

United Arab Emirates Country Handbook

This handbook provides basic reference information on the United Arab Emirates, including its geography, history, government, military forces, and communications and transportation networks. This information is intended to familiarize military personnel with local customs and area knowledge to assist them during their assignment to the United Arab Emirates.

The Marine Corps Intelligence Activity is the community coordinator for the Country Handbook Program. This product reflects the coordinated U.S. Defense Intelligence Community position on the United Arab Emirates.

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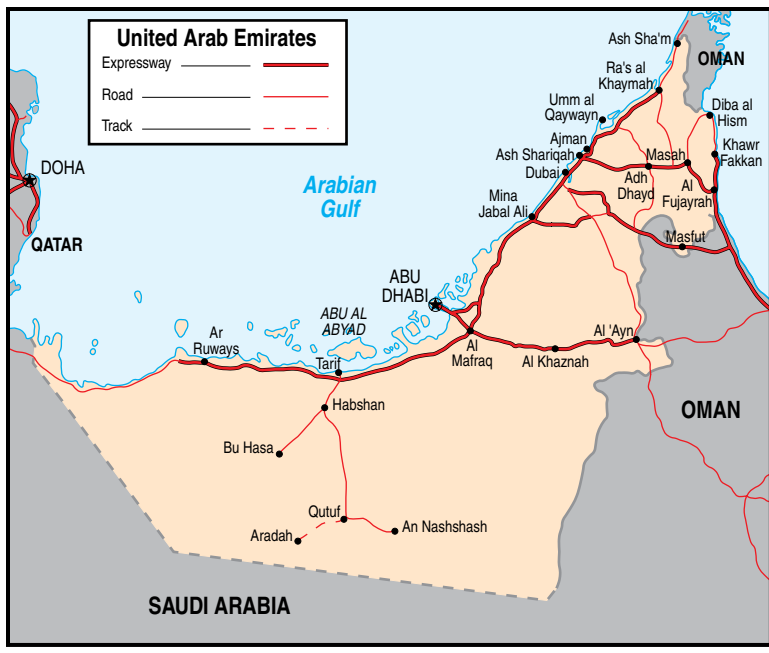
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United Arab Emirates

KEY FACTS

Official Country Name. United Arab Emirates.

Short Form. UAE.

Head of State. President Khalifa bin Zayid al-Nuhayyan (since 3 November 2004).

Capital. Abu Dhabi.

National Flag. Three equal horizontal bands of green (top), white (middle), and black (bottom); a wide vertical band of red is on the hoist side.

Time Zone. UTC+4.

Telephone Country Code. 971.

Population. 4.1 million (2005 census).

Languages. Arabic (official); English, Hindi, Persian, and Urdu are also spoken.

Official Currency. Emirati dirham (AED).

Credit/Debit Card Use. Widely accepted; American Express, Diners Club, MasterCard, Visa.

ATM Availability. Widely available.

Calendar. Gregorian.



National Flag

U.S. MISSION

U.S. Embassy

The U.S. Embassy in Abu Dhabi is at Embassies District, Plot 38, Sector W59-02, Street Number 4.

General Embassy Information

<i>Mailing Address</i>	U.S. Embassy P.O. Box 4009 Abu Dhabi, United Arab Emirates
<i>Telephone Number</i>	(971)-2-414-2200 Duty Officer (971)-2-414-2500
<i>Fax Number</i>	(971)-2-414-2603
<i>E-mail</i>	usisamem@emirates.net.ae
<i>Internet Address</i>	abudhabi.usembassy.gov
<i>Hours</i>	Open Sunday through Thursday 0800 to 1700; closed on U.S. and UAE public holidays. American Citizen Services (ACS) Open Sunday through Thursday 1300 to 1500; closed on U.S. and UAE public holidays.

