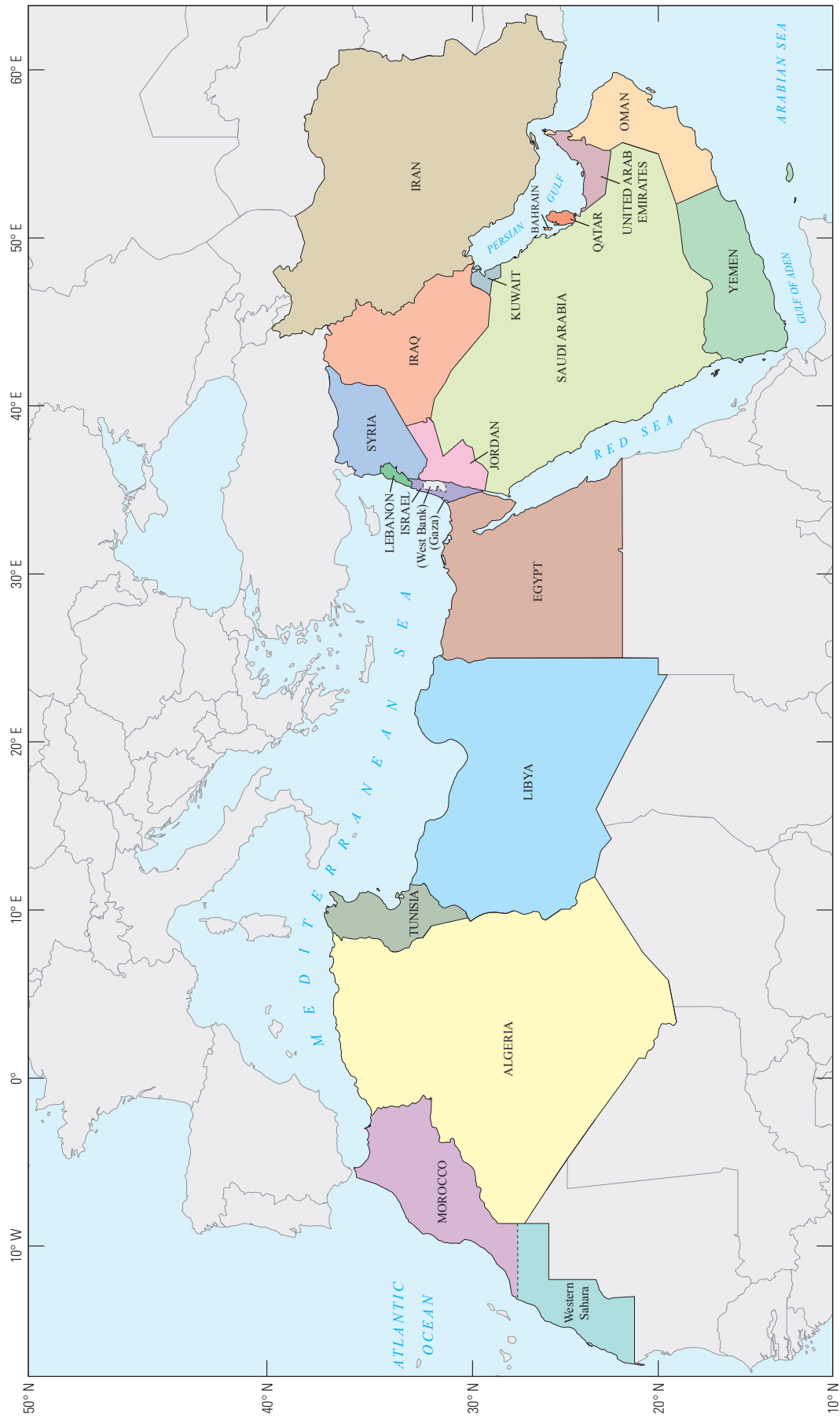




2019 Minerals Yearbook

**MIDDLE EAST AND NORTH AFRICA
[ADVANCE RELEASE]**



Base modified from ESRI ArcGIS online world countries (generalized) map data, 2017
 Mercator Auxiliary Sphere projection
 World Geodetic System 1984 datum

Figure 1. Map of the Middle East and North Africa region. The countries covered in this report are labeled on the map; bordering countries are shown in gray and not labeled.

