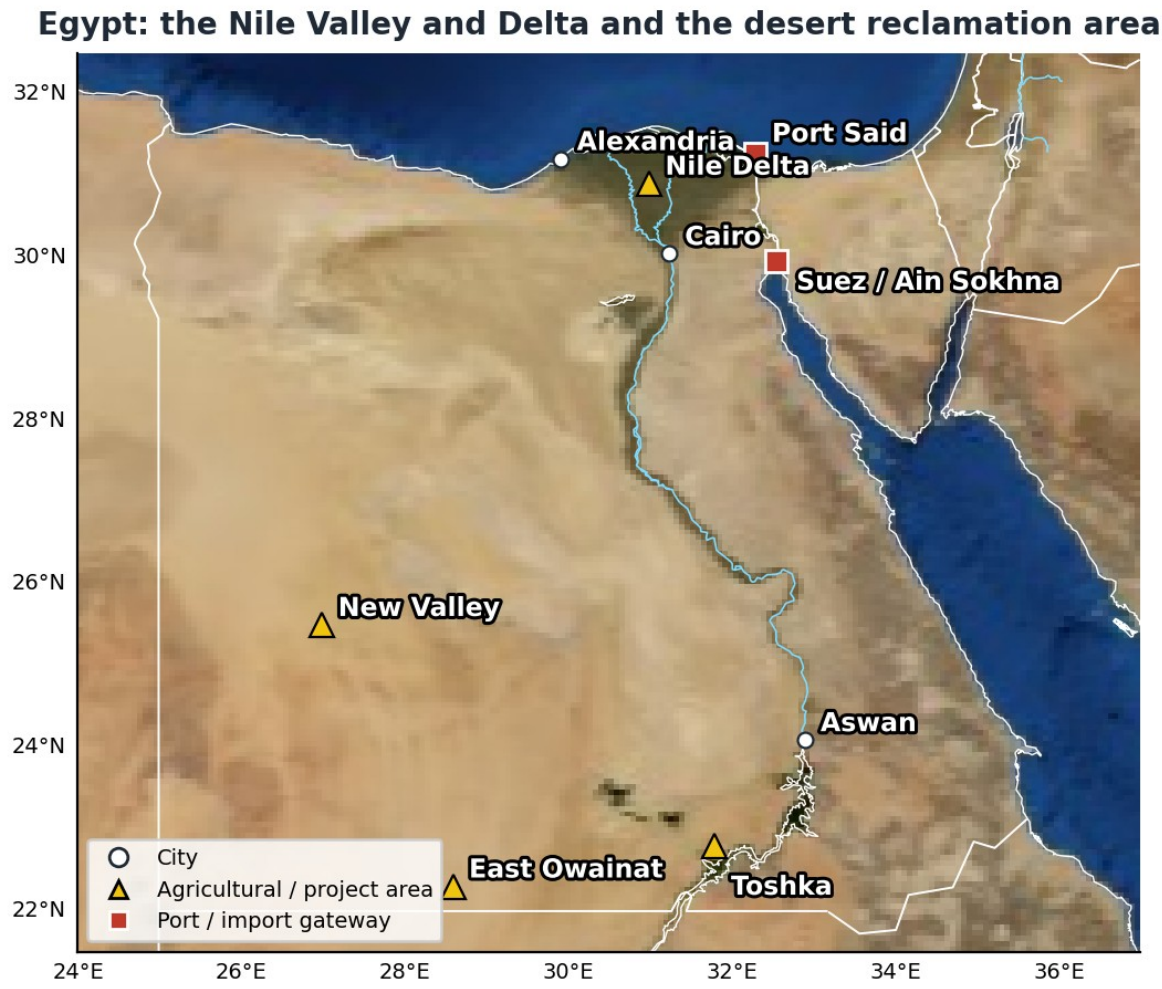


Figure 1. Satellite view (NASA Blue Marble composite) of Egypt showing the narrow ribbon of irrigated land along the Nile Valley and Delta, which carries almost all of the country's agriculture and population. Triangles mark the main desert land-reclamation areas (New Valley, Toshka and East Owainat). Squares mark the Mediterranean and Red Sea ports through which most imported wheat arrives.