U.S. Consulate

The U.S. Consulate provides administrative and emergency assistance for U.S. citizens in the UAE. Registration with the American Citizen Services (ACS) is recommended for U.S. citizens residing in or visiting the UAE. The Consulate General in Abu Dhabi is in the Embassy. Consulate General Dubai is on Floor 21 of the Dubai World Trade Center on Sheikh Zayed Road in Dubai.



U.S. Embassy – Abu Dhabi

General Consulate Information

Abu Dhabi

<i>Mailing Address</i>	U.S. Embassy; P.O. Box 4009, Abu Dhabi, United Arab Emirates
<i>Telephone</i>	ACS (971)-2-414-2550
<i>Fax</i>	(971)-2-414-2241

E-mail ACS: abudhabiACS@state.gov
Address Immigrant Visa: abudhabiIV@state.gov
Non-Immigrant Visa: abudhabiNIV@state.gov
Internet abudhabi.usembassy.gov
Hours Open Sunday through Thursday 0800 to 1700;
closed on U.S. and UAE public holidays.

ACS: Open Sunday through Thursday 1300 to
1500; closed on U.S. and UAE public holidays.

Consulate General Dubai

Mailing Address Consulate General of the United States of America
Dubai World Trade Center
P.O. Box 9343
Dubai, United Arab Emirates
Telephone (971)-4-311-6000
Duty Officer: (971)-2-414-2500
After Hours Emergency:(971)-2-414-2200
Fax (971)-4-311-6213
E-mail dubaiwarden@state.gov
Address Visa Section: dubaivisaenquiry@state.gov
Internet dubai.usconsulate.gov
Hours Open Sunday through Thursday 0730 to 1600;
closed on U.S. and UAE public holidays;
ACS: Open Sunday through Thursday 1230 to
1500; closed on U.S. and UAE public holidays.

U.S. Military Facilities

To provide access to air and naval facilities, the United States negotiated the Defense Cooperation Agreement with the UAE in 1992. The UAE provides U.S. and Coalition Forces access to its ports, airfields, and territory in support of military operations in Afghanistan and Iraq. The U.S. military has fewer than 100 military personnel in the UAE. There are no permanent U.S. military facilities in the UAE.



Dubai City Map

Al Dhafra Air Base

Al Dhafra Air Base is 35 kilometers (22 miles) southwest of Abu Dhabi. U.S. forces used the base during Operations DESERT SHIELD, DESERT STORM, and SOUTHERN WATCH. The U.S. Air Force's 380th Air Expeditionary Wing operates aerial refueling tankers and surveillance/reconnaissance aircraft from the base. Al Dhafra is expected to become a permanent U.S. air base for regional operations.

Mina Jabal Ali

Jabal Ali (2500N 05503E) is in Dubai on the Arabian Gulf. The U.S. Navy uses Jabal Ali more than any other port outside the

United States. U.S. Naval Forces Central Command (NAVCENT), which includes the U.S. Navy's Fifth Fleet, uses the port as a logistics hub. Jabal Ali connects by road with Al Fujayrah, a major port on the Gulf of Oman. Al Fujayrah will act as the logistical pipeline for the U.S. Navy to the Arabian Gulf should the Strait of Hormuz be closed.

The closest permanent U.S. military facility to the UAE is Al Udeid Air Base in Qatar. Al Udeid Air Base had 419 military personnel at the end of 2007.

Travel Advisories

Travelers are advised to maintain a low profile and exercise a high level of security awareness. Travel advisories receive routine updates. Most changes apply to safety and security in the UAE. In June 2008, the U.S. Department of State issued a travel advisory for the UAE regarding possible terrorist activity. Western governments warn there is a high threat of terrorist attacks against Western residential compounds, nightclubs, movie theaters, and oil and transportation interests.

The violent crime rate is low, but standard precautions should be kept. There are reports of sexual assaults and petty crimes. U.S. Embassy officials believe crime occurs more often than the local media reports. Most reports of criminal activity happen in the expatriate community. Physical and verbal harassment of women is common. Women never should travel alone, particularly at night.