THE MINERAL INDUSTRIES OF THE MIDDLE EAST AND NORTH AFRICA

By Philip A. Szczesniak, Ji Won Moon, and Mowafa Taib

The countries and dependencies that are covered in this chapter have a combined population of approximately 456 million people and a land area of 11.5 million square kilometers (fig. 1, table 1). In 2019, the gross domestic product (GDP) based on purchasing power parity of the Middle East and North Africa (MENA) region was \$7.6 trillion, accounting for 5.6% of the world's GDP. The region's real GDP increased by 1.4% compared with that in 2018 (table 2).

The MENA region accounted for 30.6% of the world's production of phosphate rock; 15.3%, ammonia; 10.9%, gypsum; 10.1%, aluminum; 8.3%, potash; and 6.5%, cement. Some countries of the MENA region were globally significant producers of metals, industrial minerals, and (or) mineral fuels and related materials. The major producers of phosphate rock in the region were Morocco and Western Sahara¹ (which together accounted for 16.5% of the world's output), Jordan (4.3%), and Saudi Arabia (3.0%). The major producers of ammonia in the region were Egypt (3.1% of the world's output), Saudi Arabia (2.9%), and Iran (2.6%). The major producers of gypsum in the region were Iran (4.7% of the world's output), Oman (3.1%), and Saudi Arabia (1.0%) (fig. 2). Data on mineral production for selected mineral commodities, by country in the region, are in table 3.

The MENA region was also a significant producer of the world's mineral fuels in 2019, accounting for 37.0% of the world's production of crude petroleum (including condensate); 21.0%, dry natural gas; and 10.2%, refined petroleum products.

¹Effective on December 10, 2020, the United States Government recognized the sovereignty of Morocco over all the territory of former Western Sahara. The information given in this chapter reflects the situation in 2019.

Some countries of the MENA region were globally significant producers of mineral fuels. Saudi Arabia was the region's leading producer of crude petroleum (accounting for 11.8% of world output) and refined petroleum products (2.7% of world output); Iran was the region's leading producer of dry natural gas, accounting for 6.2% of world output (table 3).

Acknowledgments

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- Algeria—Ministry of Mines;
- Bahrain—National Oil and Gas Authority;
- Israel—Department of Quarries and Mines, Ministry of National Infrastructure, Energy and Water Resources;
- Jordan—Ministry of Energy and Mineral Resources;
- Kuwait—Central Statistical Office, Ministry of Planning;
- Morocco—Ministry of Energy, Mines, and the Environment;
- Oman—Ministry of Commerce and Industry;
- Saudi Arabia—Central Department of Statistics and Information, Ministry of Economy and Planning; and Deputy Ministry for Mineral Resources, Ministry of Industry and Mineral Resources; and
- United Arab Emirates—National Bureau of Statistics.

TABLE 1
MIDDLE EAST AND NORTH AFRICA: AREA AND POPULATION IN 2019

| Country or territory | Area ¹ (square kilometers) | Estimated population ² (thousands) |
|--------------------------|--|--|
| Algeria | 2,381,740 | 43,053 |
| Bahrain | 760 | 1,641 |
| Egypt | 1,001,450 | 100,388 |
| Iran | 1,648,195 | 82,914 |
| Iraq | 438,317 | 39,310 |
| Israel | 21,937 | 9,054 |
| Jordan | 89,342 | 10,102 |
| Kuwait | 17,818 | 4,207 |
| Lebanon | 10,400 | 6,856 |
| Libya | 1,759,540 | 6,777 |
| Morocco | 446,550 | 36,472 |
| Oman | 309,500 | 4,975 |
| Qatar | 11,586 | 2,832 |
| Saudi Arabia | 2,149,690 | 34,269 |
| Syria | 187,437 | 17,070 |
| Tunisia | 163,610 | 11,695 |
| United Arab Emirates | 83,600 | 9,771 |
| West Bank and Gaza Strip | 6,220 | 4,685 |
| Western Sahara | 266,000 | 582 ³ |
| Yemen | 527,968 | 29,162 |
| Regional total | 11,522,000 | 455,830 |
| World total | 148,940,000 ⁴ | 7,673,345 ⁵ |

¹Source: U.S. Central Intelligence Agency, The World Factbook.