2. Methods and sources

This is a narrative review. Production, consumption and import series for wheat for 1975–2005 were taken from the USDA Production, Supply and Distribution (PSD) database as published by IndexMundi. More recent figures come from:

- CGIAR;
- USDA Foreign Agricultural Service reporting relayed by trade press;
- Egyptian and regional financial media reporting official trade data.

Cereal yields come from the World Bank World Development Indicators. Policy history was reconstructed from IFPRI research reports, the national Sustainable Agricultural Development Strategy towards 2030, and peer-reviewed analyses of wheat self-sufficiency. Where sources use different bases (marketing year versus calendar year, or government versus total imports), the differences are noted in the text and figure captions rather than reconciled numerically.

3. Availability: five decades of rising production and faster-rising demand

3.1 Wheat production

Egypt's wheat output stagnated at around 1.8–2.0 Mt between 1975 and 1985. During this period low procurement prices and compulsory delivery quotas discouraged farmers, and berseem clover for livestock competed for winter land (Kherallah et al., 2000). Liberalisation of input and output markets from the late 1980s, together with a national wheat campaign and the release of high-yielding varieties, changed the picture quickly. Production doubled to 4.3 Mt by 1990 and reached 6.4 Mt in 2000 and 8.2 Mt in 2005 (USDA PSD).

Output has since fluctuated around 8–10 Mt. CGIAR reports about 9.8 Mt in 2021, and early estimates for the 2024/25 season were near 9.2 Mt.

The gains came mainly from higher yields rather than more land. Abdelmageed et al. (2019) document a rise in national average wheat yield from about 3.3 t/ha in 1981 to about 6.5 t/ha in 2017. These are among the highest irrigated wheat yields in the developing world. They were achieved through successive Giza, Sakha, Gemmeiza and Misr cultivar series, raised-bed planting and improved fertiliser management. Cereal yields as a whole followed the same path (Figure 3).

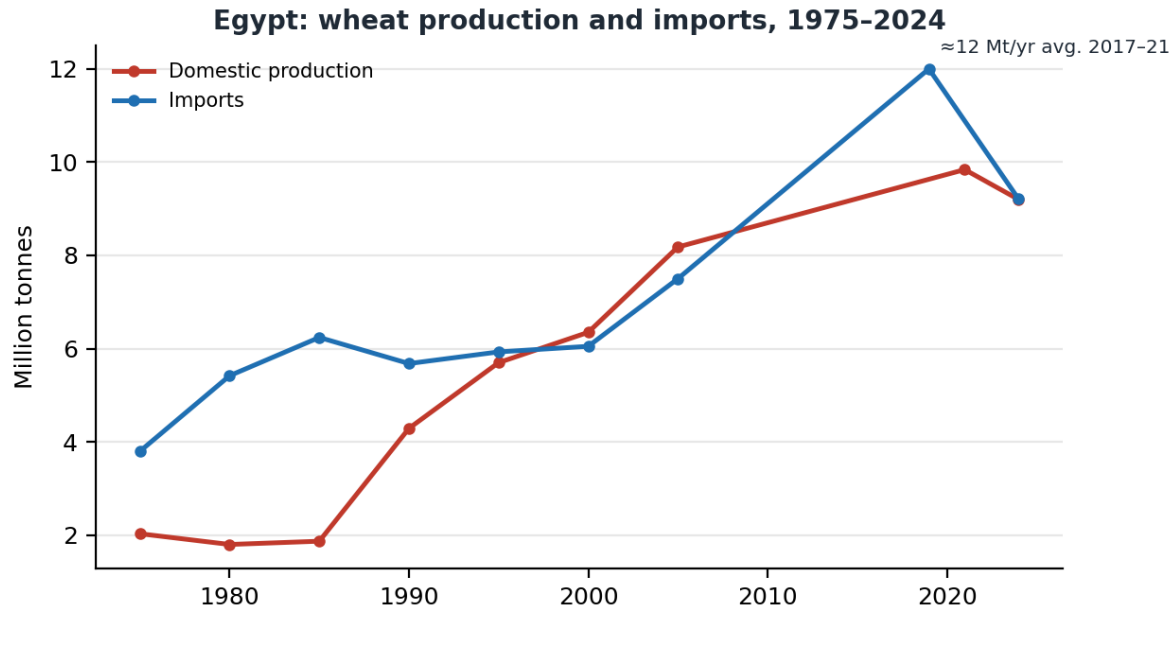
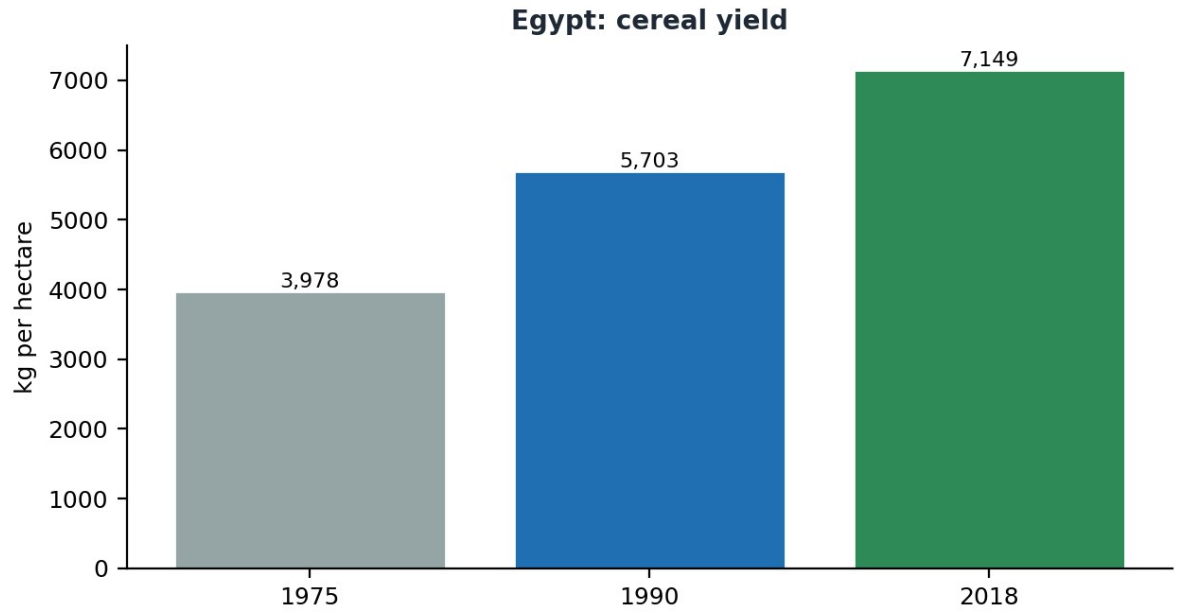


