

PART

2

Hunger dimensions

A total of 842 million people in 2011–13, or more than one in eight people in the world, were estimated to be suffering from chronic hunger, regularly not getting enough food to conduct an active life. The total number of undernourished has fallen by 17 percent since 1990–92. In the Near East and North Africa region, there are 43.7 million undernourished people or about 11 percent of the population.

Although the prevalence of undernourishment offers a first idea of the extent and distribution of hunger in the world, food security is too complex an issue for all of its dimensions to be caught in a single indicator. The 2009 Declaration of the World Summit on Food Security states that “Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food, which meets their dietary needs and food preferences for an active and healthy life.” Based on this definition, four food security dimensions can be identified: food availability, economic and physical access to food, food utilization and stability (vulnerability

and shocks) over time. To understand the complexity of the problem of food insecurity and identify measures for addressing it, all its dimensions, manifestations, and underlying factors have to be assessed and measured.

Food insecurity can be caused by insufficient supply of food or insufficient access to the food supply. Poverty plays an important role in determining access to food, but the relationship between poverty and food insecurity is not always straightforward. Food security is also conditioned by food prices and other social and economic factors and can be affected, often very significantly, by political instability and the presence of natural hazards. An inadequate diet may also result from a lack of vitamins or micronutrients or an imbalance in the availability of macronutrients. Food insecurity can arise even when a sufficient and balanced diet is available, because of unsafe or unhealthy foods.

To understand the complexity of the problem, underlying factors have to be assessed and measured. FAO has compiled a suite of indicators that supplements measurements of the number and prevalence of undernourishment to capture the multifaceted character of food insecurity. Indicator selection is also shaped by the availability of reliable data and the possibility of establishing meaningful comparisons across regions and time periods. Some indicators look at food insecurity as an outcome: this is the case of the number of undernourished people, the prevalence of undernourishment in the population, the extent of nutrition gaps, and anthropometric evidence. Other indicators focus on the conditions that generate food insecurity, such as poverty; food availability, access, affordability and utilization; and vulnerability and instability.

This chapter presents the main food security indicators computed by FAO, starting from outcomes and moving on to consider the conditions that characterize and can generate food insecurity. The presence of several indicators for one phenomenon poses significant measurement challenges. One challenge is consistently summarizing the information conveyed by multiple indicators; another is understanding how they relate to each other. The following sections outline some of the associations and regularities that emerge among different indicators for the Near East and North Africa region. These are meant to signal areas for further investigation, and do not necessarily imply formal or causal relationships.

Key Resources

Report of the expert consultation meeting on food losses and waste reduction in the Near East region: Towards a regional comprehensive strategy

In response to recommendations made by the 31st Session of FAO Regional Conference for the Near East (NERC), and realizing the importance of sharing knowledge about the problem of food losses and waste and its impact on food security at the national and regional levels, RNE took the initiative of organizing this regional Expert Consultation Meeting (ECM), which was the first regional meeting that convened key policy actors in the field of food security and related domains. The objective was to formulate a framework for addressing food losses and waste reduction as part of broader food security strategies for the countries of the region.

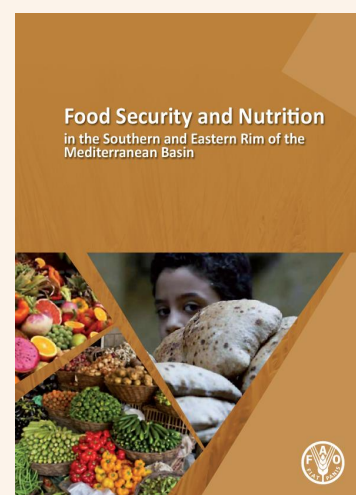
Webpage: <http://faorne.net/Pages/Events.aspx?l=104128&DId=0&CId=EG&lang=EN&CMSId=52&id=1025>



Food Security and nutrition in the Southern and Eastern Rim of the Mediterranean Basin

This study argues that increasing agricultural productivity and strengthening the food system – understood as the entire chain from the production to the consumption of food, as well as the nutrition and jobs it provides – offer solutions to some of the many complex and intertwined challenges facing the region. Reducing the productivity gaps in cereal yields, investing in agriculture research and development, improving food safety measures and giving special attention to the rural poor could all greatly contribute to reducing the dependency of the region on food imports and the promotion of a more equitable and balanced economic growth. This report analyzes the causes of food insecurity and malnutrition in the region at both household and national levels and proposes a series of remedial policy interventions.

Webpage: http://neareast.fao.org/Download.ashx?file=app_uploads/XF2013000108/Files/Food_Security_Nutrition_Southern_Eastern_Rim_Mediterranean_Basin.pdf



Number undernourished and their prevalence in the population

There are two established targets against which progress in reducing hunger is assessed. One is the 1996 World Food Summit (WFS) target, which is to halve the number of hungry people; the other is the 2001 Millennium Development Goal (MDG) hunger target, which is to halve the proportion of hungry people in the total population. Both targets have 1990 as the starting year and 2015 as the target year. To monitor progress towards the World Food Summit and MDG targets, FAO regularly computes and publishes updated estimates of the number of undernourished people and their prevalence in the total population. This indicator refers to the number and proportion of the population whose energy intake is likely to fall below minimum requirements.

According to the *State of Food Insecurity in the World 2013*, (SOFI 2013), the region as a whole is not on course to meet the WFS or MDG targets. The number of undernourished people has risen from 25.8 million in 1990-1992 to the current level of 43.7 million, and the proportion of undernourished in the population has risen by 11.1 percent.

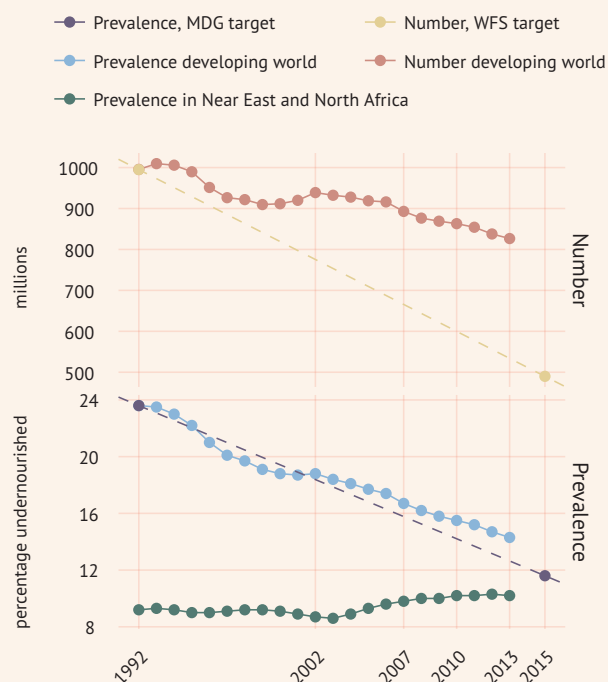
Most of the undernourished in the region are concentrated in relatively few countries. Sudan has the highest number of undernourished (17.8 million) and the highest prevalence of undernourishment (38.9 percent). Iraq has seen a sharp increase in the prevalence of undernourishment, increasing from 10 percent in 1990-1992 to 26.2 percent in 2011-2013. Yemen, Mauritania, Morocco and Syrian Arab Republic are the only four other countries in the region where the prevalence of undernourishment is higher than one percent.

As part of FAO's new suite of indicators, additional figures are presented for the prevalence of food inadequacy, which indicates the risk that individuals will be living on a diet that prevents them from effectively discharging an economic activity requiring significant physical effort. Compared with the prevalence of undernourishment, the prevalence of food inadequacy also includes individuals with a food energy deficit who would not be considered undernourished under normal conditions, but who may be undernourished when carrying out the intense physical work they engage in owing to a lack of alternatives. Trends for this indicator are similar to those for the prevalence of undernourishment, but the indicator's level offers insights into the inadequacy of food supply.

Further reading

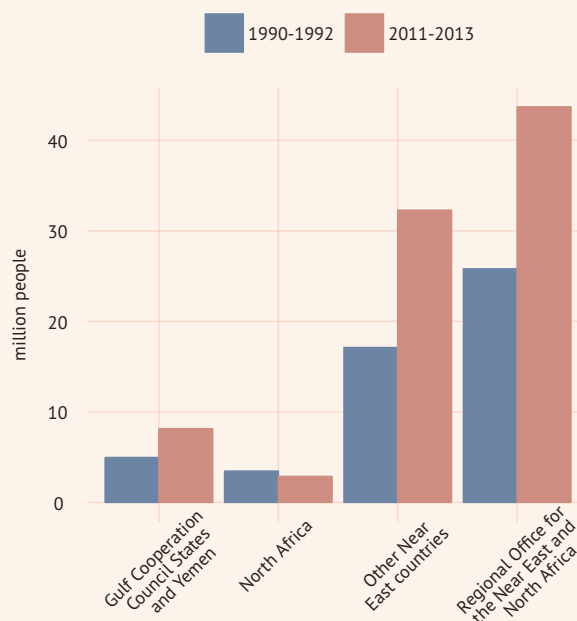
- FAO The State of Food Insecurity in the World 2013 - The multiple dimensions of food security (www.fao.org/publications/sofi/en/)
- FAO The State of Food Insecurity in the World 2012 - Economic Growth Is Necessary but Not Sufficient to Accelerate Reduction of Hunger and Malnutrition (www.fao.org/publications/sofi/en/)
- FAO Hunger Portal (www.fao.org/hunger)

CHART 23: Undernourishment in the developing world (1990-1992 to 2011-2013)



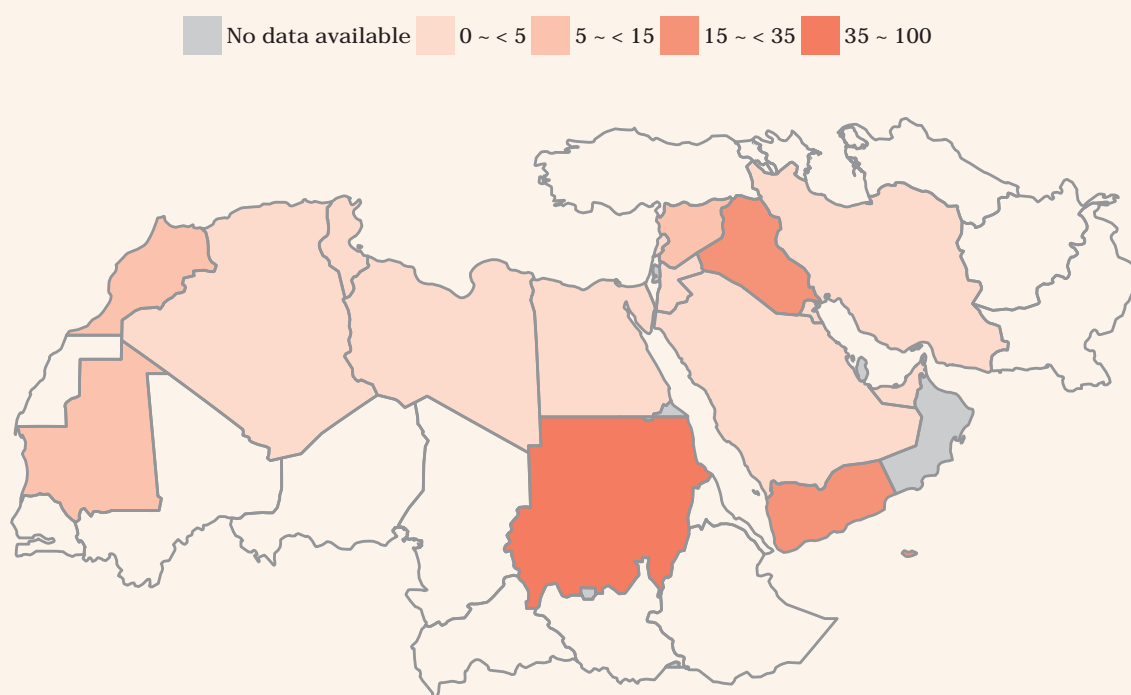
Source: FAO, Statistics Division.

CHART 24: Number of people undernourished (1990-1992 and 2011-2013)



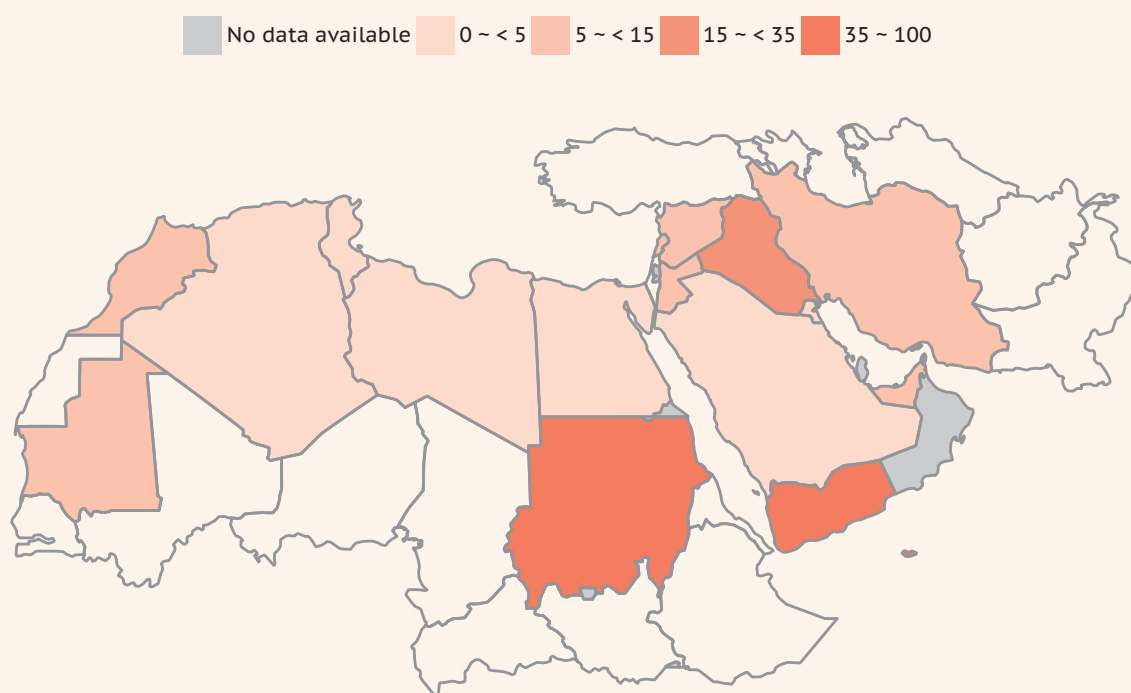
Source: FAO, Statistics Division.