Driving is dangerous, particularly outside urban areas, as drivers typically go at high speeds and fail to observe traffic rules. Traffic accidents are a leading cause of death.

Entry Requirements

Travelers to the UAE are recommended to have up-to-date vaccinations. Authorities in the region reported outbreaks of avian influenza (bird flu) and West Nile virus in 2007. All foreigners planning to work or reside in the UAE must have an HIV/AIDS test after arriving; previous test results are not accepted.

U.S. citizens must have a passport and visa to enter the UAE. Visitors staying fewer than 60 days are issued a visa free of charge at the port of entry. Visitors whose passports include evidence of travel to Israel may face significant delays. All military personnel must present a valid passport upon entry and exit. The UAE does not recognize U.S. military ID cards as travel documents.

As of 2007, all Gulf Cooperation Council (GCC) countries have travel agreements allowing GCC citizens to travel without a passport between member countries. There is no international travel or open border agreement between the United States and the UAE.

Customs

Travelers never should import or export pornographic, politically subversive, or religiously offensive material. Penalties for attempting to smuggle narcotics are severe. Videos, DVDs, and books may be subject to censorship. Do not attempt to import goods manufactured in Israel, pork products, gambling items, or anything offensive to Islamic morals and values.

Special permission is required to import alcohol, prescription drugs, firearms, telecommunication equipment, and antiques.

A reasonable amount of cigarettes, cigars, tobacco, and perfume may be imported duty-free along with personal belongings, as well as personal cameras and less than US\$10,000.

GEOGRAPHY AND CLIMATE

Geography

The UAE is in the eastern part of the Arabian Peninsula at the southern end of the Arabian Gulf. Saudi Arabia is to the west and south, and Oman is to the east and northeast along the Musandam Peninsula. UAE is a low-lying desert country with infrequent



Arabian Peninsula

rainfall and harsh weather conditions. It has flat and rolling desert landscapes with rocky plains and mountains in the northeast. There are no permanent rivers or lakes. The highest point above sea level is 1,527 meters (5,010 feet).

Land Statistics

Total Area 83,600 square kilometers (32,278 square miles)
Coastline 1,318 kilometers (819 miles)

UAE's Offshore and land reclamation projects are extending the coastline. To the north and east is the Strait of Hormuz, which connects the Arabian Gulf with the Gulf of Oman. The Arabian Gulf forms the UAE northern coastline for more than 650 kilometers (404 miles). Many islands are located along the coastline. The Gulf of Oman forms the eastern coastline and extends for about 90 kilometers (56 miles) along the Al Batinah coast.

Area Comparative Slightly smaller than Maine
Central Coordinates 2400N 05400E
Land Usage Cultivated: 2.7% (2003)
Inhabited: 9.1%

Boundaries

Direction	Country	Length kilometers (miles)
North and East	Oman	410 kilometers (255 miles)
South and West	Saudi Arabia	457 kilometers (284 miles)
North	Arabian Gulf	1,318 kilometers (819 miles)
Total		2,185 kilometers (1,358 miles)

Border Disputes

Saudi Arabia

A 1974 agreement between Abu Dhabi and Saudi Arabia would have settled a border dispute. However, the UAE has yet to ratify it, and Saudi Arabia does not recognize it. The Shaybah Oilfield, which straddles the border, is the main reason the dispute continues. The oilfield has an estimated 15.7 billion barrels of oil and 707 billion cubic meters (25 trillion cubic feet) of gas. The 1974 agreement cut off the UAE land border with Qatar by giving Saudi Arabia 24 kilometers (15 miles) of coastline east from Khwar Udaid when Saudi Arabia relinquished claims to the Al-Buraymi area.

Oman

The UAE and Oman signed and ratified an agreement in 2003 demarcating the border. The Musandam Peninsula and Al Madhah areas were at the center of the border dispute. A fence lines the entire UAE border with Oman and Saudi Arabia.