Figure 2. Egyptian wheat production and imports, 1975–2024. Values for 1975–2005 are USDA PSD five-year points. The 2019 import point is the 2017–2021 average of about 12 Mt per year, and 2021 production is from CGIAR. 2024 imports (9.2 Mt) are calendar-year customs data and are not strictly comparable with USDA marketing-year totals, which put 2024/25 imports nearer 12 Mt.



Source: World Bank WDI (AG.YLD.CREL.KG). via IndexMundi.

Figure 3. Average cereal yield in Egypt, 1975, 1990 and 2018 (kg/ha). Yields rose by about 80% over the period, among the highest gains in the region, but the land base remained the binding constraint.

3.2 Consumption and the import gap

Demand grew faster than supply. Total wheat consumption rose from about 5.7 Mt in 1975 to 10.3 Mt in 1990, 12.5 Mt in 2000 and 14.8 Mt in 2005 (USDA PSD), and it now stands at roughly 18–20 Mt. Three forces drove this:

- **Population growth:** the population rose from about 37 million to over 107 million.
- **Urbanisation.**
- **Cheap subsidised bread,** which keeps per-capita wheat consumption among the highest in the world, at roughly 180–200 kg per person per year once feed and waste are included.

As a result, imports grew in step with production rather than shrinking. They rose from 3.8 Mt in 1975 to 6.2 Mt in 1985, stayed around 5.7–6.1 Mt through the 1990s, and climbed to 7.5 Mt in 2005. They averaged about 12 Mt per year in 2017–2021 (USDA, reported by Milling MEA).

Calendar-year customs data show imports of about 9.5–9.6 Mt in 2022, 11 Mt in 2023 and 9.2 Mt in 2024. The 2024 imports cost about US$4.4 billion. USDA projected 2024/25 marketing-year imports at a world-leading 12 Mt (World-Grain, 2024).