MAP 16: Map of hunger (percent, prevalence of undernourishment 2011-2013)



Source: FAO, Statistics Division.

MAP 17: Prevalence of food inadequacy (percent, 2011-2013)



Source: FAO, Statistics Division.

Anthropometric indicators

Anthropometric measures are an important element of the new FAO suite of food security indicators. They convey information on the most dramatic and long-lasting consequences of chronic and acute undernourishment. Measures in children under five years of age can approximate the nutritional status of a population. Stunting is the outcome of prolonged inadequate nutrition and/or repeated infections; wasting results from acute malnutrition; and low body weight reflects a combination of chronic and acute malnutrition. Anthropometric data are less readily available than other indicators and are not updated as regularly, which prevents full comparisons across countries, regions and time periods.

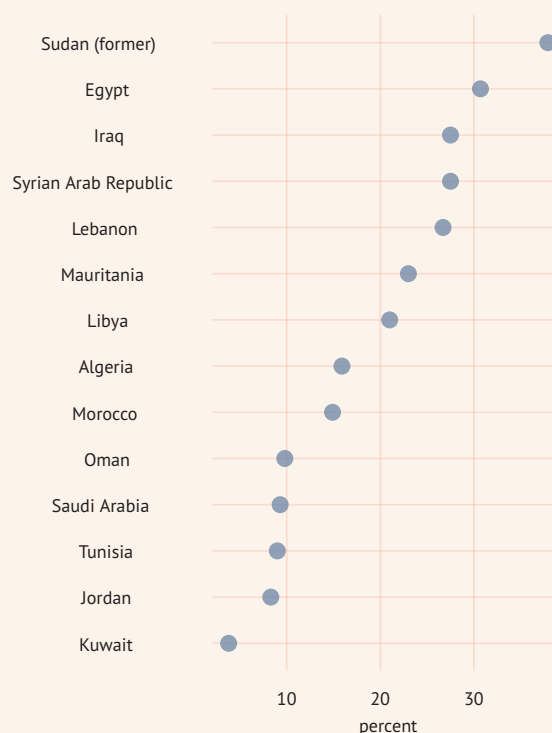
As SOFI 2013 points out, progress in food utilization does not always go hand in hand with progress in food access and availability. This reflects, to some extent, the nature of malnutrition and its associated anthropometric indicators, which capture not only the effects of food insecurity but also those of poor health and diseases such as diarrhea, malaria, HIV/AIDS and tuberculosis. Stunting, in particular, is a largely irreversible symptom of inadequate nutrition; hence improvements will only be visible over a longer period of time. Between 2005 and 2011, seven countries in the region reported a stunting rate of at least 20 percent. Many are part of the Near East, and several of these countries have experienced wars in recent years. Only two countries, however, had rates over 30 percent. Nutrition-related disorders can also be prevalent in countries where the number of undernourished is relatively low. In Libya, for instance, the prevalence of undernourishment was reported to be less than 5 percent but more than 20 percent of children under five years of age were stunted between 2005 and 2011.

Underweight is a much more sensitive and direct indicator of food utilization, showing improvements more promptly than does stunting. But again, changes at the global level mask considerable differences between regions. However, recent data on stunting and wasting are not available from those countries in the region where the prevalence of undernourishment is the highest. Mauritania and the former Sudan both had rates that were over 10 percent.

Further reading

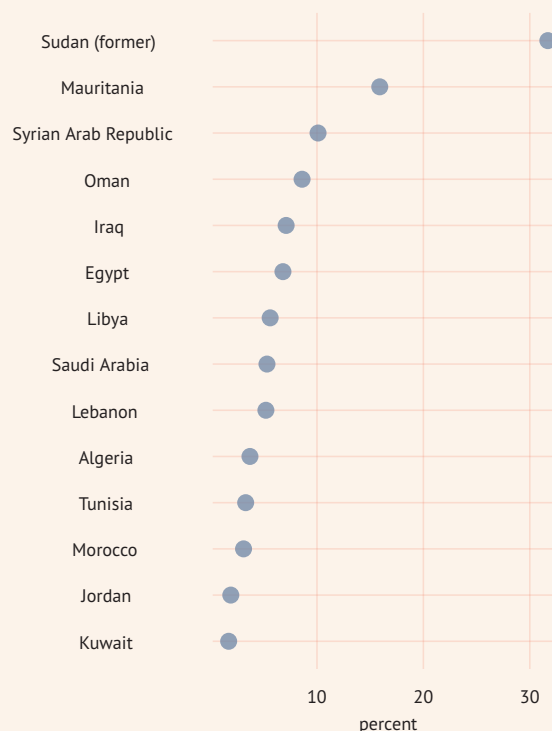
- FAO Nutrition and Consumer Protection Division (www.fao.org/food/)
- UNICEF Nutrition (www.unicef.org/nutrition/)

CHART 25: **Percentage of children under 5 years of age who are stunted (2005-2011*)**



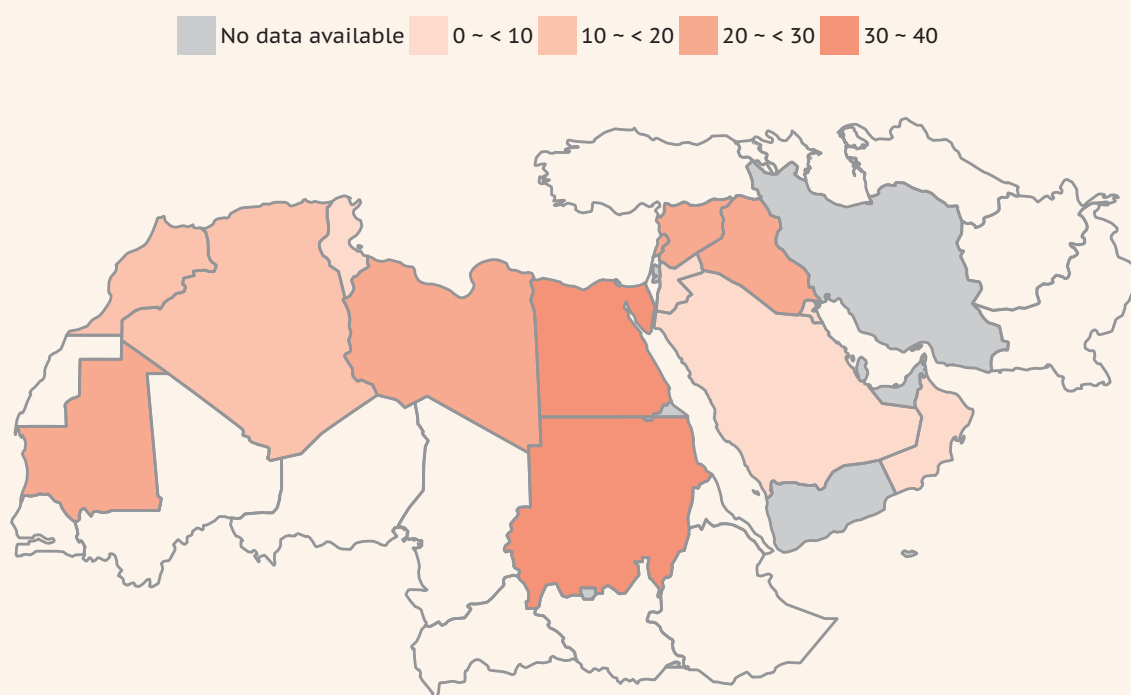
Source: FAO, Statistics Division.

CHART 26: **Percentage of children under 5 years of age who underweight (2005-2011*)**



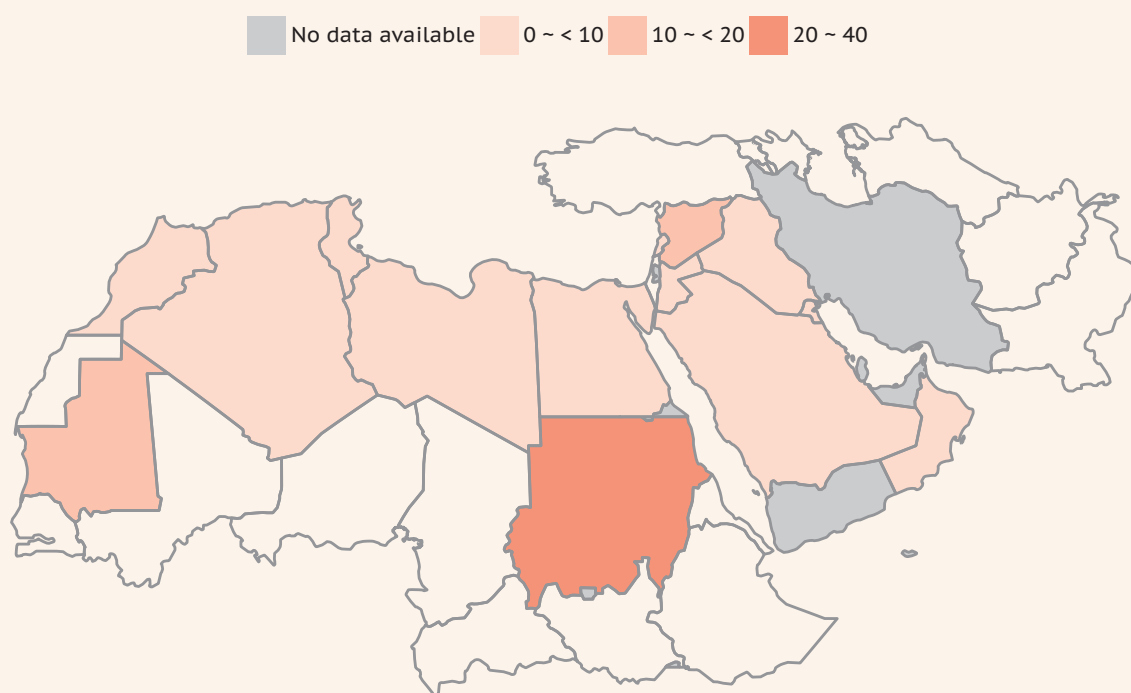
Source: FAO, Statistics Division.

MAP 18: Percentage of children under 5 years of age who are stunted (percent, 2005-2011*)



Source: FAO, Statistics Division.

MAP 19: Percentage of children under 5 years of age who are underweight (percent, 2005-2011*)



Source: FAO, Statistics Division.

Poverty

Poverty is a main determinant of hunger. Poor households generally spend large shares of their incomes on food, and many of them – even those engaged in farming – are net food buyers. Poor families' inability to consume enough food to meet dietary requirements can have long-lasting impacts on labour productivity, which hampers development prospects.

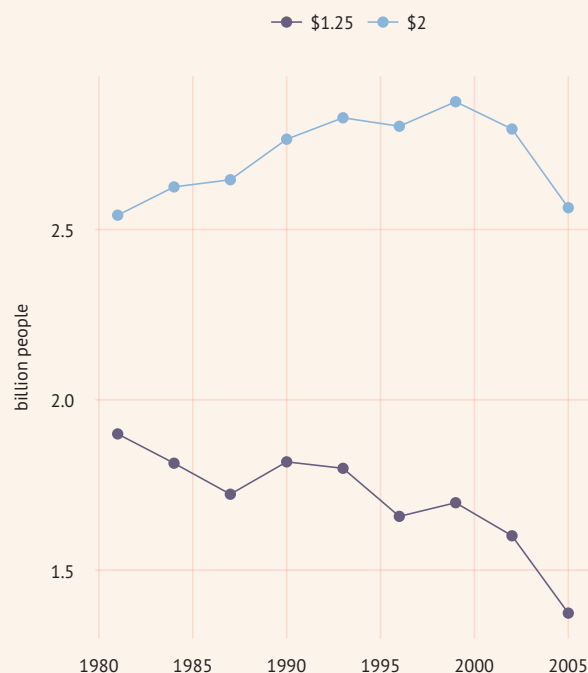
There has been considerable progress in poverty reduction over recent decades, but improvements have been uneven across regions. Two of the indicators used to measure progress toward reaching the MDG goal of reducing by half, between 1990 and 2015, the proportion of people whose income is less than one dollar a day are: the poverty rate, which is the proportion of the population living on less than a dollar a day, measured at 2005 international prices, adjusted for purchasing power parity (PPP) and; the poverty gap, which is the mean shortfall of the total population from the poverty line (counting the non-poor as having zero shortfall), expressed as a percentage of the poverty line. Data on poverty are not available from every country in the region, but there is poverty information from many of the countries with high levels of undernourishment.

Higher levels of poverty are linked with higher prevalence of undernourishment, although there is not a one-to-one correlation between hunger and extreme poverty. For example, Mauritania has the highest percentage of people living under the US\$ 1.25 poverty line (23.4 percent), but a relatively low prevalence of undernourishment. In Iraq, only 2.8 percent of the population lives below the extreme poverty line, but the prevalence of undernourishment is third highest in the region. In Yemen the correlation between poverty and hunger is stronger. Yemen has the third highest percentage of people living in extreme poverty (17.5 percent) and the second highest prevalence of undernourishment.

