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Food Security in the Sultanate of Oman, 1975–2025: Fisheries, Falaj Agriculture and the Rise of Diversified Self-Sufficiency

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Abstract

Oman differs from its Gulf neighbours in several respects relevant to food security: a long Arabian Sea coastline with productive fisheries, a monsoon-influenced southern region (Dhofar), an ancient irrigation tradition based on the falaj system, and major ports at Sohar, Duqm and Salalah that lie outside, or at the mouth of, the Strait of Hormuz. Since the start of the modern state in 1970, its population has grown from well under one million to over five million, and food demand has risen accordingly. This review traces Oman's food-security trajectory over five decades, drawing on National Centre for Statistics and Information data, ministry production statistics reported in the national press, the Global Food Security Index and the scholarly literature. Over the period, coastal agriculture on the Al Batinah plain suffered severe groundwater salinisation, which undermined date and lime cultivation. Since about 2010, however, deliberate investment in fisheries, aquaculture, dairy, poultry, eggs and protected vegetables has raised overall food self-sufficiency to about 65.8% in 2024, with sector ratios of 144.5% for fish, 87.3% for animal production, 66.4% for food and beverage industries and 49.4% for agricultural crop products. At commodity level, the latest reported self-sufficiency is about 146–162% for fish, 97–99% for dates, 92–97% for milk and 92–95% for eggs, while poultry stood at 55–60% and red meat at 46% in 2023. Oman scored 71.2 in the 2022 GFSI (35th of 113), and its gain of 13.8 points since 2012 was the largest improvement of any country. The review concludes that Oman's combination of marine resources, targeted investment and port diversification offers a model for arid states, while water quality, climate risk and feed dependence remain the principal constraints.

Keywords: *Oman; food security; self-sufficiency; fisheries; dates; falaj irrigation; Al Batinah salinisation; Vision 2040; Global Food Security Index; ports*

1. Introduction

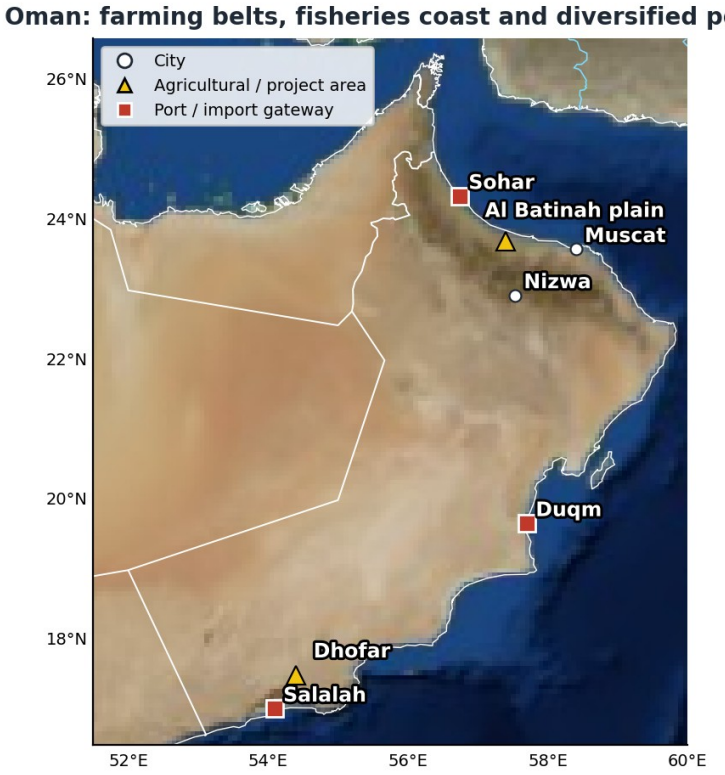
When Sultan Qaboos bin Said came to power in 1970, Oman had few paved roads, limited electricity and a largely subsistence economy. Its food came from:

- fisheries along 3,000 km of coast;
- dates and fruit grown under the falaj irrigation system in the mountains and the Batinah;
- livestock herding.

Oil revenues financed rapid modernisation. Food demand soon outgrew local production, and imports rose sharply.