Self-sufficiency in wheat therefore remained below one half: about 46% in 2023 and 49% in 2024 (Figure 4). The Sustainable Agricultural Development Strategy towards 2030 sets a target of 80.8%. Abdalla, Stellmacher and Becker (2022) assessed the prospects of meeting it. They concluded that closing the gap would require simultaneous yield gains, horizontal expansion and demand-side reform, and that no single lever is sufficient.

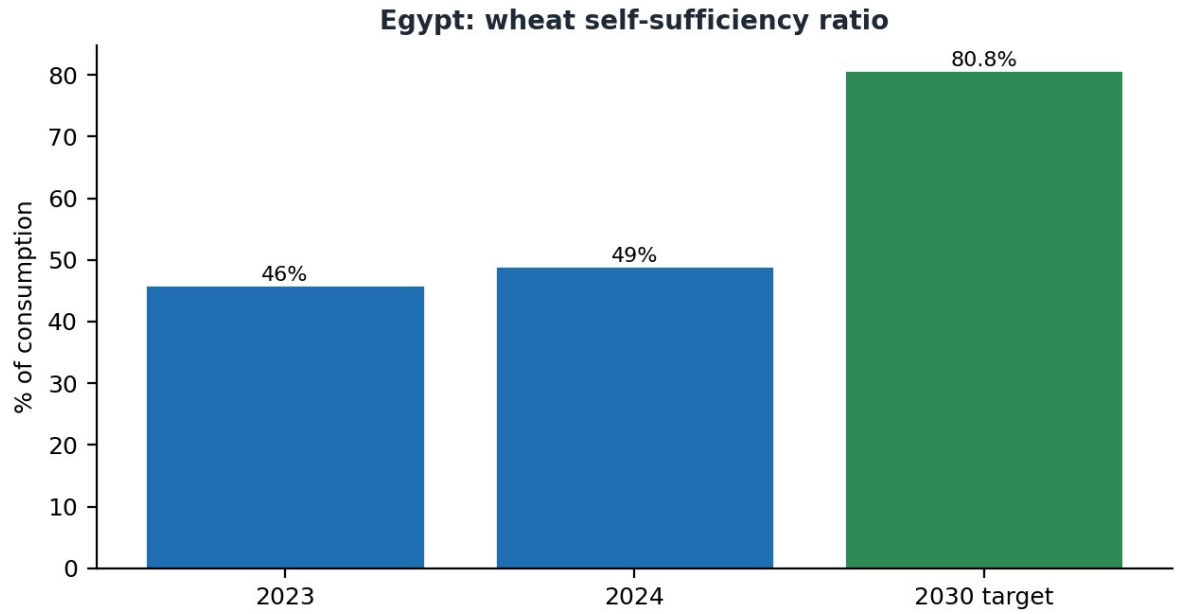


Figure 4. Egypt's wheat self-sufficiency ratio in 2023 and 2024 compared with the 2030 national target of 80.8%.

3.3 Land and water: the structural ceiling

Egypt's agricultural area is around 3.7–4 million hectares. Its renewable freshwater is dominated by a Nile allocation of 55.5 billion cubic metres per year that has not changed since the 1959 agreement with Sudan. Per-capita water availability has fallen well below the 1,000 m^3 scarcity threshold.

The "virtual water" embodied in imported wheat therefore functions as a hidden water supply (Allan, 1998). Without imports Egypt would need several additional billion cubic metres of irrigation water that it does not have. Desert reclamation projects aim to push the land frontier into the Western Desert and Sinai, using groundwater from the Nubian Sandstone aquifer and Nile water delivered by canal:

- Toshka (from 1997);
- East Owainat;
- the New Delta (from 2021).

These schemes have added productive land. Their cost per hectare, however, is high, and their long-term sustainability depends on fossil aquifer drawdown and on securing Nile flows. The operation of the Grand Ethiopian Renaissance Dam has made Nile flows more uncertain.

4. Access: the bread subsidy as a social contract

4.1 Origins and the 1977 riots

Egypt's ration system dates from the Second World War. It was expanded under Nasser, and by the 1970s it subsidised bread, flour, sugar, oil and other staples. In January 1977, the government attempted to cut subsidies as part of an IMF-backed adjustment programme. Nationwide riots followed and the decision was reversed within two days (Reuters, via Arab

News, 2024). The episode established a lasting political norm that the price of the subsidised loaf is untouchable.