Further reading

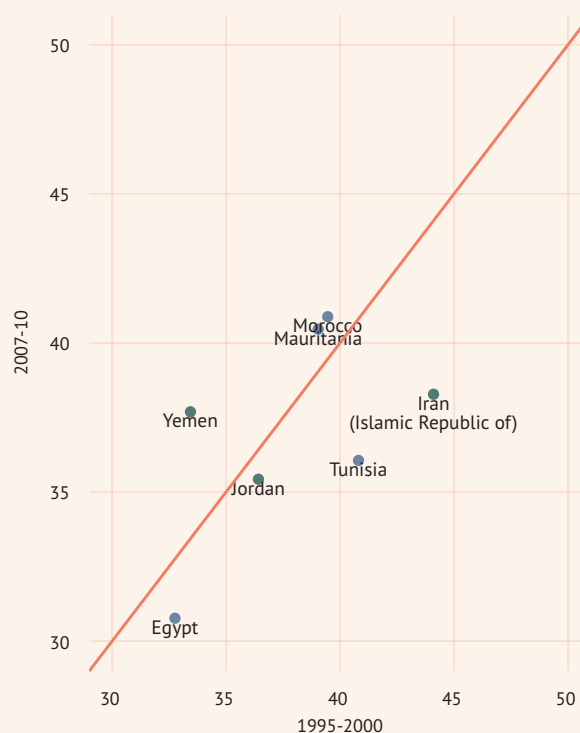
- MDG Indicators web site: <http://mdgs.un.org/unsd/mdg/Metadata.aspx?IndicatorId=0&SeriesId=584>
- World Bank Poverty Reduction and Equity Group (www.worldbank.org/poverty)

CHART 27: People in the world living on less than 2005 PPP \$1.25 and \$2 a day (1981-2005)



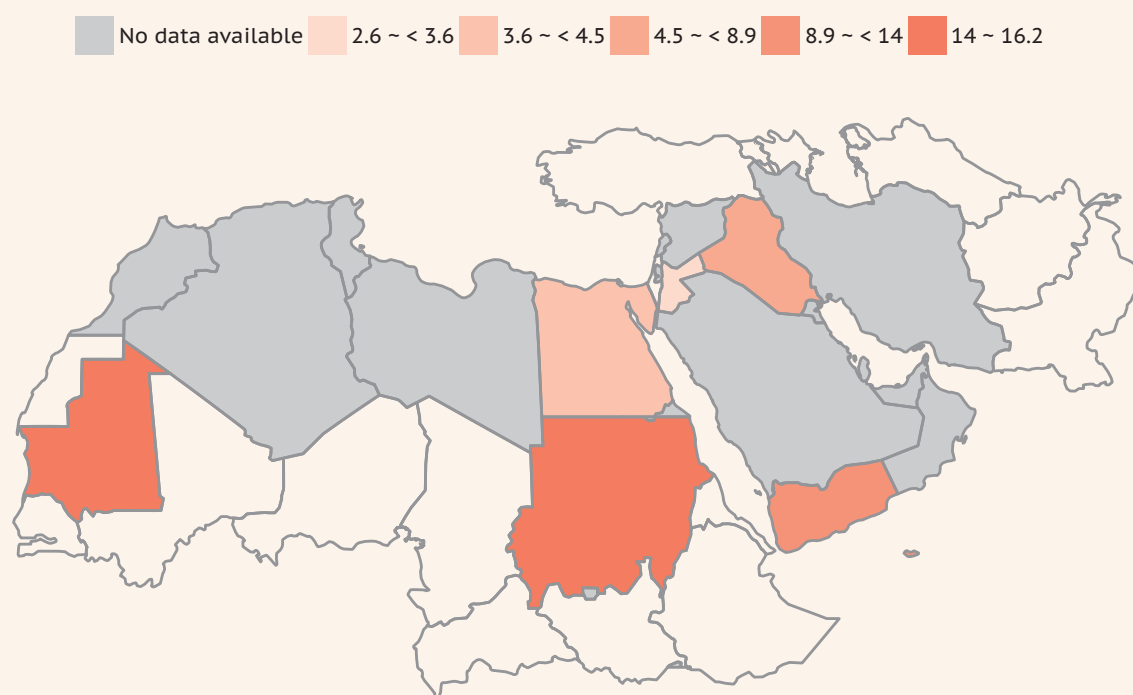
Source: World Bank (WDI).

CHART 28: Gini coefficient for Near East countries (1995-2000 and 2007-2010)



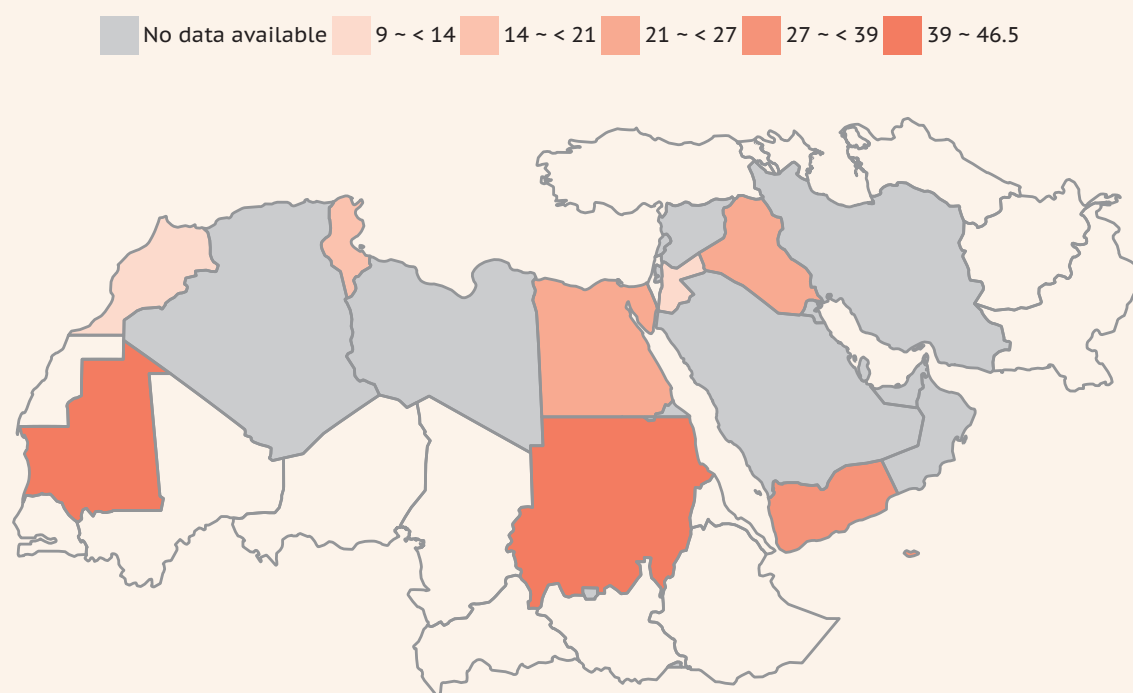
Source: World Bank (WDI).

MAP 20: Poverty gap at national poverty line (percent, 2005-2012*)



Source: World Bank (WDI).

MAP 21: Poverty headcount ratio at national poverty line, share of population (percent, 2005-2011*)



Source: World Bank (WDI).

Food Availability

Food availability is one of the four dimensions of food security. Supplying enough food to a given population is a necessary, albeit not a sufficient, condition to ensure that people have adequate access to food. As SOFI 2013 notes, over the last two decades, food supplies have grown faster than the population in developing countries, and consequently there has been an increase in per capita food availability. Dietary energy supplies have also risen faster than average dietary energy requirements, resulting in higher levels of energy adequacy in most developing regions.

Over recent decades, trends in food production per capita have been generally positive across most regions. This is true for the Near East and North Africa region. However, progress has been uneven. Out of the GCC countries, only Kuwait and Oman have shown an increase in the value of per capita agricultural production since 1990-1992. All the other GCC countries, as well as Lebanon, Mauritania, the Islamic Republic of Iran and Iraq have all registered declines.

Average dietary energy supply adequacy – dietary energy supply as a percentage of the average dietary energy requirement – has risen by almost 10 percent over the last two decades in developing regions as a whole. This improvement is consistent with the reduction in undernourishment from about 24 percent to 14 percent of total population between 1990-92 and 2011-13. The Near East and North Africa region runs counter to this global trend. In 2007-2009, the average dietary supply adequacy index for the Near East and North Africa region was 130, a drop of one point from the 1990-1992 period. Six countries registered declines: Lebanon, Libya, Iraq, the Islamic Republic of Iran, United Arab Emirates and Yemen. Kuwait had by far the largest increase, moving from 91 to 152.

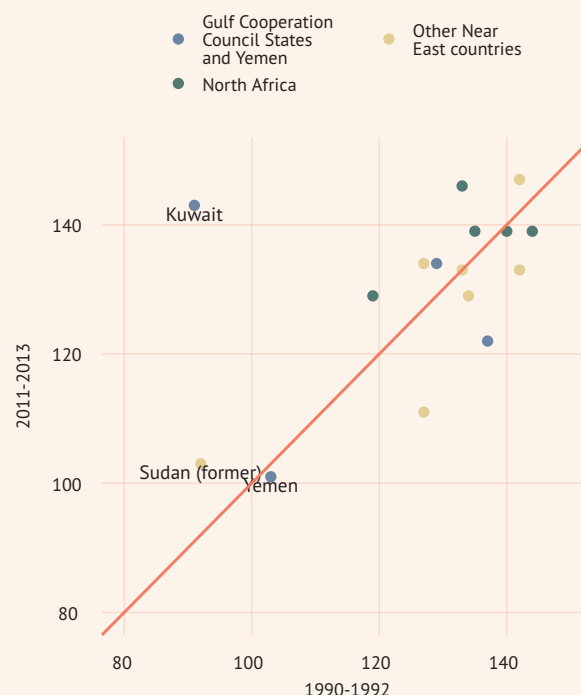
The quality of diets has also improved. This is partly reflected in the decline in the share of dietary energy derived from cereals and roots and tubers in most regions since 1990-92. In the Near East and North Africa region, the percentage of the energy supplied from cereals, roots and tubers has declined from 61 percent to 57 percent. Lebanon, Saudi Arabia and the United Arab Emirates are the only countries in the region where the percentage increased.

Overall, the diets of developing regions have seen a number of improvements over the last two decades. There has been a 20 percent increase in protein availability per person. In the Near East and North Africa region, the average per capita supply of protein in the diet has increased from 74 grams per day to 82 grams per day. Only Libya and Yemen registered declines, both very modest. The average supply of protein of animal origin per capita has also increased in the region, moving from 18 grams a day in 1990-1992 to 24 grams a day in 2007-09. The only two countries in the region where the percentage declined were Iraq and the United Arab Emirates.

Further reading

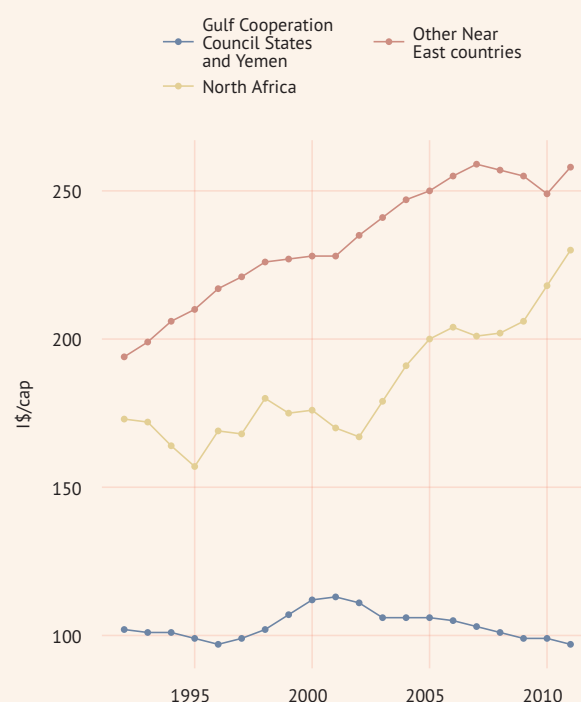
- WHO Nutrition and disorders (www.who.int/topics/nutrition/en/)
- FAO The State of Food Insecurity in the World 2013 - The multiple dimensions of food security (www.fao.org/publications/sofi/en/)

CHART 29: Average dietary supply adequacy (1990-1992 and 2011-2013)



Source: FAO, Statistics Division.

CHART 30: Trend of the value of food production (1992-2011)



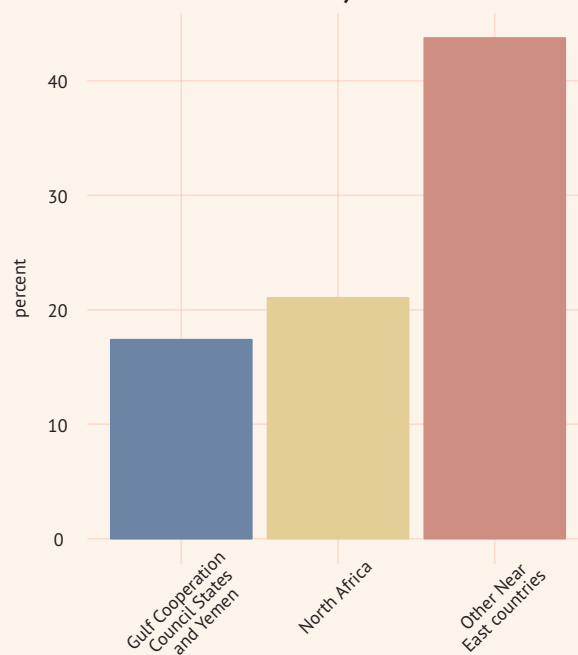
Source: FAO, Statistics Division.

CHART 31: Share of energy supply derived from cereals, roots and tubers (1990-1992 and 2008-2010)



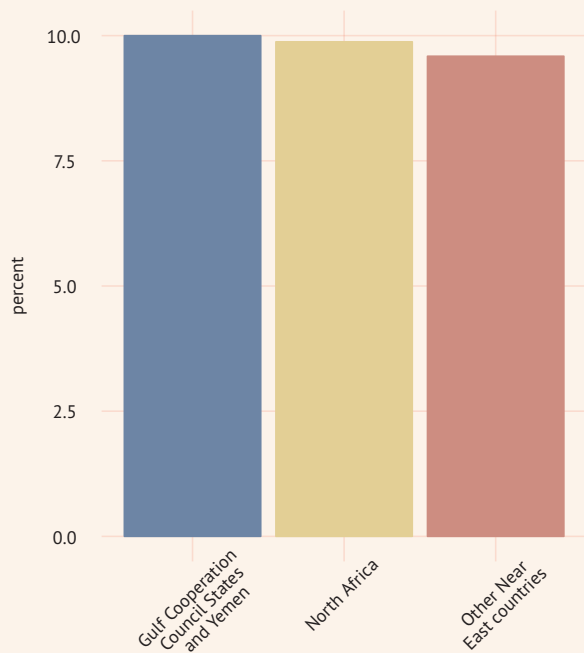
Source: FAO, Statistics Division.

CHART 33: Relative change in average protein supply from animal origin (between 1990-1992 and 2008-2010)



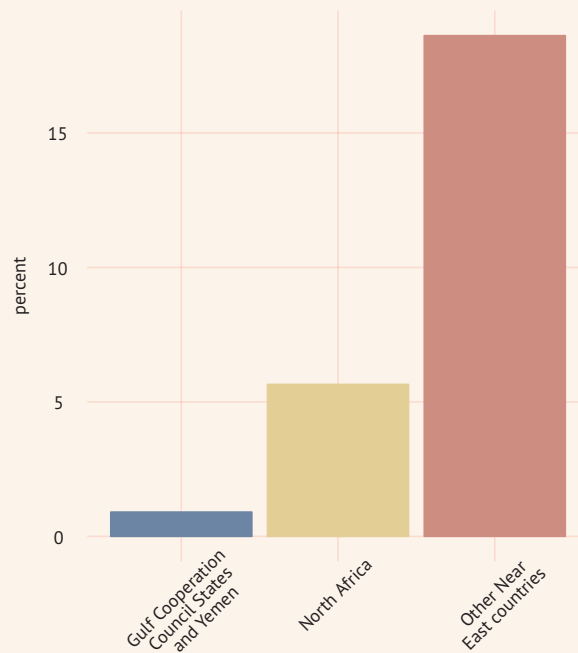
Source: FAO, Statistics Division.