Iran

The UAE and Iran dispute Abu Musa and the Greater and Lesser Tunb Islands, which Iran occupies. The islands are strategically located in the Strait of Hormuz about 55 kilometers (34 miles) from the UAE and 69 kilometers (43 miles) from Iran. The Mubarak Oilfield is offshore near Abu Musa. Iran landed troops on the Tunb Islands in 1971, violating the memorandum of understanding that allowed Iran's military forces to be based only at Abu Musa. Iranian troops took control of all three islands after expelling UAE forces from Abu Musa in 1992. Iran rejected a 1996 proposal from the Gulf Cooperation Council (GCC) to have the International Court of Justice (ICJ) settle the dispute.

Bodies of Water

The UAE has no permanent rivers or lakes. Rains may cause flash floods, which fill *wadis* (dry riverbeds) for brief periods. Permanent water sources are available high in the mountains.

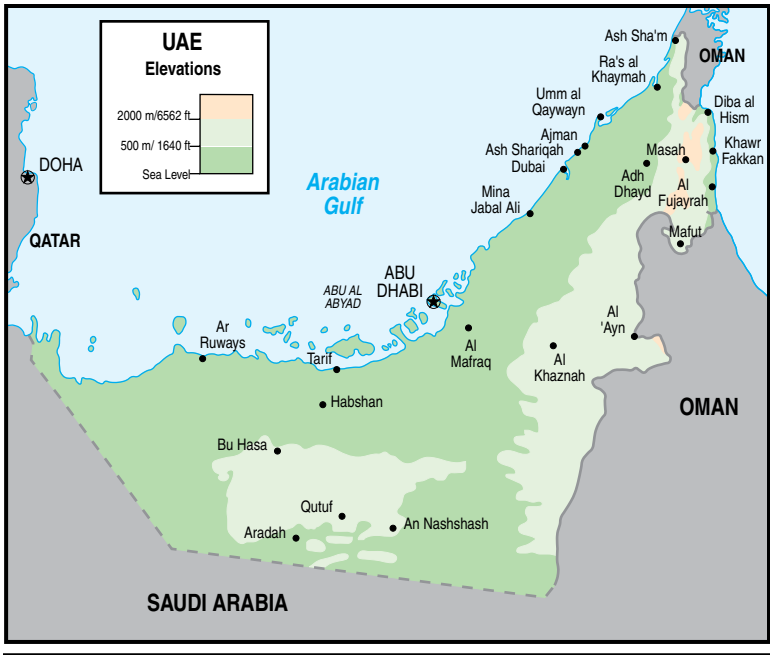
There are oases at Al Ayn, Al-Liwa, and Al-Buraymi. Al-Liwa Oasis is in the south near the undefined border with Saudi Arabia. Al-Buraymi Oasis extends across the border with Oman in the northeast of the Abu Dhabi emirate. *Sebkhas* (salt flats) are found along coastal areas, in dry riverbeds, and in low-lying basins in the desert. Lagoons are along both coastlines.

Topography

The UAE is primarily desert, extending from the Arabian Gulf coast south into Saudi Arabia and east into Oman. The UAE northwestern coastline along the Arabian Gulf coast has *sebkhas* (salt flats) that run inland. Along the east coast, also known as Al-Batinah, beaches extend for about 90 kilometers (56 miles) along the Gulf of Oman. The desert has vast expanses of sand and dunes with occasional *sebkhas* and oases. Desert turns into gravel plains in the northeast, extending southward from the coast of Ra's al-Khaymah to Al Ayn.

Al-Hajar al-Gharbi Mountains split the UAE from north to south in the northeastern emirates along the Al-Batinah coast. The mountains begin at the UAE-Oman border on the Musandam Peninsula and extend southeastward for about 150 kilometers (93 miles) along the border to the Gulf of Oman.