²Source: The World Bank, 2021 World Development Indicators Database.

³Source: United Nations, UNdata 2021.

⁴World area total includes the areal extent of some countries and (or) territories not covered in the Minerals Yearbook.

⁵World population total includes populations of some countries and (or) territories not covered in the Minerals Yearbook.

TABLE 2
MIDDLE EAST AND NORTH AFRICA: GROSS DOMESTIC PRODUCT^{1,2}

| Country or territory | Gross domestic product in 2019 based on purchasing power parity | | Real gross domestic product growth rate (percentage) | | |
|--------------------------|--|-------------------------|---|------------------|------------------|
| | Gross value (million dollars) | Per capita (dollars) | 2017 | 2018 | 2019 |
| | Algeria | 516,480 | 11,894 | 1.4 | 1.2 |
| Bahrain | 77,502 | 52,234 | 4.3 | 1.7 | 2.6 |
| Egypt | 1,230,730 | 12,444 | 4.1 | 5.3 | 5.6 |
| Iran | 1,070,593 | 12,858 | 3.8 | -6.0 | -6.8 |
| Iraq | 468,122 | 11,968 | -3.4 | 4.7 | 5.8 |
| Israel | 384,027 | 42,429 | 4.4 | 4.0 | 3.8 |
| Jordan | 106,030 | 10,530 | 2.1 | 1.9 | 2.0 |
| Kuwait | 218,998 | 45,850 | -4.7 | 2.4 | -0.6 |
| Lebanon | 103,960 | 15,164 | 0.8 | -1.7 | -7.3 |
| Libya | 96,026 | 14,598 | 64.0 | 17.9 | 13.2 |
| Morocco | 291,441 | 8,190 | 4.2 | 3.1 | 2.6 |
| Oman | 141,546 | 30,651 | 0.3 | 0.9 | -0.8 |
| Qatar | 265,773 | 94,946 | -1.5 | 1.2 | 0.8 |
| Saudi Arabia | 1,677,246 | 49,016 | -0.7 | 2.4 | 0.3 |
| Syria ³ | 20,379 | 1,194 | -1.5 | 2.7 | 4.8 |
| Tunisia | 130,487 | 11,074 | 1.9 | 2.7 | 1.0 |
| United Arab Emirates | 695,121 | 73,142 | 2.4 | 1.2 | 3.4 |
| West Bank and Gaza Strip | 30,497 | 6,128 | 1.4 | 1.2 | 1.4 |
| Western Sahara | 907 ⁴ | 2,500 ⁴ | NA | NA | NA |
| Yemen | 64,661 | 2,043 | -5.1 | 0.8 | 1.4 |
| Regional total | 7,590,526 | 16,652 ⁵ | 2.5 ⁶ | 1.7 ⁶ | 1.4 ⁶ |
| World total ⁷ | 134,916,440 | 17,582 ⁵ | 3.8 | 3.6 | 2.8 |

NA Not available.

¹Source: International Monetary Fund, World Economic Outlook Database, October 2021.

²Gross domestic product listed may differ from that reported in individual country chapters owing to differences in the source of date of reporting.

³Source: United Nations data 2021. Gross domestic product values at current prices.

⁴Source: U.S. Central Intelligence Agency, The World Factbook 2007 estimate.

⁵Calculated as gross domestic product divided by population.

⁶Annual change in regional gross domestic product.

⁷World gross domestic product total includes the gross domestic product of some countries and (or) territories not covered in the Minerals Yearbook.