For the next four decades, reform proceeded mainly through quiet changes rather than headline price increases:

- reducing loaf size;
- narrowing the list of subsidised goods;
- closing ration-card registration for newborns from 1989;
- tightening eligibility (Ahmed et al., 2001).

4.2 Smart cards and the 2024 price increase

A smart-card system introduced in 2014 limited each registered person to five loaves of *aish baladi* per day. Unused entitlements could be converted into points for other subsidised goods. By 2024 the system covered about 71 million of Egypt's 106 million people (The National, 2024).

Each year the state produces about 100 billion subsidised loaves, which requires about 8.5 Mt of wheat. About 3.5 Mt of this is procured from local farmers and the rest is imported (Reuters, via Devdiscourse, 2024).

On 1 June 2024 the price of the subsidised loaf was raised from 5 to 20 piastres, the first increase since the late 1980s. Even at the new price, the loaf covers only about 16% of its production cost (World-Grain, 2024). The government allocated about EGP 125 billion (US$2.65 billion) to bread subsidies in the 2024/25 budget, up from EGP 91 billion a year earlier.

The bread subsidy has protected minimum calorie access with remarkable consistency. Its weaknesses are poor targeting, leakages, and the encouragement of high-starch diets that contribute to Egypt's double burden of malnutrition: child stunting alongside high adult overweight and obesity.

Table 1. Major shocks to Egyptian food security, 1975–2025, and the policy response

Period	Shock	Main effect	Policy response
1977	IMF-linked subsidy cuts	Nationwide bread riots	Cuts reversed; loaf price frozen
1986–1992	Debt crisis, structural adjustment	Fiscal pressure on subsidies	Liberalisation of wheat prices and inputs; quiet subsidy narrowing
2007–2008	Global food price spike	Bread queues and shortages	Army bakeries; expansion of ration cards
2010–2011	Second price spike; revolution	Political crisis; "bread, freedom, social justice"	Subsidy budget expanded
2016	Currency float	Food inflation above 30%	Smart-card points system; cash transfers (Takaful and Karama)
2022–2024	Russia–Ukraine war; FX shortage	Import bill surge; supplier risk	Diversified origins; higher local procurement price; loaf price raised in June 2024

5. Stability: exposure to external shocks

5.1 Import concentration

Over the five years to 2022, Russia and Ukraine supplied about 82% of Egypt's wheat imports. The 2022 war therefore struck at both price and supply. Egypt responded in several ways:

- it widened its list of accepted origins, including India, France, Romania and Argentina;
- it relaxed specification rules;
- it raised the domestic procurement price by 25% for the 2024 harvest to attract more local grain (World-Grain, 2024).

Foreign-exchange constraints have been as important as physical supply. During 2022–2023 cargoes waited at port for letters of credit, and the procurement authority increasingly relied on deferred-payment and bilateral financing.

5.2 Macroeconomic channels

The pound was devalued in 2016, 2022 and March 2024, and each devaluation sharply raised the local-currency cost of imported food. Food inflation peaked above 70% year-on-year in 2023. This shows that, for an import-dependent country, food security is inseparable from balance-of-payments stability (Headey & Fan, 2008). Food access is also strained by the scale of poverty: around 60% of the population is estimated to live under or close to the poverty line.