The Rub al-Khali (Empty Quarter) is a large desert that extends into the south and west Abu Dhabi emirate from Saudi Arabia. The Rub al-Khali extends into Qatar, Kuwait, western Oman, and



Topography

Yemen. Sand dunes in the Rub al-Khali reach heights of more than 100 meters (328 feet). The color of the sand is orange red.

Highest Elevation: Jabal Yibir 1,527 meters (5,010 feet)

Lowest Elevation: Arabian Gulf sea level

Vegetation is limited to hardy shrubs and small plants that can withstand high salinity soils and minimal precipitation. Species vary throughout the year, and some are affected by winter rainfall. Areas near *sebkhas* have dense growth of salt-loving plants. Oases provide water for farms, fodder, and fruit orchards. Produce includes mangoes, grapevines, guava, lemons, figs, and bananas.

Mangrove forests, covering 40 square kilometers (15 square miles), grow in patches along several Arabian Gulf coastal areas and islands. Areas where mangrove forests grow include Abu Dhabi, Umm al-Qaywayn, Khor Kalba, and Ra's al-Khaymah. Government programs and conservation efforts have increased the area of mangrove forests.

Cross-country Movement

Four-wheel-drive vehicles are best suited for cross-country travel. Vehicles and travelers should be well equipped for the desert environment. Cross-country travel should be conducted with two or more well-maintained, four-wheel-drive vehicles with adequate food, water, and fuel supplies.

Drivers of wheeled vehicles should prepare for poor mobility in off-road conditions. Knowledge of the terrain, along with updated maps and a global positioning system (GPS), is recommended, as well as a cell or satellite phone.

Dust storms, sand storms, insects (spiders, camel spiders, and scorpions), and poisonous snakes may affect cross-country movements. Earthquakes in the mountainous northeastern regions also may hinder cross-country movement.

Urban Geography

The modern cities of Abu Dhabi and Dubai have tree-lined wide streets and rows of high-rise buildings overlooking waterfronts. Shopping malls and movie theaters are in Dubai, Ash Shariqah, and Abu Dhabi. Restaurants, cafes, nightclubs, hotels, and boutiques are available. City streets and roads are well marked with signs in English and Arabic. Municipalities are divided into numbered zones for easier navigation. There are many central government institutions, banks, and oil companies.



Dubai

Dubai's traditional architecture consists of residential homes, mosques, *souqs* (markets), forts, and watchtowers. Older areas have narrow alleyways and buildings that are designed to increase air flow and shade. Traditional houses in Dubai are built around an *al housh* (courtyard); the same design applies to modern houses. The *al housh* provides a private area for family members.