Oman's subsequent food-security story has three phases:

1. import-led growth with stress on coastal aquifers (1975–2007);
2. a strategic reassessment following the 2007–2008 global price crisis (2008–2016);
3. an investment-led drive to raise self-sufficiency in selected commodities, embedded in Oman Vision 2040 (2017–2025).



Base image: NASA Blue Marble satellite composite (public domain); boundaries: GSHHG/Basemap. Labels by the author.

Figure 1. Satellite view (NASA Blue Marble composite) of Oman showing the Al Batinah coastal plain (the historical agricultural heartland), the Dhofar region around Salalah, and the ports of Sohar, Duqm and Salalah. Duqm and Salalah lie on the Arabian Sea outside the Strait of Hormuz.

2. Methods and sources

The review draws on:

- self-sufficiency statistics from the National Centre for Statistics and Information (NCSI) and the Ministry of Agriculture, Fisheries and Water Resources (MAFWR), as reported in national media (Muscat Daily, Oman Observer, Zawya);
- the Global Food Security Index;
- FAO analysis;
- scholarly literature on Omani water resources and agriculture.

Different releases report slightly different values for the same commodity because of differences in base year and method. Ranges are given where this occurs.

3. 1975–2007: modernisation and the Batinah salinity crisis

3.1 Agricultural transition

From the 1970s mechanised pumping from wells replaced or supplemented traditional falaj channels, which deliver water by gravity from mountain aquifers. Groundwater extraction on the Al Batinah coastal plain grew rapidly to irrigate:

- dates;
- limes;
- forage, especially Rhodes grass and alfalfa;
- vegetables.

Government subsidies for wells, pumps and inputs encouraged the expansion.

3.2 Seawater intrusion

Abstraction exceeded recharge, so the freshwater–seawater interface moved inland along much of the Batinah. Irrigation water became progressively saline, salt-sensitive crops declined, and many farms were abandoned or switched to salt-tolerant forage.

The Batinah salinity problem became one of the best-documented cases of coastal aquifer degradation in the Arabian Peninsula. The government responded in several ways:

- groundwater recharge dams;
- a moratorium on new wells;
- programmes to modernise irrigation.

Lime cultivation was also hit by witches' broom disease from the 1970s onwards, which reduced a once-important export crop.

3.3 Import dependence

By the 2000s, Oman imported most of its cereals, meat, dairy and processed foods, mainly through Gulf transhipment hubs. Fisheries remained the strongest domestic sector, though catches were landed by an artisanal fleet with limited cold chain and processing capacity.

4. 2008–2016: strategic reassessment

The 2007–2008 global food price crisis prompted Oman, like its neighbours, to treat food security as a strategic issue. Policy discussions emphasised:

- strategic reserves;

- investment in fisheries infrastructure and aquaculture;
- the use of treated wastewater in agriculture;
- private-sector partnerships in poultry, dairy and egg production.

The state holding company Oman Food Investment Holding Company (later integrated into the Oman Investment Authority's food portfolio) was set up to coordinate investment in large integrated projects.

Port development in this period proved important for food security:

- **Sohar:** expanded with dedicated food and grain terminals.
- **Salalah:** grew into a major transhipment hub.
- **Duqm:** developed as a new industrial and port city on the Arabian Sea.