CHART 32: Relative change in average protein supply (between 1990-1992 and 2008-2010)



Source: FAO, Statistics Division.

CHART 34: Relative change in average fat supply (between 1990-1992 and 2008-2010)



Source: FAO, Statistics Division.

Economic and physical access

Access to food is primarily determined by incomes, food prices and the ability of households and individuals to receive social support. In addition, access to food is also greatly influenced by social variables, including gender positioning and power hierarchies within households.

In general, poor households spend a relatively high share of their disposable incomes on food, making them vulnerable to sudden increases in food prices or losses of income. The degree of exposure to real income swings can be captured by the domestic food price index, which is the ratio of the food purchasing power parity to the general purchasing power parity. This indicator captures the importance of food in the overall consumption basket. The index is highest in least developed countries, and showed a pronounced spike during the 2007/2008 rise in food prices. More recently, the index has normalized overall, but is still on a rising trend in developing countries.

Given that a large share of the average household budget is devoted to food consumption, and that the Near East and North Africa region imports about 50 percent of its food needs, recent changes in the international price of grains has had a significant impacts on net food importing countries. At the macro level, high food prices drove inflation and brought about a deterioration of the trade balance, which strained national fiscal balances. The budgetary burden of high food prices is considerable because many countries in the region subsidize food products. The ability to absorb food-price shocks was also hindered by the global financial and economic crisis.

At the micro level, food price shocks increased the number of people living below the poverty line. The groups hardest hit by high food prices are the rural landless and small and marginal food producers. The urban poor are also at risk of becoming poorer as are those who have risen out of poverty in recent years.

Price hikes were also reported to have had serious consequences on nutrition. To cope with higher food prices, many people reduce their food intake and shift consumption away from healthy foods to cheaper, less nutritious foods. This increases health risks such as malnutrition among the poor. It is estimated that the recent food price shock led to an increase of some 4 million undernourished people in the Arab countries alone.

As well as economic affordability, physical access to food is also facilitated by adequate infrastructure, such as railway lines and paved roads. Information on infrastructure is even sparser than that on prices, but it shows a clear association with food security outcomes in more than one country.

Further reading

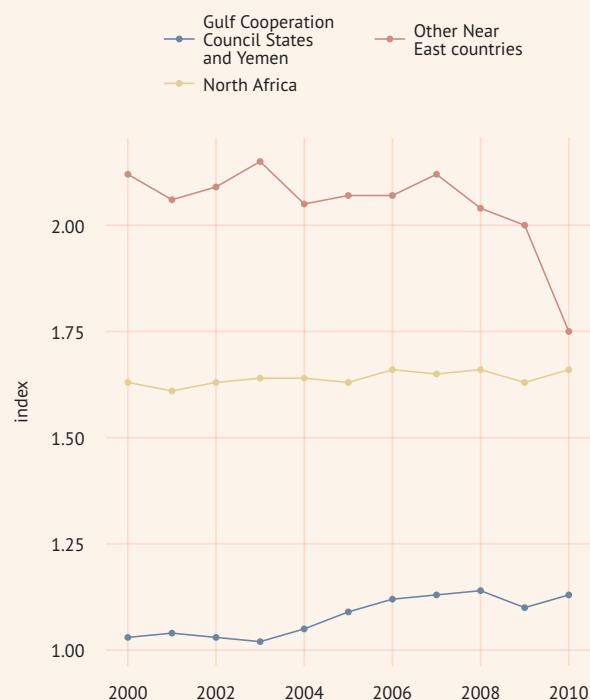
- The Implications of Soaring Food Prices and the Global Financial and Economic Crisis for Agricultural Development and Food and Nutrition Security in the Near East from the 30th Regional Conference (<http://www.fao.org/docrep/meeting/020/k9532e.pdf>)
- FAO The State of Food Insecurity in the World 2013 - The multiple dimensions of food security (www.fao.org/publications/sofi/en/)

CHART 35: Rail-lines density (2011)



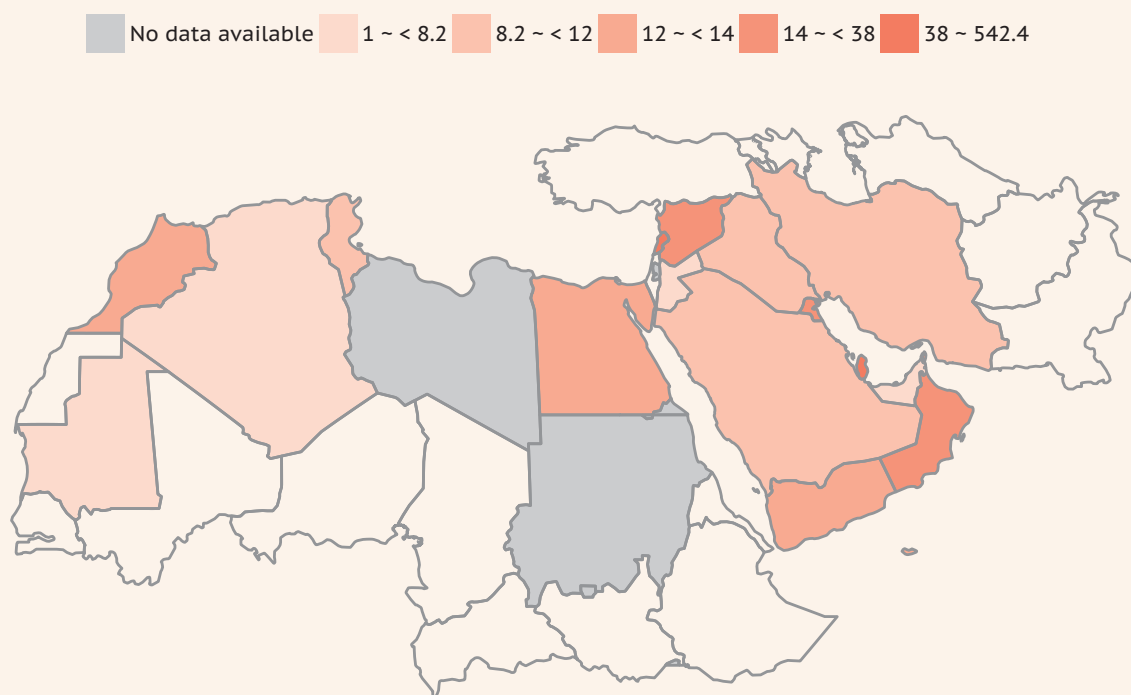
Source: FAO, Statistics Division.

CHART 36: Relative price of food (2000-2010)



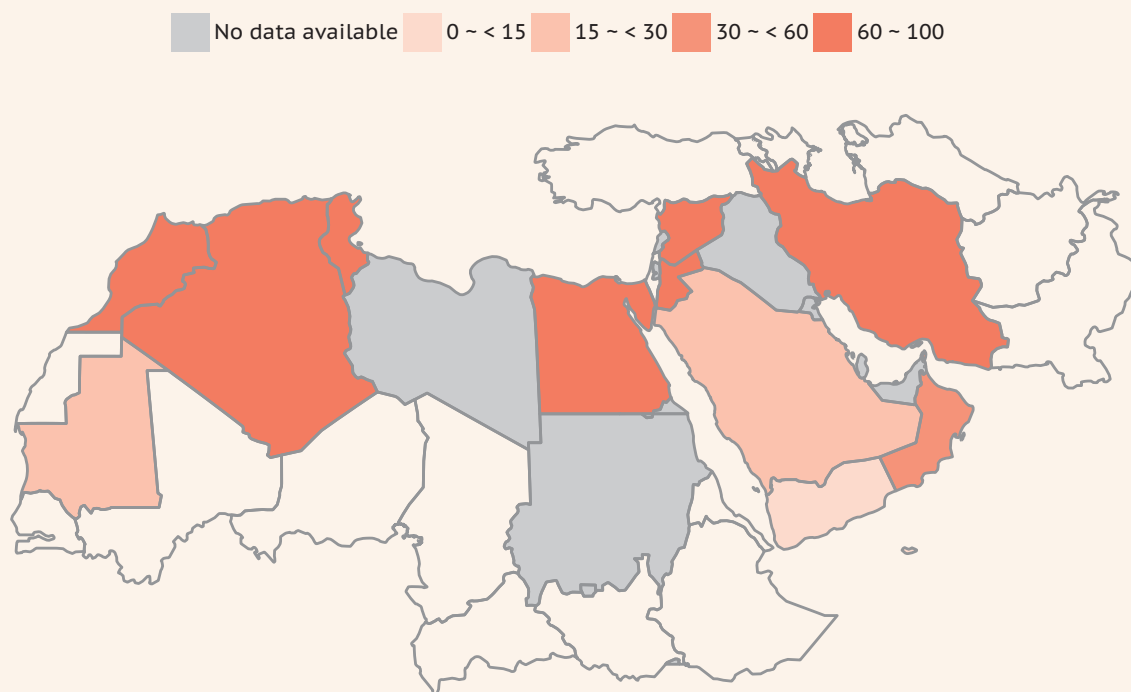
Source: FAO, Statistics Division.

MAP 22: Road density (km per 100 square km of land area, 2005-2010*)



Source: FAO, Statistics Division.

MAP 23: Percent of paved roads over total roads (percent, 2005-2010*)



Source: FAO, Statistics Division.

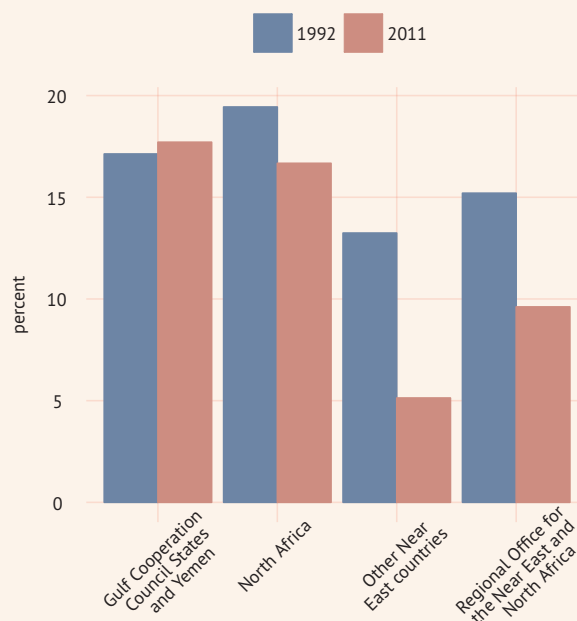
Clean water and sanitation

To absorb nutrients effectively, men, women and children must be in good health. Hygienic food helps keep the body healthy. Access to clean water and sanitation facilities is imperative for the preparation of clean and nutritious food. In addition, it is women and mothers who are often responsible for collecting and storing water. Improving access to safe water and good sanitation can reduce the tremendous amount of time women spend collecting water and improve child health and well-being, both of which can have a positive effect on the ability to utilize food.

One of the MDGs is to reduce by half by 2015, the proportion of the population without sustainable access to safe drinking water and basic sanitation. The safe drinking water target has already been reached at the global level, yet progress varies around the world. In the Near East and North Africa, 90 percent of the population has access to safe water. Yet Mauritania has the highest percentage of the population without access to clean water in the region (50 percent), followed by Yemen (45 percent each).

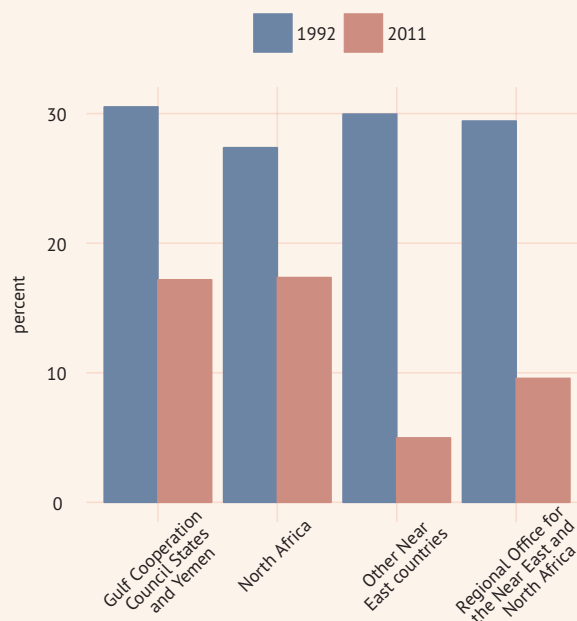
The MDG sanitation target has not yet been reached at the global level, and given the current trend, it is unlikely to be achieved by 2015. However, substantial progress has been recorded over the last two decades, with access to improved sanitation in poorer countries increasing from 36 to 56 percent of the population. In the Near East and North Africa, 83 percent of the population has access to improved sanitation. In Mauritania, however, the problem is widespread, with more than 70 percent of the population living without access. In Yemen, just under half of the population lack improved sanitation facilities.

CHART 37: Percentage of population without reasonable access to improved water sources (1992 and 2011)



Source: FAO, Statistics Division.