5.3 Climate change

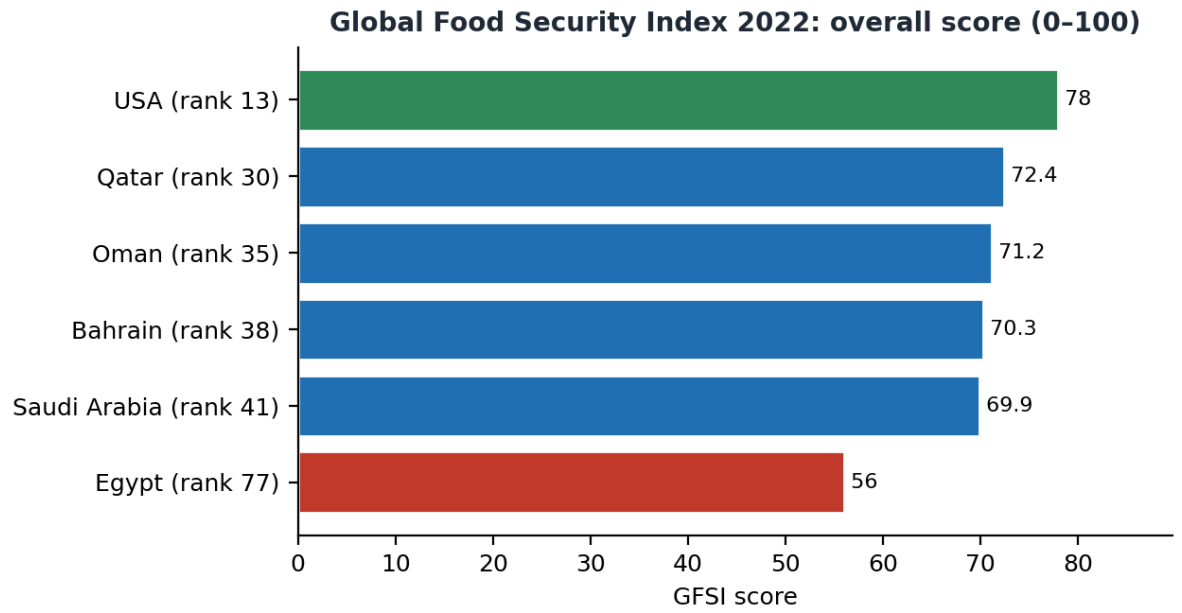
The Delta faces several threats:

- land subsidence;
- sea-level rise;
- seawater intrusion;
- soil salinisation.

Higher temperatures shorten the wheat grain-filling period. Crop models broadly project yield losses for wheat and maize under warming without adaptation. Adaptation options include heat-tolerant varieties, adjusted sowing dates and improved irrigation scheduling.

6. International comparison

In the 2022 Global Food Security Index (GFSI), Egypt scored 56.0 and ranked 77th of 113 countries, the lowest of the six countries reviewed in this series (Figure 5). It scores relatively well on the volatility of agricultural production and on food safety. It scores poorly on affordability, natural resources and resilience, and on public spending on agricultural research.



Source: Economist Impact, Global Food Security Index 2022 (113 countries).

Figure 5. Global Food Security Index 2022 overall scores for the six countries reviewed in this series. Egypt's score is held down by affordability and by exposure to natural-resource and climate risks.

7. Discussion: what fifty years teach

Four lessons emerge.

1. **Yield gains are real but bounded.** Doubling yields was one of Egyptian agriculture's great achievements, but it could not keep pace with a tripled population. Self-sufficiency in wheat has hovered around 40–55% for two decades.
2. **Subsidies buy stability at fiscal risk.** The baladi bread system has prevented hunger and contained unrest. It also transfers price and exchange-rate risk from households to the treasury, which became acute in 2022–2024.
3. **Water is the binding constraint.** Expansion into the desert is expensive and depends on fossil groundwater and on Nile flows that are increasingly regulated upstream. In water terms, importing grain is efficient.
4. **Resilience is more achievable than self-sufficiency.** Diversified suppliers, strategic silos (expanded substantially since 2014), forward contracting, and better-targeted cash-based social protection can reduce vulnerability more cheaply than chasing an 80% self-sufficiency target (Lampietti et al., 2011).

8. Conclusions and recommendations

Over fifty years Egypt has kept its population fed through a combination of rising yields, very large wheat imports and a universal bread subsidy. The system's main weakness is exposure to foreign-exchange and global price shocks rather than domestic production failure. Priorities for the coming decades are:

- raising water productivity on old lands through laser levelling, improved surface irrigation and drought- and heat-tolerant varieties;
- continuing to diversify import origins and storage capacity;

- gradually shifting from universal price subsidies towards targeted, indexed cash or card transfers that protect the poorest;
- integrating nutrition objectives into the subsidy basket;
- treating Delta protection from sea-level rise and salinity as a food-security investment.

Declarations

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Data availability: No new primary data were generated. All values shown in figures and tables are taken from the cited sources. Satellite base maps use the NASA Blue Marble composite (public domain) rendered with the Basemap library.

Use of generative AI: The author used Claude (Anthropic) to assist with literature searching, drafting and figure preparation. The author reviewed and edited all content, verified the references and takes full responsibility for the published article.

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