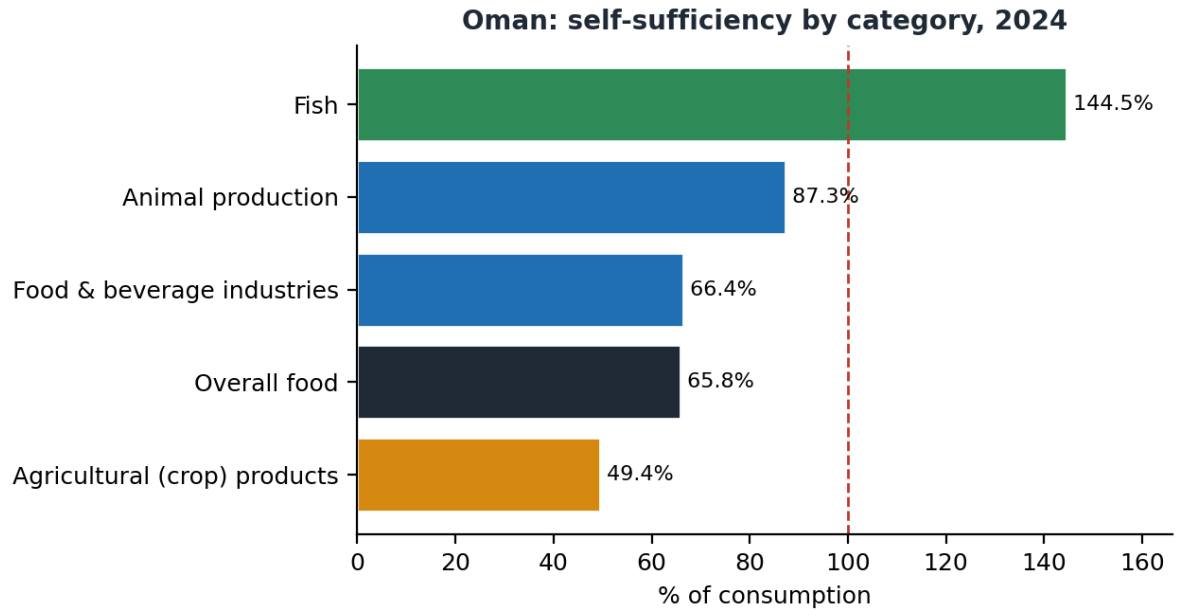
5. 2017–2025: investment-led self-sufficiency

5.1 Overall results

Under Vision 2040 and associated food-security plans, investment flowed into several sectors:

- large-scale poultry (broiler and layer) projects;
- integrated dairy farms;
- shrimp and fish aquaculture;
- fish processing and cold storage;
- greenhouse vegetables.

By 2024 overall food self-sufficiency reached about 65.8% (NCSI, reported by Muscat Daily, 2025).



Source: National Centre for Statistics and Information. via Muscat Daily (Oct 2025).

Figure 2. Oman's self-sufficiency ratios by category in 2024. Fish production exceeds domestic consumption, enabling exports, while crop products remain below 50%.

5.2 Commodity-level progress

Commodity data show where gains have been concentrated. In 2023, MAFWR data reported by Zawya showed:

- fish: 158%;
- dates: 97%;
- milk: 92%;
- tomatoes: 83%;
- eggs: 68%;
- poultry: 60%;
- red meat: 46%.

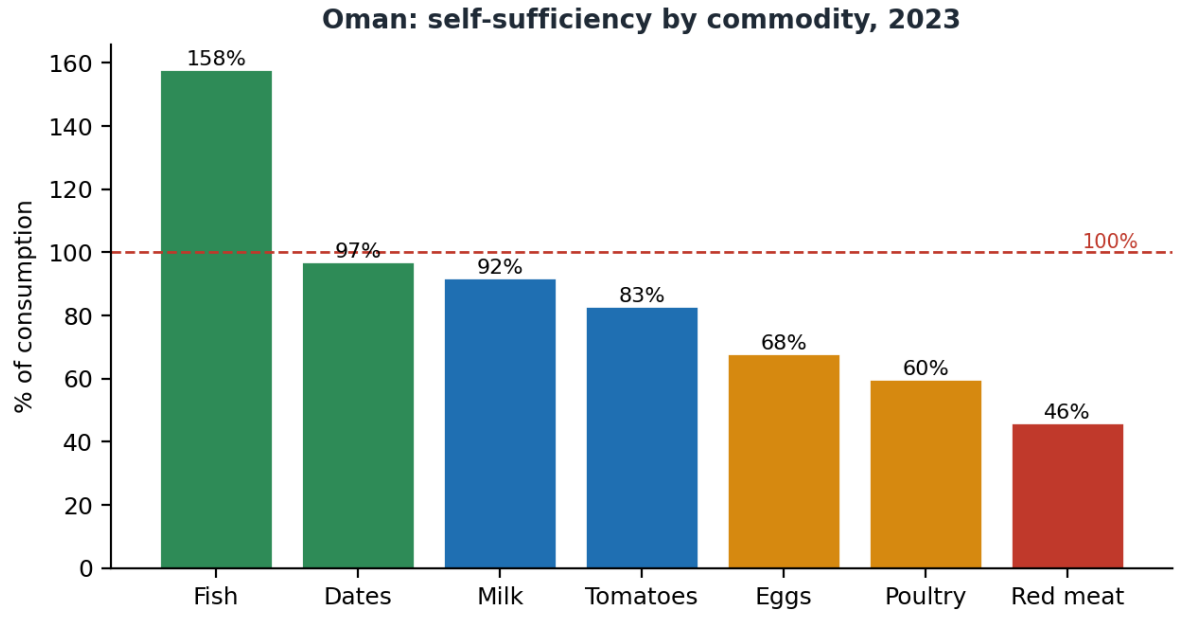
Figures for 2024 reported by the Oman Observer showed further gains:

- fish: 162%;
- eggs: 92%;
- milk: 97%;
- vegetables: 60%;
- poultry: 55%.

The latest releases put the main commodities at:

- fish: 146%;
- dates: 99%;
- milk: 96%;
- eggs: 95%;
- vegetables: 79%.

The rapid improvement in eggs, from 68% to over 90% in two years, reflects new large layer farms coming on stream.



Source: Ministry of Agriculture, Fisheries and Water Resources data, via Zawya.

Figure 3. Self-sufficiency by commodity in Oman, 2023. The dashed line marks 100%.

5.3 Fisheries as a strategic asset

Fisheries are Oman's comparative advantage. Landings grew strongly in the 2010s and early 2020s as several investments came together:

- fishing harbours;
- a modernised fleet;
- processing plants;
- export market development.

A surplus fish balance means that Oman is a net food exporter in at least one major protein group, which is unusual in the GCC. Sustaining this requires:

- scientific stock assessment;
- control of illegal and unreported fishing;
- attention to climate-driven changes in the Arabian Sea, including expanding oxygen-minimum zones.

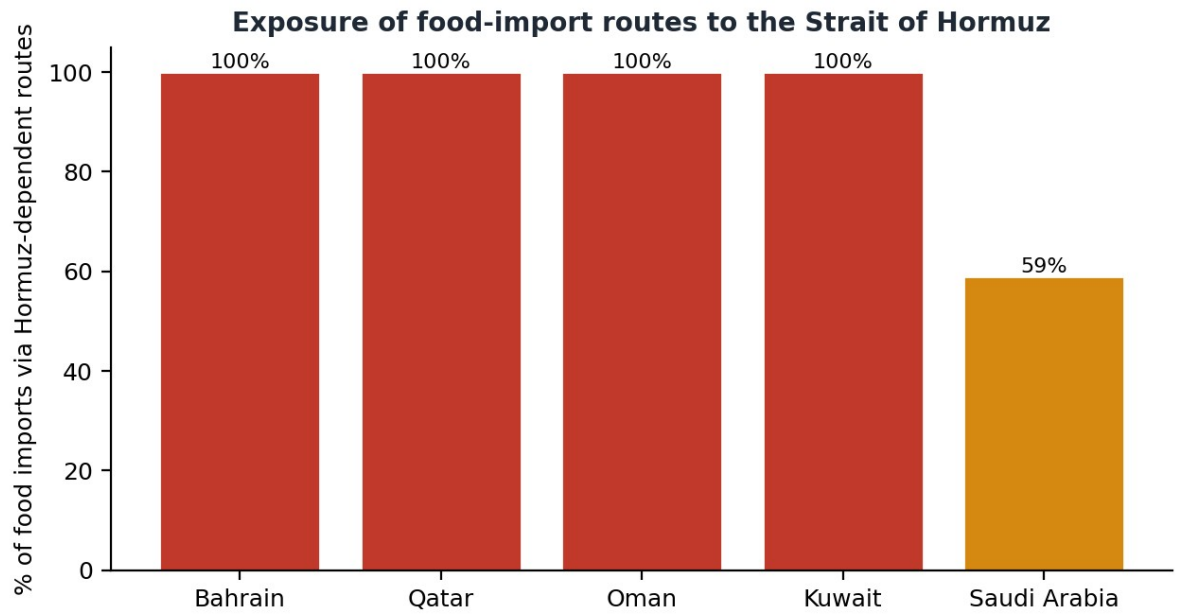
Table 1. Phases of Omani food-security policy, 1975–2025