CHART 38: Percentage of population without reasonable access to improved sanitation facilities (1992 and 2011)

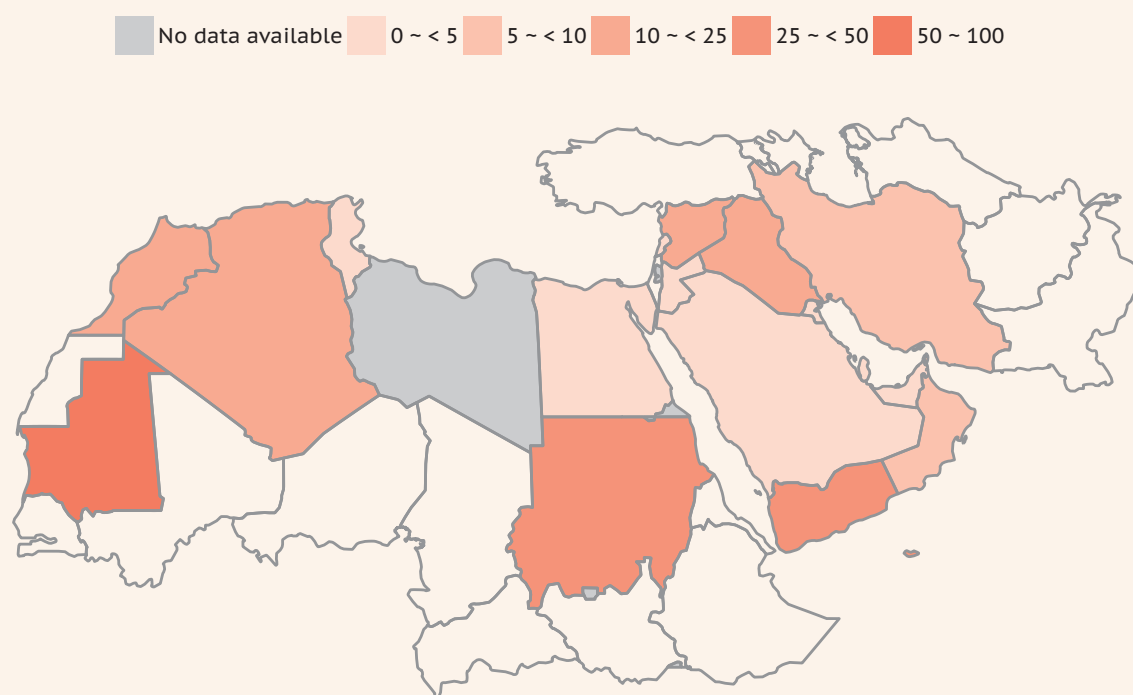


Source: FAO, Statistics Division.

Further reading

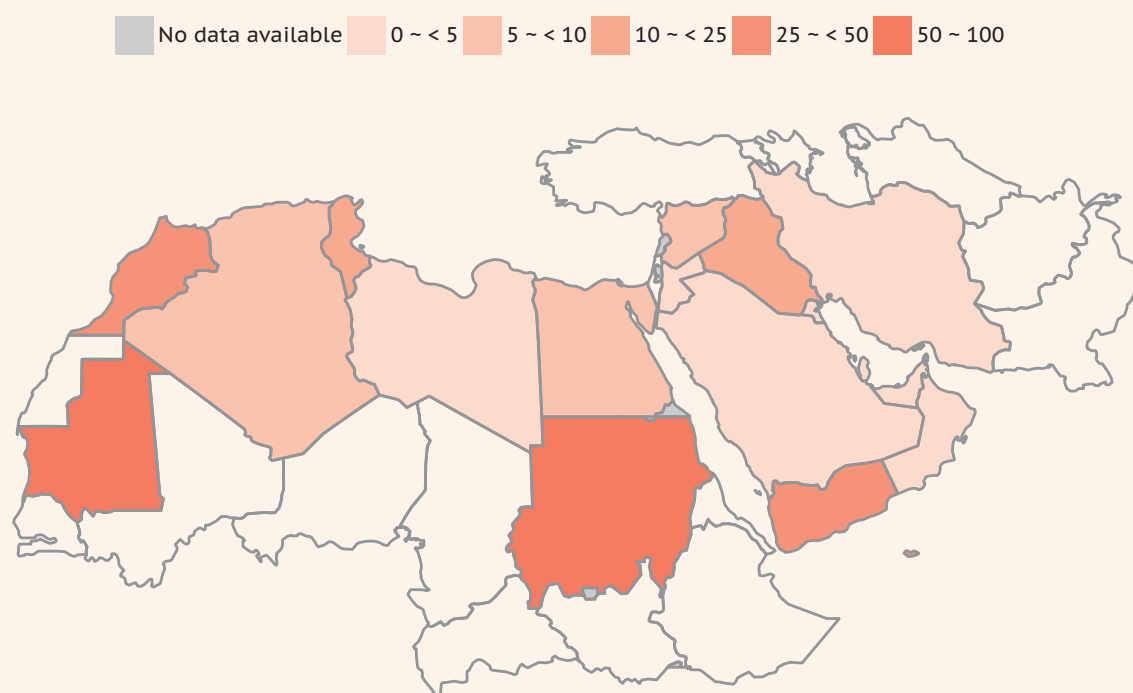
- UNICEF Water, Sanitation and Hygiene (www.unicef.org/wash/)

MAP 24: Share of population without reasonable access to improved water sources (percent, 2011)



Source: FAO, Statistics Division.

MAP 25: Share of population without reasonable access to improved sanitation facilities (percent, 2011)



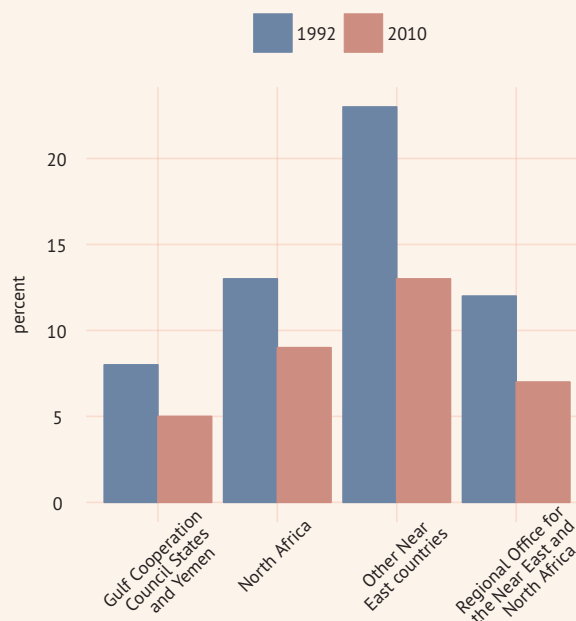
Source: FAO, Statistics Division.

Economic and political stability

Since the mid-2000s, food and agricultural markets have entered an unexpectedly turbulent phase, characterized by large supply shortfalls, price swings and increased uncertainty about the world's ability to feed itself. These uncertainties have had direct and adverse impacts on food security. On the demand side, high and volatile prices have meant not only that consumers have had to adjust their current food intake, but also that they have been forced to prepare for higher volatility in the future, hence saving more.

At the country level, the outcome of the recent instability has been affected by local conditions and the degree of integration into world markets. High food prices and high volatility have caused considerable concerns in many countries with particular exposure to world markets. A country's vulnerability to price changes on world markets also depends on its ability to generate foreign exchange through exports. For this reason, a relevant indicator of food security at the national level is the value share of staple food imports relative to the value of merchandise exports.

CHART 39: Value of food imports over total merchandise exports (1992 and 2010)



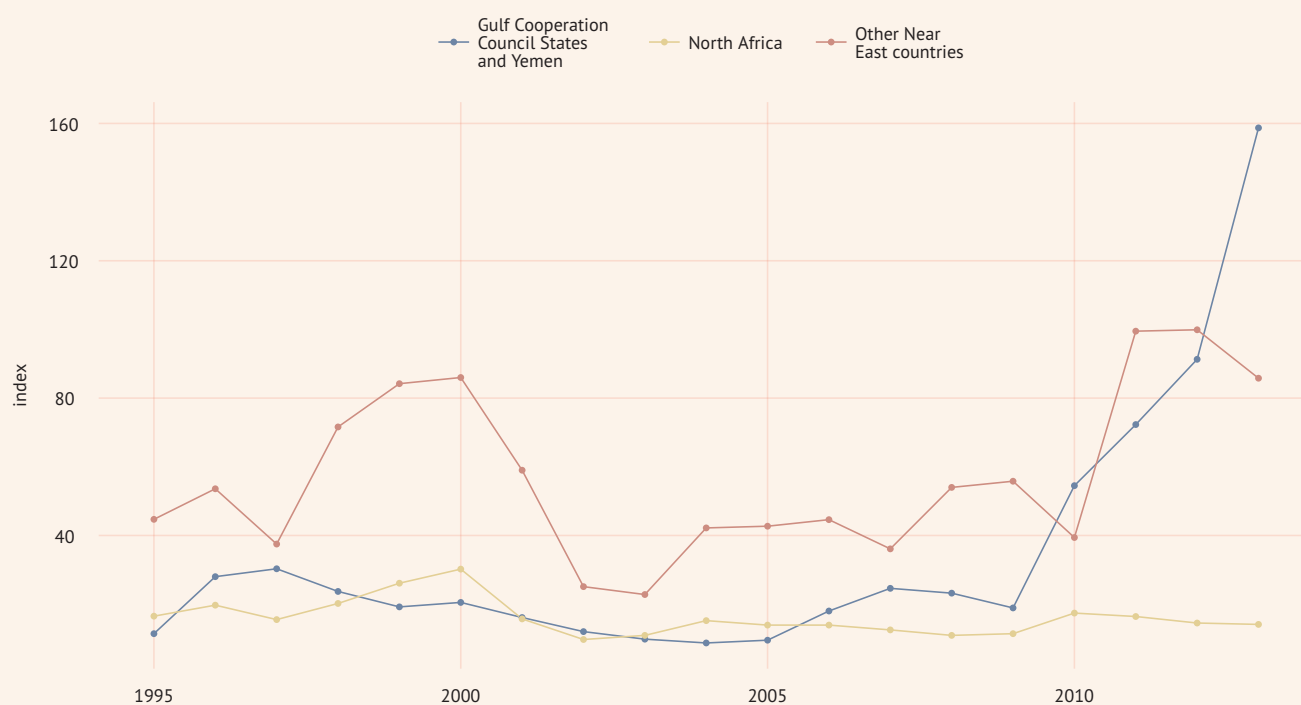
Source: FAO, Statistics Division.

CHART 40: Cereal import dependency ratio (1992 and 2009)



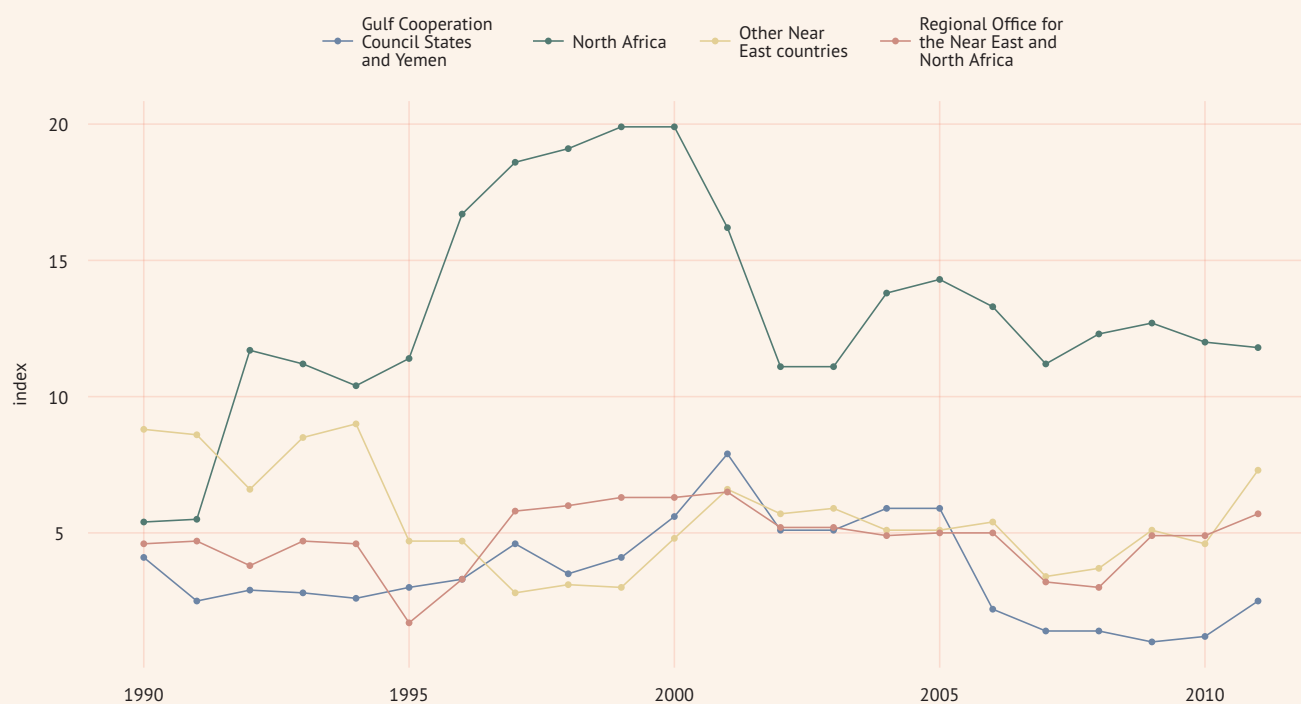
Source: FAO, Statistics Division.

CHART 41: Domestic food price volatility (1995-2013)



Source: FAO, Statistics Division.

CHART 42: Per capita food production variability (1990-2011)



Source: FAO, Statistics Division.

In the Near East, the value share of staple food imports relative to the value of merchandise exports has fallen from 13 percent in 1990-92 to seven percent during 2008-10. Lebanon and Yemen, where the value of food imports over total merchandise exports was well over 100 percent in 1990-92, have seen the greatest decline in this area. During this period, only Morocco and the Syrian Arab Republic have seen an increase in this percentage.

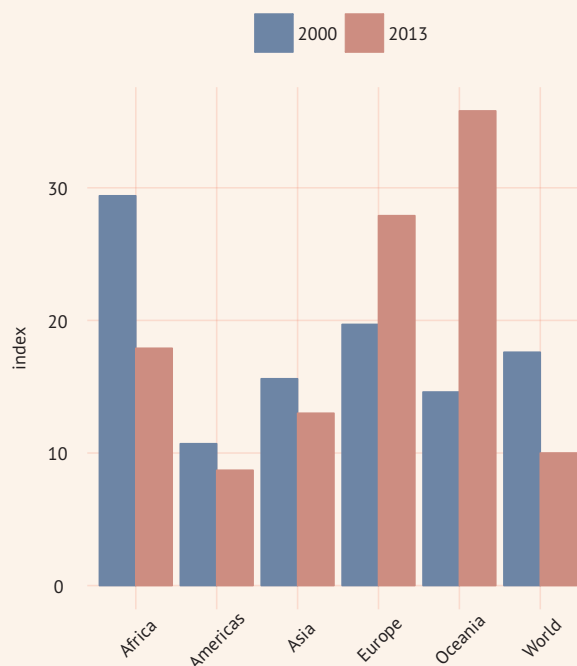
The Near East and North Africa region is heavily dependent on food imports, with some countries leading the world in terms of food import dependency. In 2007-09, the GCC countries relied on imports to meet 90 percent of their cereal needs. Kuwait and the United Arab Emirates depend entirely on imports for their cereal supply, as does Lebanon. The Islamic Republic of Iran has the lowest cereal import dependency ratio, with only 33 percent of its cereal needs being met through imports. In almost all countries the dependency on cereal imports has increased. Only Egypt, which had the second lowest ratio (36 percent), and Lebanon have registered minor declines in this area since the 1990-92 period. Forecasting models predict that the demand for food (especially in the Arab countries) will grow at a faster rate than production, leading to an even greater dependence on world grain markets.