TABLE 3
MIDDLE EAST AND NORTH AFRICA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2019¹
(Thousand metric tons, unless otherwise specified)

| Country or locality | Metals | | | | | | | | | | | |
|----------------------------|--------------------|-------------------|---|----------------------------|----------------------------|-------------------------------|---|----------------------------|---|----------------------------|-------------------|--|
| | Aluminum | | Chromite, mine output, gross weight | Copper | | Iron and steel, steel, raw | Silver | | Zinc | | Metal, primary | |
| | Bauxite | Metal, primary | | Mine output, Cu content | Metal, refined, primary | | mine output, Ag content (metric tons) | Mine output, Zn content | Mine output, Ag content (metric tons) | Mine output, Zn content | | |
| Algeria | -- | -- | -- | -- | -- | 2,000 ^e | (2) ^e | 1,000 ^e | -- | -- | -- | |
| Bahrain | -- | 1,365 | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Egypt | -- | 300 ^e | -- | -- | -- | 7,257 | -- | -- | -- | -- | -- | |
| Iran | 780 ^e | 290 ^e | 122 | 315 ^e | 177 | 25,609 | 50 ^e | 140,000 ^e | 140,000 | -- | -- | |
| Iraq | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Israel | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Jordan | -- | -- | -- | -- | -- | 150 ^e | -- | -- | -- | -- | -- | |
| Kuwait | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Lebanon | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Libya | -- | -- | -- | -- | -- | 606 | -- | -- | -- | -- | -- | |
| Morocco and Western Sahara | -- | -- | -- | 25 ^e | -- | 600 ^e | 251 | 51,000 ^e | -- | -- | -- | |
| Oman | -- | 391 | 220 | -- | -- | 2,000 ^e | -- | -- | -- | -- | -- | |
| Qatar | -- | 627 | -- | -- | -- | 2,558 | -- | -- | -- | -- | -- | |
| Saudi Arabia | 4,050 ^e | 790 ^e | -- | 69 | -- | 8,191 | 6 | 30,000 ^e | -- | -- | -- | |
| Syria | -- | -- | -- | -- | -- | 5 ^e | -- | -- | -- | -- | -- | |
| Tunisia | -- | -- | -- | -- | -- | 77 | -- | -- | -- | -- | -- | |
| United Arab Emirates | -- | 2,570 | 159 | -- | -- | 3,327 | -- | -- | -- | -- | -- | |
| Yemen | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | |
| Regional total | 4,830 | 6,333 | 501 | 409 | 177 | 52,380 | 307 | 222,000 | 140,000 | -- | -- | |
| Share of world total | 1.4% | 10.1% | 1.1% | 2.3% | 1.0% | 2.8% | 1.2% | 1.7% | 1.0% | -- | -- | |
| United States | W | 1,090 | -- | 1,260 | 985 | 87,800 | 977 | 753,000 | 115,000 | -- | -- | |
| Share of world total | W | 1.7% | -- | 7.0% | 5.3% | 4.7% | 3.9% | 5.9% | 0.8% | -- | -- | |
| World total | 352,000 | 63,000 | 44,700 | 18,100 | 18,500 | 1,880,000 | 25,200 | 12,800,000 | 13,600,000 | -- | -- | |

See footnotes at the end of table.

TABLE 3—Continued
MIDDLE EAST AND NORTH AFRICA: PRODUCTION OF SELECTED MINERAL COMMODITIES IN 2019¹

(Thousand metric tons, unless otherwise specified)

