

North Africa

Calorie consumption in the region is well above the nutritional requirement of 2,100 calories per day as recommended by FAO. Given the region's reliance on imports—accounting for nearly half of food supplies—the state of the economy and export potential will play a key role in the food security outlook. [Stacey Rosen]

None of the countries included in this region—Algeria, Egypt, Morocco, and Tunisia—are projected to have a nutritional food gap through the next decade. Food supplies, at national levels, are projected to be sufficient to meet nutritional requirements through 2012. Only Egypt is projected to have a status quo gap in 2012; the other countries are projected to have enough food available to maintain base (1999-2001) per capita consumption levels. Calorie consumption in North Africa is the highest of all the regions included in this study—averaging 3,165 calories per day in 1998-2000. This level is high even when compared to the developed world. Consumption levels in the European Union were only about 10 percent higher on average during the same period.

Production and imports account for an almost equal share of food supplies in this region, making North Africa the most import-dependent region in this study. Between 1980 and 2001, food crop production grew 3.5 percent per year. This growth was principally driven by gains in yields. A marked slowdown is projected for production growth through the next decade, as yield growth is expected to be minimal. Egypt produces the largest share of the region's grain output. The country's grain yields are high, even by world standards, due to the extensive use of irrigated area. Given that the potential for irrigated area expansion is severely limited, it is assumed that yields have virtually peaked and future growth will be slight. Imports rose roughly 2.4 percent per year in the historical period, but this growth is projected to slow as well. Population growth is also projected to slow considerably—from an average of 2.3 percent per year in the historical period to 1.5 percent over the next 10 years.

Even when consumption in North Africa is examined at the disaggregate level, no nutritional vulnerability is exposed. For the region on average, consumption in the lowest income quintile is estimated at 17 percent above the nutritional target in 2002, while consumption in the highest income group is projected to exceed requirements by 42 percent. Among countries in the region, Tunisia is the most food secure and Algeria is

the least. However, even in Algeria, consumption in all income quintiles is estimated to exceed minimum nutritional requirements. While the food security situation is projected to deteriorate during the next decade, consumption will remain above the nutritional target across all income quintiles in all countries.

With the exception of Egypt, most food crops in the region are rainfed; therefore, production variability can be large. Variation in production, as measured by the coefficient of variation, has increased over time—from 30 percent during the 1980s to nearly 40 percent in the 1990s. Accordingly, in any given year during the last decade, production could have been 40 percent higher or lower than trend levels, on average.

Shortfalls, because of their effect on food supplies and implications for imports, have even more of an impact on food security than overall variation. North Africa, on average, experienced a production shortfall of 10-19 percent 3.3 times during 1991-2001. Shortfalls of 20 percent or more occurred more than twice during the period, on average.

For individual countries, however, variability can be extreme. Algeria and Morocco suffered shortfalls exceeding 20 percent four times during the 1990s. In fact, Algeria's production was cut more than half and Morocco's at least 40 percent three times during the last decade. Historically, these countries had sufficient foreign exchange to support increases in imports to compensate for the shortfalls.

To illustrate the implications of these shortfalls on food gaps, model-based scenarios were run for 2003 that considered the effects of production shocks based on the largest shortfalls in each country in recent decades. Algeria's largest shortfall during the last 20 years was 55 percent (in 1997). In response to the drop in production, the country's commercial imports jumped 50 percent. When the projected production for 2003 was reduced 55 percent, there was no change in Algeria's food gaps—they remained at zero. Again, the big change was realized in commercial imports, which

rose 17 percent in this scenario, thereby boosting food supplies enough to maintain per capita consumption levels and meet nutritional targets. Morocco's largest shortfall was 62 percent in 1995. Imports subsequently doubled. When 2003 production was reduced 62 percent, the food gaps increased from zero but remained minimal. Again, the most significant change was the spike in commercial imports. In this case, they are projected to rise 21 percent. This exercise clearly illustrates the realities of production variability in North Africa. While production shocks may be large, the implications on food security are not severe

because the countries in the region have the financial capacity to import food to boost food supplies.