In some countries, a high prevalence of undernourishment has been associated with relatively low variability in supply in recent years. Political stability and the absence of civil strife and violence are other key determinants of food security. The basic rationale behind this relationship is straightforward and reflects the functioning of the overall economy, people's ability to generate income and governments' capacity to support the poor. Women and children are normally more vulnerable to political and economic instability.

Further reading

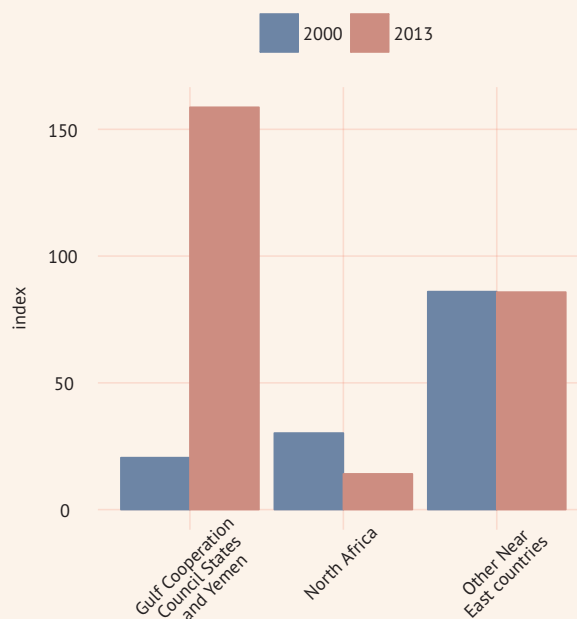
- FAO The State of Food Insecurity in the World 2012 - Economic Growth Is Necessary but Not Sufficient to Accelerate Reduction of Hunger and Malnutrition (www.fao.org/publications/sofi/en/)
- Global Information and Early Warning System (www.fao.org/gIEWS/english/index.htm)
- Prakash (2011) (www.fao.org/economic/est/issues/volatility/vgm/en/)

CHART 43: Domestic food price volatility (2000 and 2013)



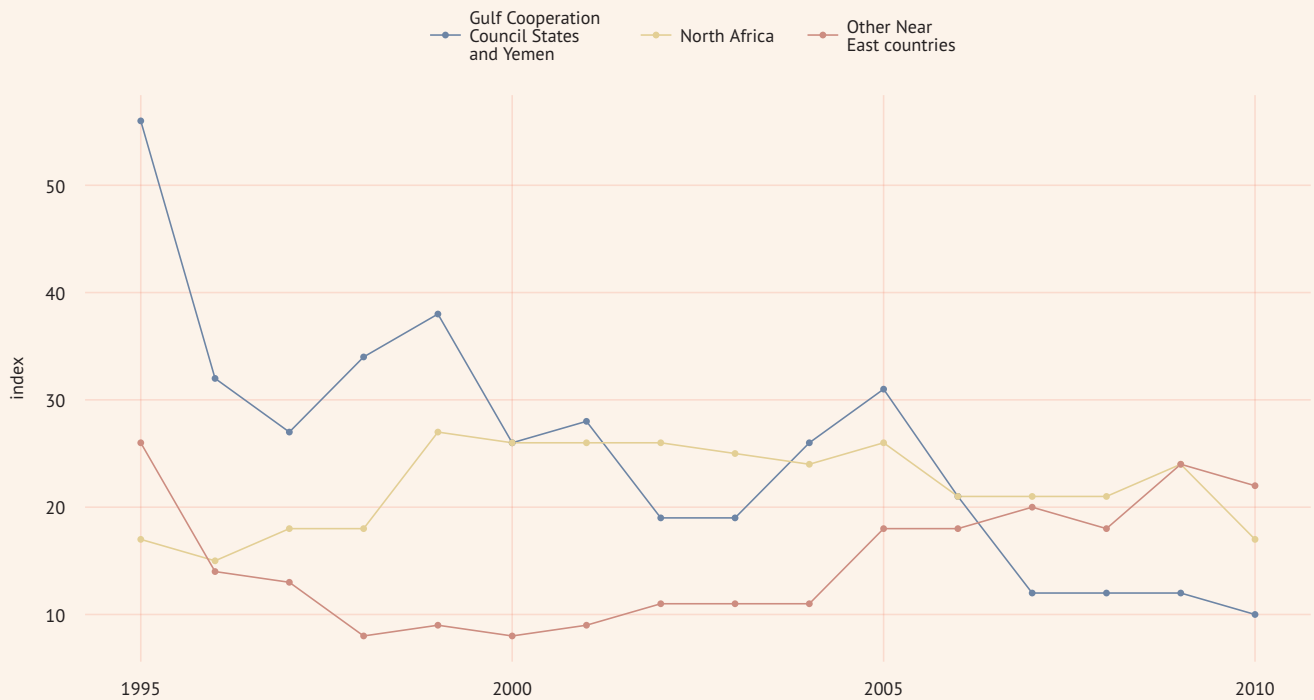
Source: FAO, Statistics Division.

CHART 44: Domestic food price volatility (2000 and 2013)



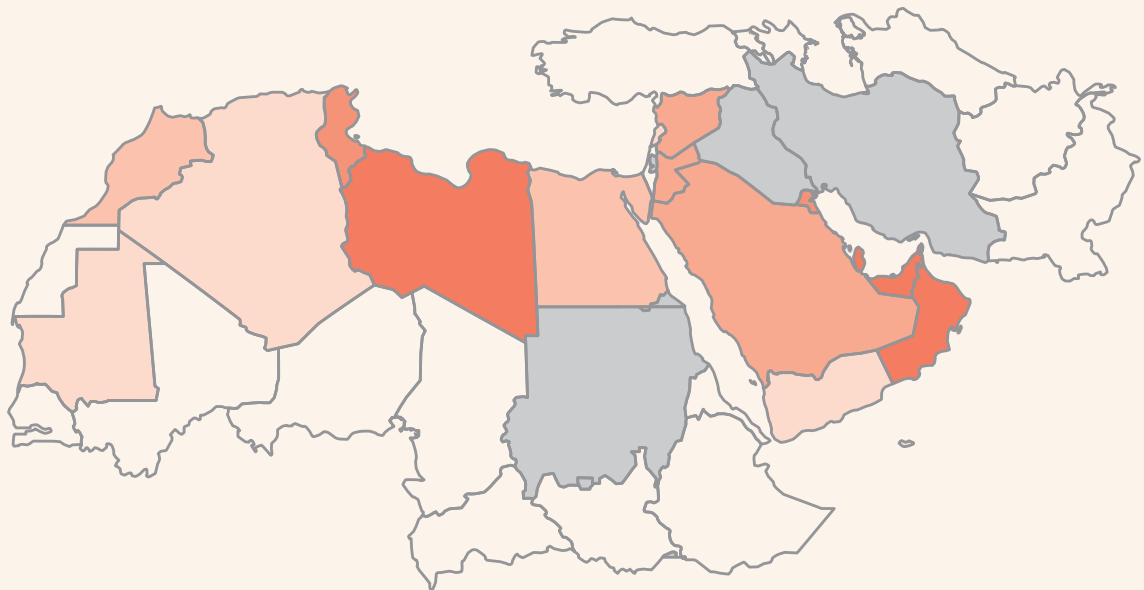
Source: FAO, Statistics Division.

CHART 45: Per capita food supply variability (1995-2010)



Source: FAO, Statistics Division.

MAP 26: Political stability and absence of violence/terrorism (index, 2009)



Source: FAO, Statistics Division.

Education and health

Investments will need to be made in education, especially in rural areas, if chronic hunger and poverty are to be put to an end. Education, particularly for women, has proven to be an effective means of reducing child malnutrition and infant mortality. There is a positive correlation between female literacy and better living conditions for women and their children. Better education, along with knowledge on improved child feeding practices, food preservation and better sanitation, can have a profound impact on improving food security.

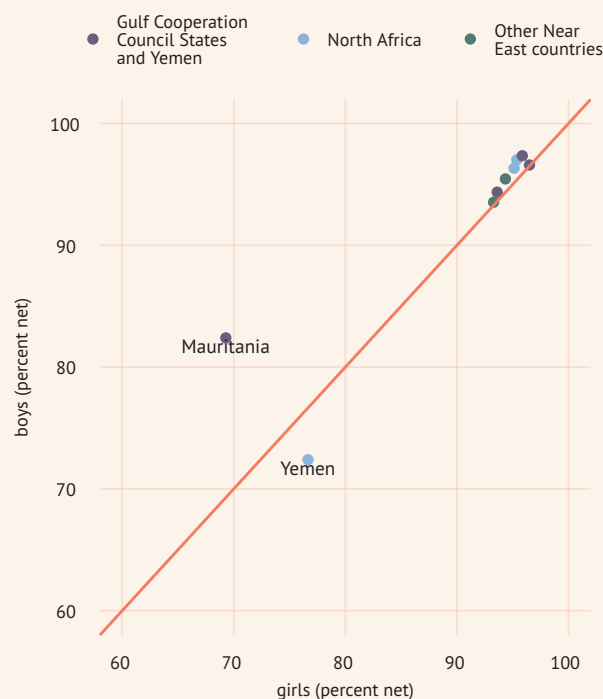
Between 2002 and 2010, only four countries in the Near East and North Africa, all of them in GCC countries, the percentage of women over 15 that are literate is over 90 percent. In general, female literacy has a close relationship with undernourishment. For example, Mauritania and Yemen, the countries with the highest prevalence of undernourished people, show two of the lowest levels of female literacy. However, Morocco, which has a relatively low prevalence of undernourishment, has the lowest percentage of female literacy in the region (44 percent).

Health care systems are mostly financed from a mix of government resources, the private sector, non-governmental organizations (NGOs) and foreign assistance. The distribution of expenditure on health care across countries is vastly uneven, as are the amounts of resources employed. The International Labour Organization (ILO) found that only one in five people in the world had broad-based social security protection against illness, while more than half the world's population lacked social protection. In 2010, an average of 10 percent of global GDP was spent on health care. In the Near East and North Africa, 4.6 percent of the GDP was spent on health care, up from 3.8 percent in 1995. Iraq had the highest share of GDP expenditures on health (8.5 percent), followed closely by Jordan (8.3 percent).

Further reading

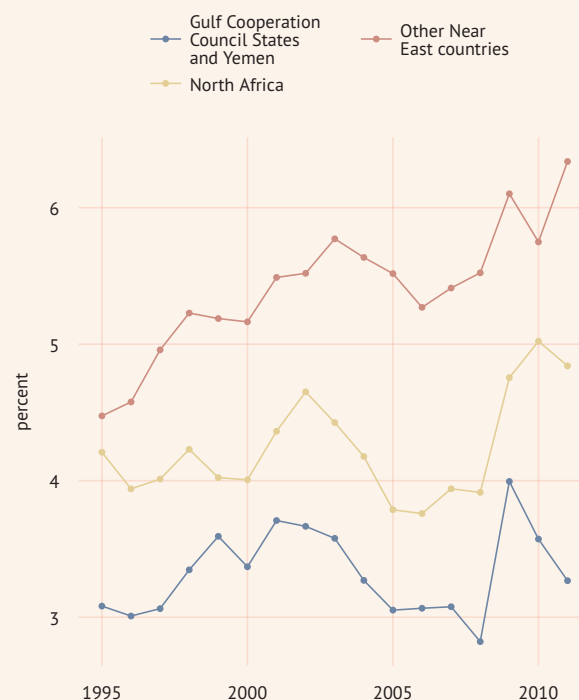
- UNESCO education (www.unesco.org/new/en/education/)
- UNDP Human Development Report 2010 - The Real Wealth of Nations: Pathways to Human Development (hdr.undp.org/en/reports/global/hdr2010/)
- O'Donovan (2008)

CHART 46: Girls' and boys' enrolment in primary education (2011)



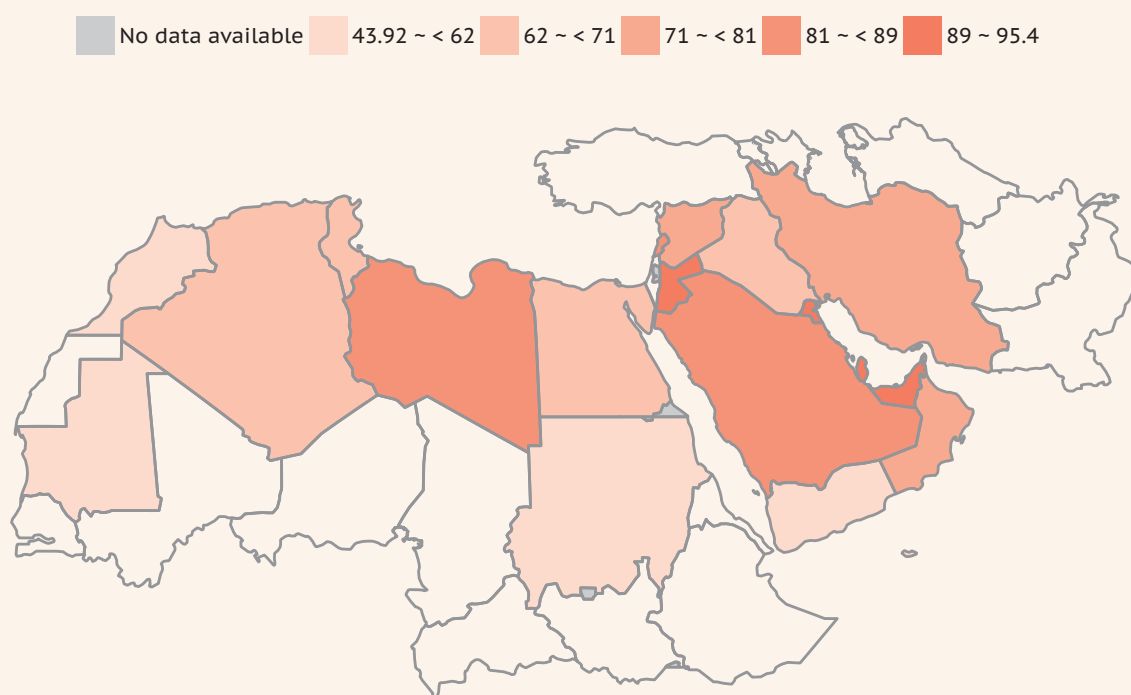
Source: World Bank (WDI).