| Country or locality | Mineral fuels and related materials | | | | | | | | | |
|----------------------------|-------------------------------------|----------------------|--------------------------------|--|-------------------------------------|---|--|--|--|--|
| | Industrial minerals | | | | | Petroleum | | | | |
| | Cement, hydraulic | Gypsum | Nitrogen, N content of ammonia | Phosphate rock P ₂ O ₅ content | Potash, K ₂ O equivalent | Natural gas, dry (million cubic meters) | Crude, including condensate (thousand 42-gallon barrels) | Refinery products (thousand 42-gallon barrels) | | |
| Algeria | 27,700 ^e | 2,500 ^e | 2,200 ^e | 390 ^e | -- | 90,349 | 452,235 | 221,000 | | |
| Bahrain | 1,760 ^e | -- | 383 | -- | -- | 10,000 ^e | 71,000 ^e | 99,700 | | |
| Egypt | 48,700 ^e | 1,000 ^e | 4,200 ^e | 1,500 ^e | -- | 64,900 | 231,000 | 178,000 ^e | | |
| Iran | 60,000 ^e | 16,000 ^e | 3,500 ^e | 106 ^e | -- | 253,773 | 1,290,275 | 622,000 | | |
| Iraq | 15,000 ^e | 1,000 ^e | 90 ^e | -- | -- | 11,544 | 1,744,509 | 231,000 | | |
| Israel | 5,000 ^e | 72 | -- | 870 ^e | 2,040 | 9,400 | 627 | 133,000 | | |
| Jordan | 5,050 ^e | 260 ^e | -- | 2,955 | 1,516 | 165 | 8 | 18,500 | | |
| Kuwait | 3,500 ^e | -- | -- ^e | -- | -- | 13,952 | 1,093,000 | 323,000 | | |
| Lebanon | 4,900 ^e | -- | -- | -- | -- | -- | -- | -- | | |
| Libya | 4,200 ^e | 210 ^e | 100 ^e | 11,400 | -- | 14,190 | 447,855 | 27,800 | | |
| Morocco and Western Sahara | 13,730 ^e | -- | -- | -- | -- | 47 ^e | 25 | -- | | |
| Oman | 5,200 ^e | 10,663 | 1,700 ^e | -- | -- | 37,874 | 354,400 | 112,000 | | |
| Qatar | 4,500 ^e | 210 ^e | 3,150 ^e | -- | -- | 183,594 | 687,295 | 133,000 | | |
| Saudi Arabia | 44,300 ^e | 3,472 | 4,000 | 2,100 ^e | -- | 113,600 | 3,703,000 | 900,000 | | |
| Syria | 2,200 ^e | 150 ^e | 270 ^e | 600 ^e | -- | 3,700 | 8,760 | -- | | |
| Tunisia | 8,097 | 947 | 173 | 1,200 ^e | -- | 1,795 | 13,319 | 6,070 | | |
| United Arab Emirates | 16,400 ^e | 700 ^e | 1,000 ^e | -- | -- | 55,097 | 1,459,270 | 367,000 | | |
| Yemen | 1,900 ^e | 100 ^e | -- | -- | -- | 600 | 35,770 | 20,800 ^e | | |
| Regional total | 272,137 | 37,284 | 20,766 | 21,121 | 3,556 | 864,580 | 11,592,348 | 3,392,870 | | |
| Share of world total | 6.5% | 10.9% | 15.3% | 30.6% | 8.3% | 21.0% | 37.0% | 10.2% | | |
| United States | 89,000 | 21,200 | 13,500 | 6,530 | 510 | 960,000 ⁴ | 4,470,000 ⁴ | 6,050,000 ⁵ | | |
| Share of world total | 2.1% | 6.2% | 9.9% | 9.5% | 1.2% | 23.3% | 14.3% | 18.2% | | |
| World total | 4,200,000 | 343,000 ⁶ | 136,000 | 69,100 | 43,000 | 4,120,000 | 31,300,000 | 33,200,000 | | |

^eEstimated. W Withheld to avoid disclosing proprietary data. --Zero.

¹Table includes data available through June 23, 2022. All data are reported unless otherwise noted. World totals, U.S. data, and estimated data are rounded to no more than three significant digits; may not add to totals shown owing to independent rounding. Percentages were calculated using unrounded data.

²Less than ½ unit.

³Synthetic anhydrous ammonia; excludes coke oven byproduct ammonia.

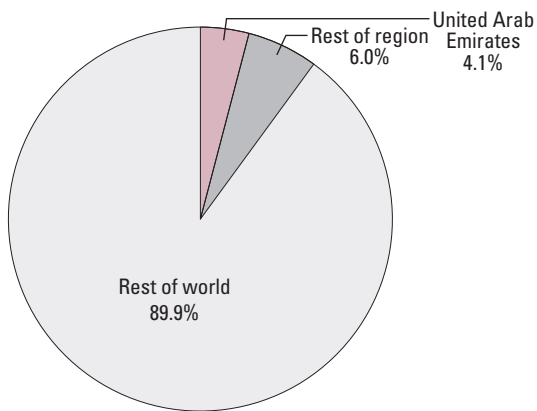
⁴Source: U.S. Energy Information Administration.