This import capacity, however, is vulnerable to economic stability and export potential. Civil strife in the region has adversely affected tourism—a major source of foreign exchange—in Egypt. Future oil price trends are important for Algeria and Egypt, which depend on oil for a large share of export earnings. The key for these countries will be continuing along the path of privatization of state industries and diversifying trade.

Table 2—Food availability and food gaps for North Africa

Year	Grain production	Root production (grain equiv.)	Commercial imports (grains)	Food aid receipts (grains)	Aggregate availability of all food
			1,000 tons		
1993	19,082	1,053	17,293	418	40,352
1994	24,645	945	19,622	239	42,336
1995	19,881	1,353	20,181	221	47,102
1996	33,267	1,465	16,620	190	44,243
1997	22,439	1,192	20,776	94	46,102
1998	26,699	1,261	22,087	50	46,012
1999	24,476	1,208	22,299	102	47,854
2000	21,312	1,242	25,277	318	47,689
2001	25,412	1,249	24,194	127	48,233
Projections				Food gap	
				SQ	NR
2002	24,708	1,289	23,933	0	0
2007	26,344	1,409	25,713	0	0
2012	28,581	1,535	27,661	819	0

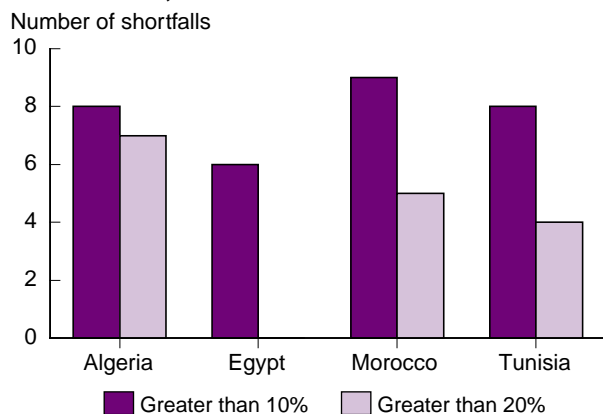
North Africa
(142 million people in 2002)

Calorie consumption is well above the nutritional requirement of 2,100 calories per day.

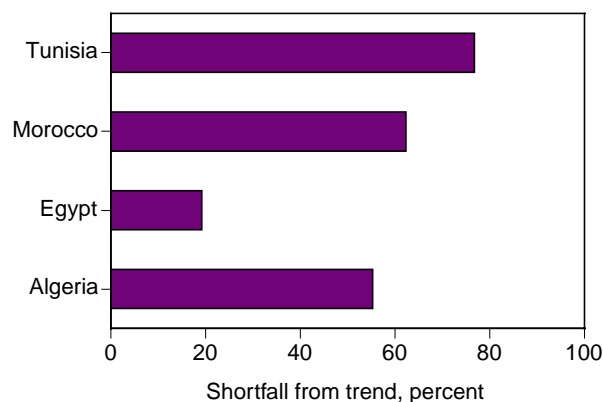
Although production growth is projected to slow relative to the historical period, food supplies will be adequate to meet nutritional requirements through the next decade; with the exception of Egypt, the region will also have ample supplies to maintain per capita consumption levels.

Imports contribute to about 45 percent of food supplies, therefore the state of the economies of these countries and export potential play a key role in the food security outlook.

Frequency of production shortfalls in North Africa, 1980-2000



Highest grain production shortfall experienced between 1980 and 2000



North Africa: Food aid

	Total food aid received		Food aid per capita		Highest food aid amount received		Food aid as % of imports	
	1980-90	1991-2000	1980-90	1991-2000	1,000 tons	Year	1980-90	1991-2000
	1,000 tons		Kg		1,000 tons	Year	Percent	
North Africa	26,738	3,858	22	3			16.0	2.0
Algeria	138	201	1	1	40.5	1988	0.3	0.3
Egypt	19,980	2,431	37	4	2,104	1986	24.0	3.0
Morocco	3,523	924	15	3	613	1986	16.0	3.0
Tunisia	3,096	302	37	3	543	1989	22.0	3.0

Source: FAOSTAT, ERS calculations.