CHART 47: Total health expenditure, share of GDP (1995-2011)



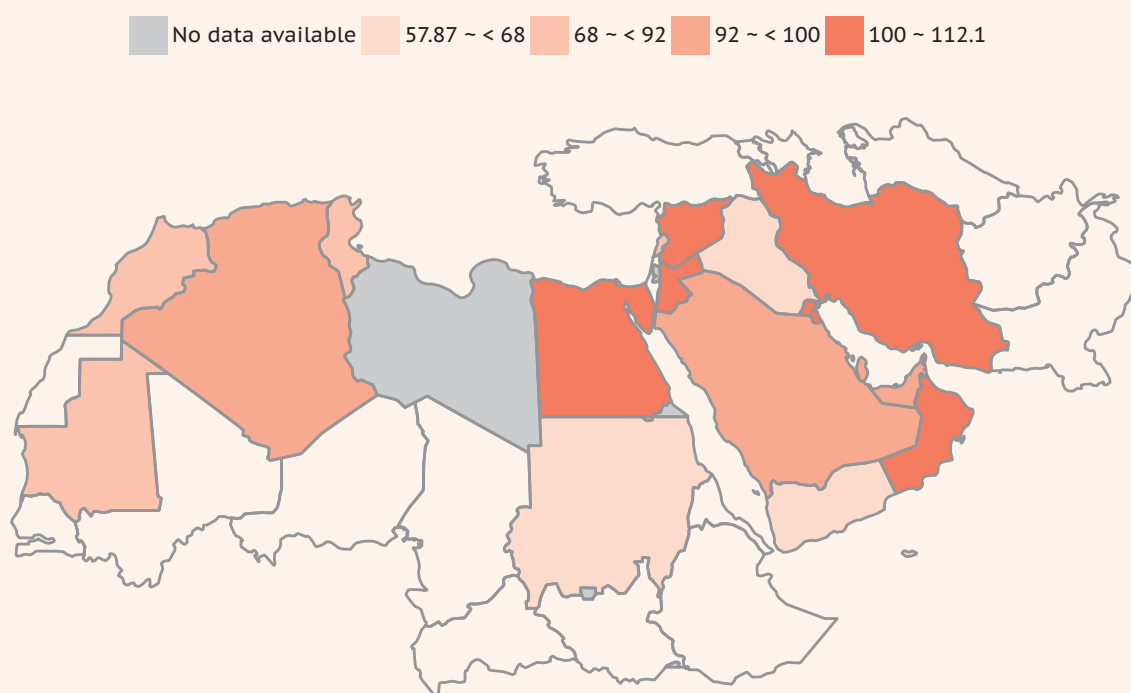
Source: World Bank (WDI).

MAP 27: Literacy rate, adult female - share of females ages 15 and above (percent, 2005-2010*)



Source: World Bank (WDI).

MAP 28: Primary completion rate, total (percent, 2005-2010*)



Source: World Bank (WDI).

Natural and human-made risks

Armed conflict and natural disasters often put food security at risk, especially in countries and areas where poverty is high, institutions are fragile and rural livelihoods are founded on unsustainable natural resource management practices. Two groups of indicators are considered here: those from the Office of the United Nations High Commissioner for Refugees (UNHCR), reflecting political and military conditions; and those from the Centre for Research on the Epidemiology of Disasters (CRED), reporting on natural disasters such as droughts, floods and extreme temperatures.

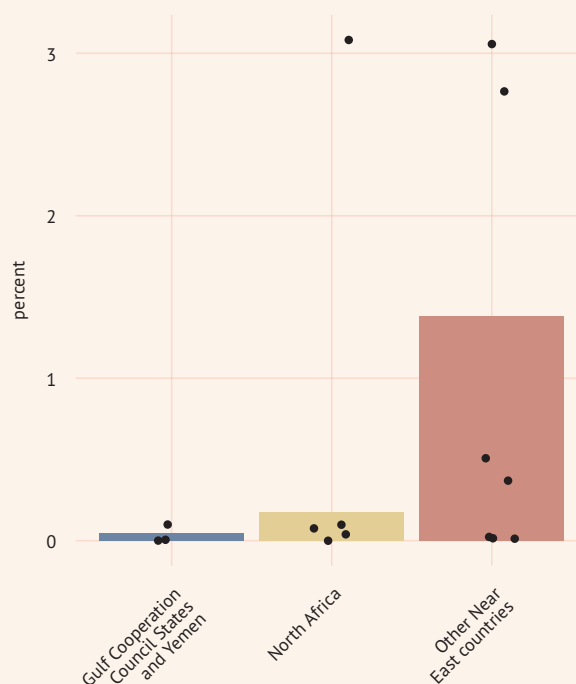
In the *2010 State of Food Insecurity in the World* report, 22 countries were identified as undergoing a state of protracted crisis. Two of these are in the Near East and North Africa: Iraq and Sudan. In 2011, Iraq had the largest number of internally displaced persons over 1.3 million. Yemen was the only other country in the region with significant number of internally displaced persons (347 000). The impact of these crises in these countries is evident in the high level of undernourishment.

As the climate changes, the Near East and North Africa region has witnessed varying degree of extreme events such as droughts, floods, and sand and snowstorms, which have had an impact on rural livelihoods and food security. For example, in north-eastern Syria, herders lost almost 85 percent of their livestock due to repeated droughts since 2005. Climate change is also predicted to increase the risk of wildfires in the region.

Further reading

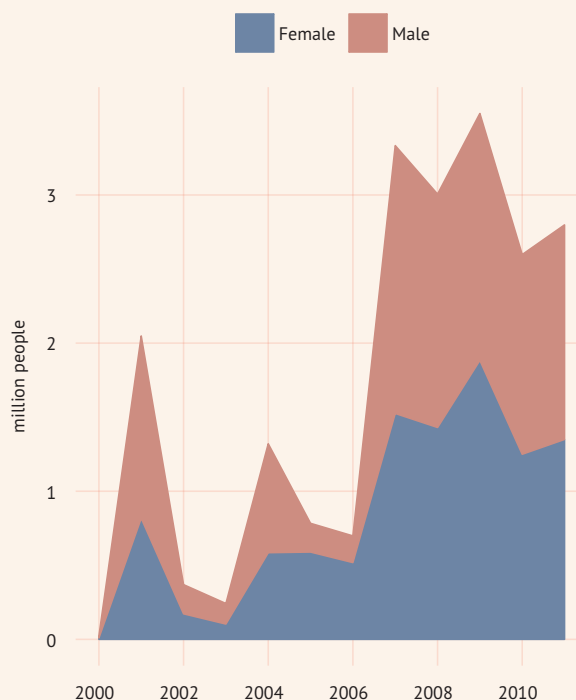
- FAO Regional Conference For The Near East, 31st session: Actions to Adapt to and Mitigate Climate Change Impacts on Natural Resources: the Case of Fisheries and Aquaculture, Forestry, and Livestock in the Near East (<http://www.fao.org/docrep/meeting/025/md462E.pdf>)
- Centre for Research on the Epidemiology of Disasters (www.cred.be/)
- United Nations High Commissioner for Refugees (www.unhcr.org)
- Internal Displacement Monitoring Centre (www.internal-displacement.org/)

CHART 48: Droughts, floods, extreme temperatures - share of population affected (2009)



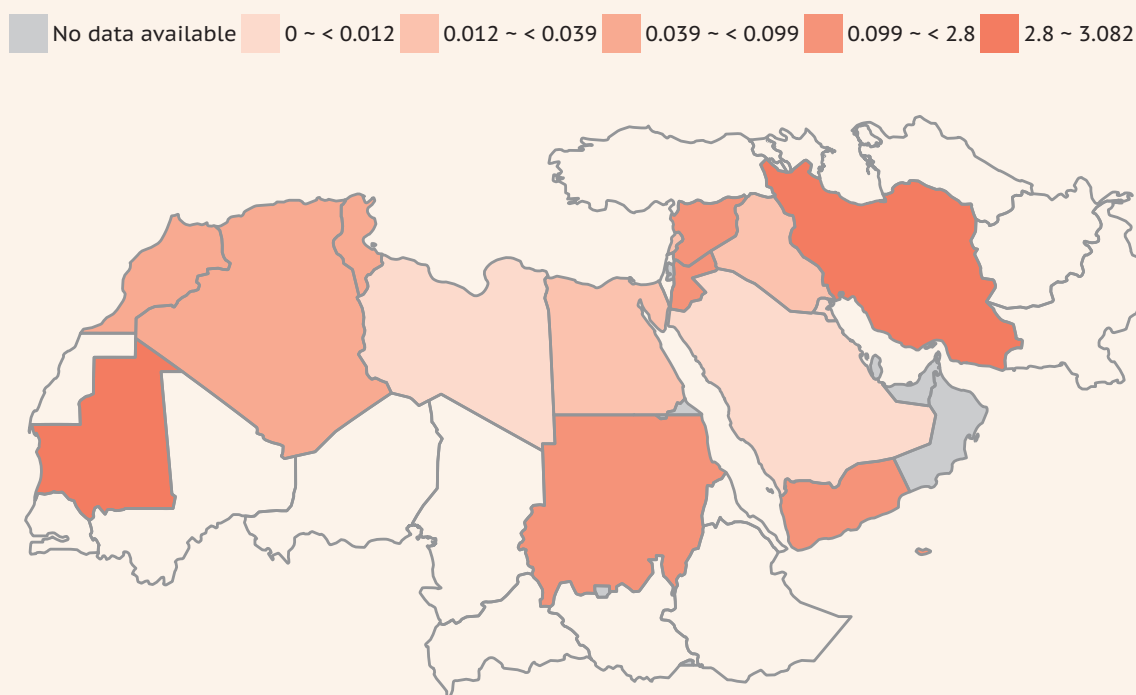
Source: World Bank (WDI).

CHART 49: Refugees in Near East and North Africa region (2000-2011)



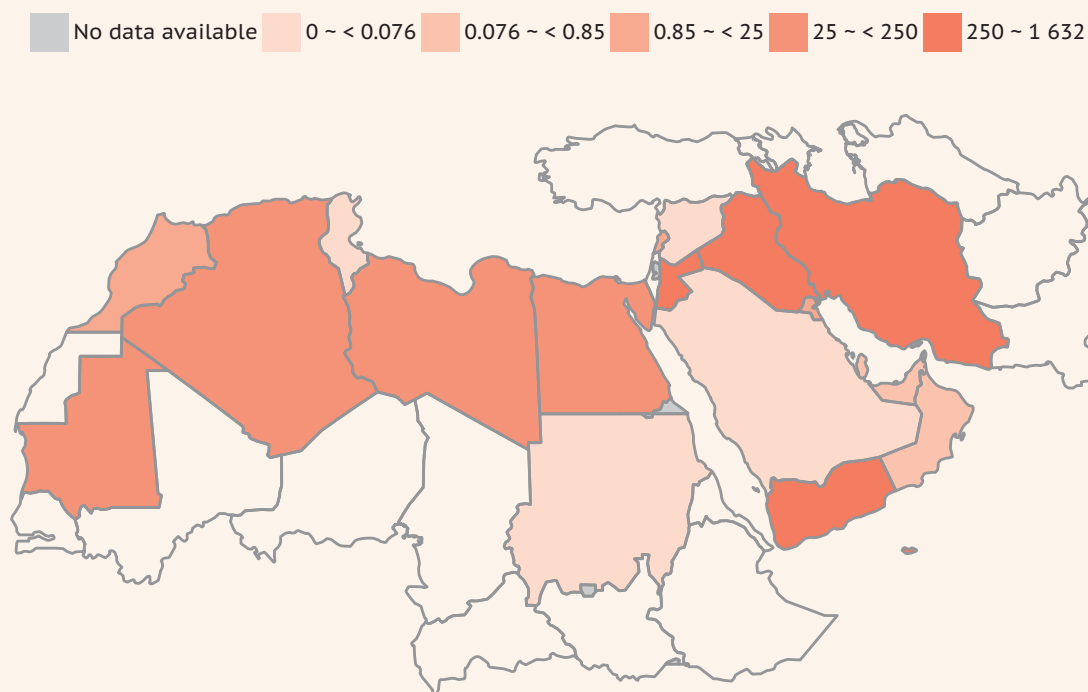
Source: Statistical Online Population Database .

MAP 29: Droughts, floods, extreme temperatures - share of population affected (average 1990-2009) (percent, 2009)



Source: World Bank (WDI).

MAP 30: UNHCR total population of concern (thousand people, 2011)



Source: Statistical Online Population Database .