Phase	Years	Strategy	Main outcomes
Modernisation	1975–2007	Groundwater-based expansion; imports via Gulf hubs	Rising output, then Batinah salinisation; high import dependence except fish and dates
Reassessment	2008–2016	Strategic reserves; food investment company; port expansion	Institutions and logistics built; private poultry and dairy entry
Targeted self-sufficiency	2017–2025	Vision 2040; large integrated poultry, egg, dairy, aquaculture and greenhouse projects	Overall self-sufficiency 65.8% (2024); fish >140%; eggs and milk >90%

6. Stability and resilience

6.1 Port geography

Oman's most important structural advantage is geographic. Duqm and Salalah are on the Arabian Sea, outside the Strait of Hormuz, and Sohar lies just inside it. During the 2026 Hormuz shipping disruption, FAO classified the trade of Oman's Gulf-facing ports as fully exposed (FAO Regional Office for the Near East and North Africa, 2026). Oman's Arabian Sea ports, however, offered alternative entry points both for the Sultanate and for neighbouring states seeking to reroute cargo overland.



Source: FAO Regional Office for the Near East and North Africa (April 2026), as reported by Goumbook.

Figure 4. Exposure of GCC food imports to routes through the Strait of Hormuz in 2026. Oman's Arabian Sea ports provide partial alternatives.

6.2 Climate hazards

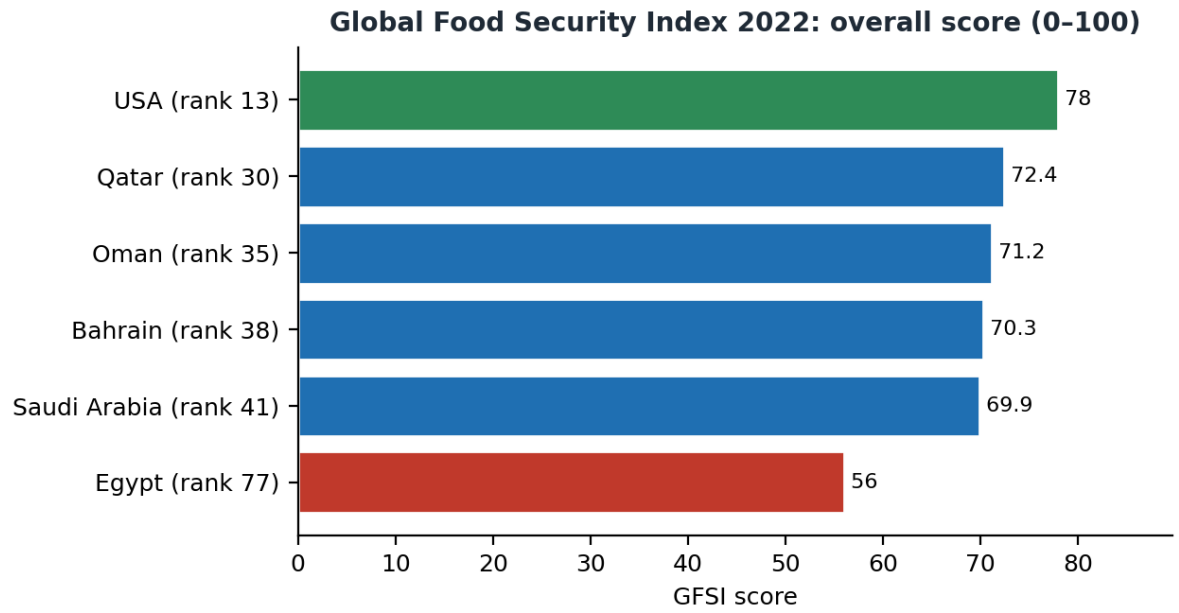
Oman is exposed to tropical cyclones from the Arabian Sea. Gonu (2007), Mekunu (2018) and Shaheen (2021) caused flooding, crop and livestock losses and damage to infrastructure. Rising temperatures increase heat stress on livestock and on greenhouse cooling demand. Sea-level rise also threatens to worsen coastal salinisation.