⁵Source: BP Statistical Review of World Energy. Refinery, throughput.

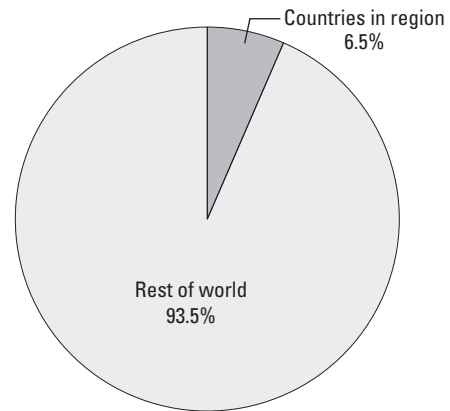
⁶Gypsum world total may include synthetic gypsum powder production.

Middle East and North Africa region

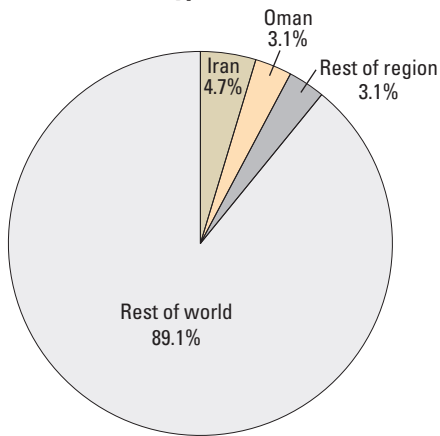
Aluminum, metal, primary



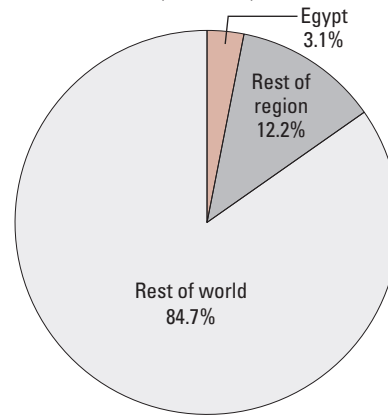
Cement, hydraulic



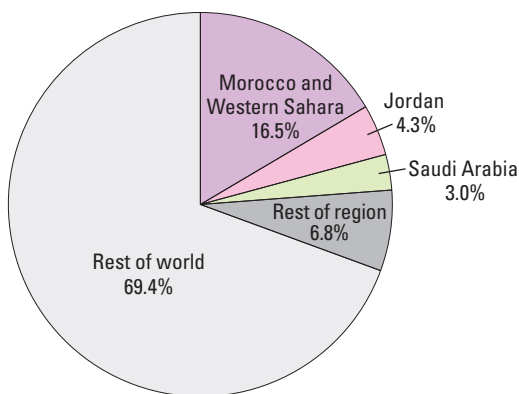
Gypsum



Nitrogen (fixed)—Ammonia (N content)



Phosphate rock (P₂O₅ content)



Potash (mine output, K₂O equivalent)

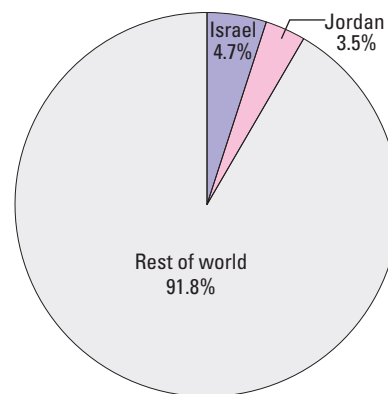


Figure 2. Pie charts showing percentage of world production of selected mineral commodities (aluminum, cement, gypsum, nitrogen, phosphate rock, and potash) by countries of the Middle East and North Africa region in 2019. Individual countries of the region are labeled if they accounted for at least 3% of world production. Data are from table 3; however, percentages may differ slightly from those shown in table 3 because of independent rounding. Also, percentages may differ from those reported in individual country chapters owing to differences in the source or date of reporting.