TABLE 12: Outcomes: Inadequate access to food

	Inadequate access to food							
	prevalence of		number of		% of food expenditure of the poor	depth of the food deficit		prevalence of food inadequacy
	undernourishment percent	percent	undernourished million people	million people	percent	kcal/cap/day	kcal/cap/day	percent
	1990-92	2011-13	1990-92	2011-13	2000-12*	1990-92	2011-13	1990-92
Regional office for the Near East and North Africa	9.0	10.0	25.8	43.7		59	78	13.5
Gulf Cooperation Council States and Yemen	14.9	12.5	4.9	8.1		92	82	20.6
Bahrain								
Kuwait	39.3	< 5	0.8	ns		295	11	51.9
Oman								< 5
Qatar								
Saudi Arabia	< 5	< 5	ns	ns		18	12	6.4
United Arab Emirates	< 5	< 5	ns	ns		7	25	< 5
Yemen	29.2	28.8	3.7	7.4		171	188	37.2
North Africa	5.2	3.2	3.4	2.9		30	20	8.7
Algeria	5.5	< 5	1.4	ns		31	15	9.2
Libya	< 5	< 5	ns	ns		5	8	< 5
Mauritania	12.9	7.8	0.3	0.3		76	46	18.9
Morocco	6.7	5.0	1.7	ns		38	31	10.7
Tunisia	< 5	< 5	ns	ns	41.0	5	6	< 5
Other Near East Countries	9.6	11.9	17.1	32.3		63	96	13.8
Egypt	< 5	< 5	ns	ns		13	8	5.5
Iran (Islamic Republic of)	< 5	< 5	ns	ns		18	29	5.6
Iraq	10.0	26.2	1.8	8.8	49.0	56	217	15.0
Jordan	6.1	< 5	0.2	ns		35	20	10.2
Lebanon	< 5	< 5	ns	ns		22	20	6.9
Sudan								6.5
Sudan (former)	41.9	38.9	11.4	17.8	72.0	294	328	51.8
Syrian Arab Republic	< 5	6.0	ns	1.3		26	38	7.8
Regional Office for Africa	32.8	24.8	173.1	222.7		241	189	41.1
Regional Office for Asia and the Pacific	20.9	11.8	735.0	528.7		157	88	31.7
Regional Office for Europe and Central Asia	8.2	< 5	10.0	ns		19	12	5.9
Regional Office for Latin America and the Caribbean	14.7	7.9	65.6	47.0		97	56	21.8
World	18.9	12.0	1 015.3	842.3		128	83	26.2
								18.4

TABLE 13: Utilization

	Outcomes						adults
	children under 5 years of age						
	underweight		stunted		wasted		
	percent 1990-95*	percent 2005-11*	percent 1990-95*	percent 2005-11*	percent 1990-95*	percent 2005-11*	
							underweight percent 1990-2011*
Regional office for the Near East and North Africa							
Gulf Cooperation Council States and Yemen							
Bahrain	7.6		14		6.6		
Kuwait	9.2	1.7	15	4	12.0	1.8	2.5
Oman	10.0	8.6	21	10	7.0	7.1	
Qatar	4.8		12		2.1		
Saudi Arabia	13.5	5.3	21	9	2.9	11.8	7.0
United Arab Emirates							
Yemen	29.6		52		14.3		
North Africa							
Algeria	11.3	3.7	22	16	9.6	4.0	
Libya	4.3	5.6	21	21	3.7	6.5	
Mauritania	43.3	15.9	55	23	17.4	8.1	
Morocco	8.1	3.1	30	15	2.6	2.3	5.3
Tunisia	8.1	3.3	31	9	4.5	3.4	
Other Near East Countries							
Egypt	10.8	6.8	35	31	5.7	7.9	
Iran (Islamic Republic of)	13.8		24		8.1		5.9
Iraq	10.4	7.1	28	28	4.4	5.8	
Jordan	4.8	1.9	20	8	3.8	1.6	3.0
Lebanon		5.2		27		5.2	
Sudan							
Sudan (former)	31.8	31.7	39	38	18.8	21.0	
Syrian Arab Republic	11.3	10.1	26	28	10.4	11.5	
Regional Office for Africa							
Regional Office for Asia and the Pacific							
Regional Office for Europe and Central Asia							
Regional Office for Latin America and the Caribbean							
World							

TABLE 14: Poverty

	Headcount ratio		Gap				GINI coefficient	Income share	
	in \$ per day (PPP)		in \$ per day (PPP)		at national poverty line	at rural poverty line		held by highest 20%	held by lowest 20%
	1.25 percent 2005-12*	2 percent 2005-12*	1.25 percent 2005-12*	2 percent 2005-12*	percent 2005-12*	percent 2005-12*		percent 2005-12*	percent 2005-12*
Regional office for the Near East and North Africa									
Gulf Cooperation Council States and Yemen									
Bahrain									
Kuwait									
Oman									
Qatar							41	52	3.9
Saudi Arabia									
United Arab Emirates									
Yemen	17.5	46.6	4.2	14.8	8.9	10.6	38	45	7.2
North Africa									
Algeria									
Libya									
Mauritania	23.4	47.7	6.8	17.7	14.5	22.3	40	47	6.0
Morocco	2.5	14.0	0.5	3.2			41	48	6.5
Tunisia	1.1	4.2	0.4	1.1			36	43	6.7
Other Near East Countries									
Egypt	1.7	15.4	0.4	2.8	3.6		31	40	9.2
Iran (Islamic Republic of)	1.4	8.0	0.3	1.8			38	45	6.4
Iraq	2.8	21.4	0.4	4.4	4.5	9.0	31	40	8.7
Jordan	0.1	1.6	0.0	0.2	2.6		35	44	7.7
Lebanon									
Sudan					16.2	21.3	35		
Sudan (former)	19.8	44.1	5.5	15.4				42	6.8
Syrian Arab Republic									
Regional Office for Africa									
Regional Office for Asia and the Pacific									
Regional Office for Europe and Central Asia									
Regional Office for Latin America and the Caribbean									
World									

TABLE 15: Determinants: Availability

	Availability									
	average dietary supply adequacy		value of food production per capita		share of energy supply derived from cereals, roots and tubers		average supply of			
	percent 1990-92	percent 2011-13	l\$/cap 1990-92	l\$/cap 2009-11	percent 1990-92	percent 2008-10	protein g/cap/day 1990-92	protein g/cap/day 2008-10	protein of animal origin g/cap/day 1990-92	protein of animal origin g/cap/day 2008-10
Regional office for the Near East and North Africa	131	130	177	226	61	57	74	82	18	24
Gulf Cooperation Council States and Yemen	117	120	102	97	55	56	70	77	23	27
Bahrain			41	23						
Kuwait	91	143	22	87	48	43	60	115	27	61
Oman			93	137						
Qatar			66	29						
Saudi Arabia	129	134	144	128	49	54	79	85	29	31
United Arab Emirates	137	122	130	102	34	43	105	104	55	49
Yemen	103	101	58	73	67	62	55	55	10	12
North Africa	135	141	173	230	60	57	81	89	19	23
Algeria	133	146	117	183	59	58	77	89	19	23
Libya	144	139	172	175	49	52	81	80	27	27
Mauritania	119	129	163	138	55	49	79	85	33	36
Morocco	135	139	188	265	64	60	84	89	15	21
Tunisia	140	139	302	332	56	53	85	95	19	26
Other Near East Countries	132	129	194	258	62	57	73	80	16	23
Egypt	142	147	177	259	68	67	84	97	13	21
Iran (Islamic Republic of)	142	133	230	332	62	55	82	89	18	26
Iraq	127	111	121	76	67	60			9	8
Jordan	127	134	163	197	51	47	73	80	22	29
Lebanon	133	133	375	269	37	39	77	85	24	36
Sudan										
Sudan (former)	92	103	156	261	58	48	62	75	21	30
Syrian Arab Republic	134	129	259	297	51	47	73	84	19	24
Regional Office for Africa	100	111	152	160	62	64	52	59	12	13
Regional Office for Asia and the Pacific	107	117	175	259	63	57	59	75	15	26
Regional Office for Europe and Central Asia	132	135	431	419	29	38	79	101	42	53
Regional Office for Latin America and the Caribbean	117	127	315	457	43	40	68	82	30	41
World	114	122	240	302	56	51	69	79	24	31

TABLE 16: Determinants: Physical and economic access

	Access										
	physical access						economic access			lack of access to	
	% of paved roads		rail-lines density		road density		food price level index			water	sanitation
	percent	percent	km per 100 square km of land area	km per 100 square km of land area	km per 100 square km of land area	km per 100 square km of land area	index	index	index	percent	percent
	1990	2005-10*	1990	2005-11*	1990	2005-10*	2000	2005	2013	2011	2011
Regional office for the Near East and North Africa	54				5		1.6	1.6		10	10
Gulf Cooperation Council States and Yemen	35	25			8	11	1.0	1.1		18	17
Bahrain	75	82			384	542	1.1	1.0	1.2	0	1
Kuwait	73				22	37	0.8	0.9	0.9	1	0
Oman	21	46			8	18	1.0	1.1	1.1	8	3
Qatar	86					85	0.9	0.8	0.8	0	0
Saudi Arabia	41	22	0.0	0.0	6	10	1.0	1.1		3	0
United Arab Emirates	94				5	5				0	2
Yemen	9	9			10	14	1.3	1.5	1.6	45	47
North Africa	58	68			4		1.6	1.6		17	17
Algeria	67	77	0.2	0.1	4	5				16	5
Libya	52				4						3
Mauritania		30		0.1	1	1	2.0	2.1		50	73
Morocco	49	70	0.4	0.5	13	13	1.6	1.6	1.6	18	30
Tunisia	76	76	1.4	0.7	12	12	1.7	1.7	1.8	4	10
Other Near East Countries		85			5		2.1	2.1		5	5
Egypt	72	92	0.5	0.5		14	2.0	1.8	2.0	1	5
Iran (Islamic Republic of)		81	0.3	0.3	8	11	2.5	2.4		5	0
Iraq	78			0.5	10	10	1.5	1.5	1.6	15	16
Jordan	100	100	0.3	0.3	8	8	1.2	1.2	1.3	4	2
Lebanon	95				61	67				0	
Sudan										2	10
Sudan (former)	34		0.2	0.2	0					45	76
Syrian Arab Republic		90	1.3	1.2	18	38	1.4	1.4		10	5
Regional Office for Africa							1.8	1.9		37	69
Regional Office for Asia and the Pacific		55			18	24	1.7	1.7		9	42
Regional Office for Europe and Central Asia					26	29	1.2	1.2		2	6
Regional Office for Latin America and the Caribbean	15	20			14	15	1.3	1.3		6	19
World			0.8	0.9	21	25				11	37

TABLE 17: Vulnerability/Stability

	Value of food imports over total merchandise exports			Cereal import dependency ratio			Percent of arable land equipped for irrigation		
	percent 1990-92	percent 1999-2001	percent 2008-10	percent 1990-92	percent 1999-2001	percent 2007-09	percent 1990-92	percent 1999-2001	percent 2009-11
Regional office for the Near East and North Africa	12	9	7	41	53	53	30	32	42
Gulf Cooperation Council States and Yemen	8	5	5	60	83	90	40	45	56
Bahrain	7	6	5				100	100	100
Kuwait	11	7	3	100	100	100	75	70	95
Oman	8	6	5				100	100	100
Qatar	7	3	3				64	99	93
Saudi Arabia	7	6	5	48	74	83	45	48	55
United Arab Emirates	7	3	4	100	100	100	100	100	100
Yemen	126	21	31	72	79	82	26	33	56
North Africa	13	12	9	49	72	65	12	13	15
Algeria	16	13	10	62	80	71	7	7	8
Libya	9	9	4	90	91	92	26	26	27
Mauritania	27	43	23	74	68	75	10	10	10
Morocco	15	17	20	27	60	54	14	16	18
Tunisia	11	9	10	35	67	60	13	14	16
Other Near East Countries	23	18	13	35	40	39	38	40	59
Egypt	69	46	33	38	36	36	100	100	100
Iran (Islamic Republic of)	11	10	7	27	41	33	43	50	53
Iraq	29	13	9	44	73	62	67	82	91
Jordan	56	34	29	94	98	100	33	40	52
Lebanon	114	117	41	89	88	88	47	71	77
Sudan									11
Sudan (former)	42	21	15	18	22	25	15	11	
Syrian Arab Republic	16	13	21	30	22	49	16	26	28
Regional Office for Africa	10	9	9	18	18	22	4	4	3
Regional Office for Asia and the Pacific	5	4	4	11	10	9	33	31	36
Regional Office for Europe and Central Asia	7	5	6	18	16	21	16	13	13
Regional Office for Latin America and the Caribbean	9	8	6	22	30	30	13	13	13
World	7	5	5	15	15	16	19	21	23

TABLE 18: Health and education

	Literacy rate	Primary completion rate		School enrollment				Health expenditure	
	adult female, % of females ages 15 +	total		primary				share of GDP	
				female	male				
	percent 2005-10*	percent 1990	percent 2010	percent 1990	percent 2010	percent 1990	percent 2010	percent 1995	percent 2010
Regional office for the Near East and North Africa								3.8	4.6
Gulf Cooperation Council States and Yemen								3.1	3.6
Bahrain	90							4.6	4.3
Kuwait	92							3.8	2.6
Oman	81	62		62		67		3.6	2.7
Qatar	95	74		86	92	88	92	3.7	2.1
Saudi Arabia	81				97		97	3.0	4.0
United Arab Emirates	91	91		96		99		2.6	3.7
Yemen	47		63		70		85	4.5	5.6
North Africa								4.2	5.0
Algeria	64	81	96	81	95	94	97	4.2	4.3
Libya	83							3.5	
Mauritania	51	29			76		72	4.8	6.1
Morocco	44	52	85	46	93	67	95	3.9	5.9
Tunisia	71	80		87		97		5.8	5.7
Other Near East Countries								4.5	5.7
Egypt	64		101					3.9	4.7
Iran (Islamic Republic of)	81	87	107	90		98		3.8	5.3
Iraq	71								8.5
Jordan	89	95			91		91	8.3	8.3
Lebanon	86		87		91		92	10.7	6.2
Sudan									7.2
Sudan (former)	62							3.4	
Syrian Arab Republic	77	92	104					5.5	3.4
Regional Office for Africa			67					5.7	6.5
Regional Office for Asia and the Pacific								5.8	6.4
Regional Office for Europe and Central Asia			99					8.4	9.8
Regional Office for Latin America and the Caribbean			102					6.5	7.6
World								8.8	10.3

TABLE 19: Population at risk

	Droughts, floods, extr temp	UNHCR population of concern				
		total		total refugees	internally displaced persons	others and stateless persons
		% of population affected				
		percent 2009	thousand people 2000	thousand people 2011	thousand people 2011	thousand people 2011
Regional office for the Near East and North Africa		0.9	273	3 900	0.1	1 680
Gulf Cooperation Council States and Yemen		0.0	40	577	0.1	347
Bahrain			0	0	0.0	0
Kuwait	0.0		3	1	0.0	0
Oman			0	0	0.1	0
Qatar			0	0	0.0	0
Saudi Arabia	0.0		5	0	0.0	0
United Arab Emirates			0	1	0.0	0
Yemen	0.1		32	574	0.0	347
North Africa	0.2		17	218	0.0	0
Algeria	0.0		14	94	0.0	0
Libya	0.0		2	96	0.0	0
Mauritania	3.1		0	27	0.0	0
Morocco	0.1		0	1	0.0	0
Tunisia	0.1		0	0	0.0	0
Other Near East Countries	1.4		216	3 105	0.0	1 332
Egypt	0.0		7	114	0.0	0
Iran (Islamic Republic of)	3.1		77	887	0.0	0
Iraq	0.0		125	1 632	0.0	1 332
Jordan	0.4		1	456	0.0	0
Lebanon	0.0		3	16	0.0	0
Sudan			0	0	0.0	0
Sudan (former)	2.8					
Syrian Arab Republic	0.5		3	0	0.0	0
Regional Office for Africa	1.9		2 616	4 747	105.0	4 445
Regional Office for Asia and the Pacific	4.4		3 154	6 556	1.0	1 566
Regional Office for Europe and Central Asia	0.2		2 009	2 589	2.9	1 294
Regional Office for Latin America and the Caribbean	0.5		34	338	0.1	3 888
World	2.9		8 350	17 564	109.1	12 844