6.3 Feed and inputs

Like Qatar and Saudi Arabia, Oman's poultry and dairy expansion depends on imported feed grains and soy. Self-sufficiency in eggs and milk therefore reduces dependence on finished-product imports but not on feed imports. Feed reserves and diversified sourcing are part of genuine resilience.

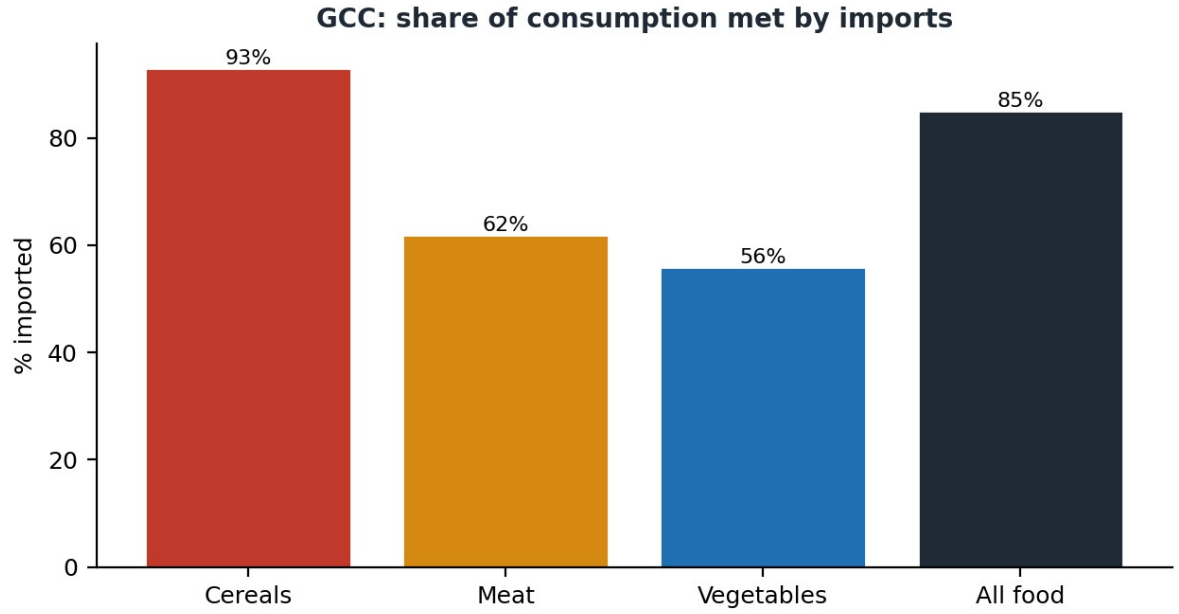
7. International comparison

In the 2022 Global Food Security Index, Oman scored 71.2 and ranked 35th of 113 countries. Its improvement of 13.8 points since 2012 was the largest of any country in the index. The gain reflects better scores on affordability, availability and the quality of food-security strategy and infrastructure.



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

Figure 5. Global Food Security Index 2022 overall scores for the six countries in this series.



Source: Marmore MENA (2023), reported by FoodNavigator; all-food share is an approximate aggregate.

Figure 6. Share of GCC food consumption met by imports for major groups; Oman's investment programme has reduced its dependence below the regional average for several protein foods.

8. Conclusions

Oman's fifty-year food-security trajectory moved from traditional self-reliance, through a period of import dependence and aquifer degradation, to a deliberately diversified model. The current model is built on:

- fisheries surpluses;
- investment in perishable proteins;
- port geography that partly bypasses the Gulf's main chokepoint.

The key constraints ahead are:

- groundwater quality on the Batinah;
- climate hazards;
- dependence on imported feed;
- the need to keep marine harvests within sustainable limits.

Priority actions include:

- managed aquifer recharge and wider use of treated wastewater;
- salt-tolerant crops and forage;
- feed-grain reserves;
- science-based fisheries management;
- logistics corridors from Duqm and Salalah that strengthen both national and regional food resilience.

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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