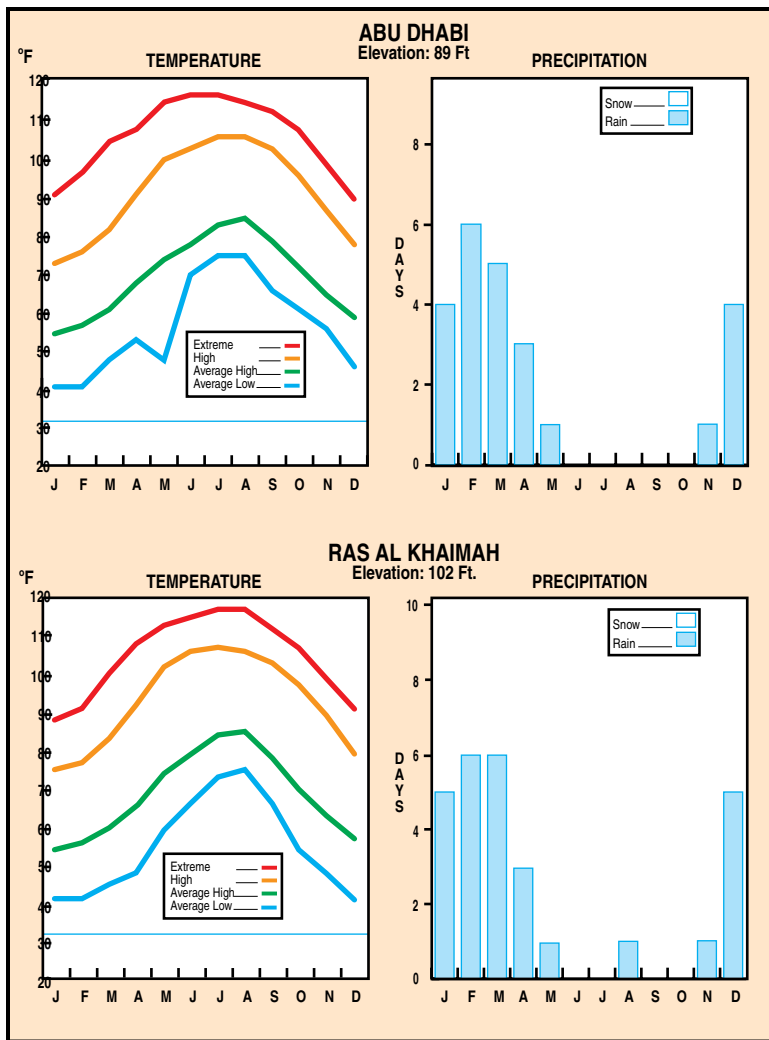
Climate

Climatic Patterns

The UAE has a hot, dry desert climate. Annual rainfall is between 100 to 200 millimeters (3.9 to 7.9 inches), but it can be as much as 350 millimeters (13.8 inches) in mountainous areas. Rain often



Ash Shariqah



Abu Dhabi and Ra's al Khaymah Weather

comes in short, torrential bursts, and most of the annual rainfall is between November and March.

Humidity is high along the coast. Temperatures are cooler in the northeastern mountains. Summer is long and has high daily temperatures. Rain usually accompanies summer months.

Environment

Air and water pollution and insufficient water resources are serious environmental problems. Rapid growth has deteriorated the natural ecosystem, reducing its already limited water resources. The UAE relies on desalination plants to compensate for lack of freshwater resources. In Abu Dhabi, water is consumed 26 times faster than it is replenished from groundwater reserves. Pollution and dust from the transportation and industrial sectors affect air quality in populated areas. The petroleum sector is a major source of air pollution.

Overgrazing affects natural vegetation and the desert ecosystem. The UAE has implemented major forestation projects and environmental protections to combat desertification. Forests cover 3.7 percent (3,120 square kilometers [33,583 square feet]) of the land area. Forests are protected and tropical.

Environmental affairs are the responsibility of the Federal Environmental Agency (FEA), which is subordinate to the Ministry of Environment and Water. FEA implements environmental policies at the national level and appraises environmental studies to ensure state policies do not have negative impacts. Agencies working at the emirate level include the Environment Agency-Abu Dhabi (EAD), Environment and Protected Areas Authority (EPAA) in Ash Shariqah, and Environment Protection and Development Authority (EPDA) in Ra's al-Khaymah.



Sunset Over the Desert *Photo by Bruno Girin*

The UAE has numerous policies regarding pollution, desertification, grazing management, wildlife management, water scarcity, protected areas, and agriculture practices.

The UAE is also a party to many international agreements regarding biodiversity, climate change, desertification, endangered species, hazardous waste disposal, marine dumping, and ozone layer protection programs.

Climatic Phenomena

Shamal

Shamal winds blow during summer and winter over the Arabian Peninsula in a northwesterly direction. The storms are strong during the day, but less intense at night. Winds lift fine particles of dust and sand to form dense clouds that restrict visibility and breathing. Activities may become hazardous as “brown outs” occur. These thick clouds may decrease visibility, communication, and navigation for days at a time.

Cyclones

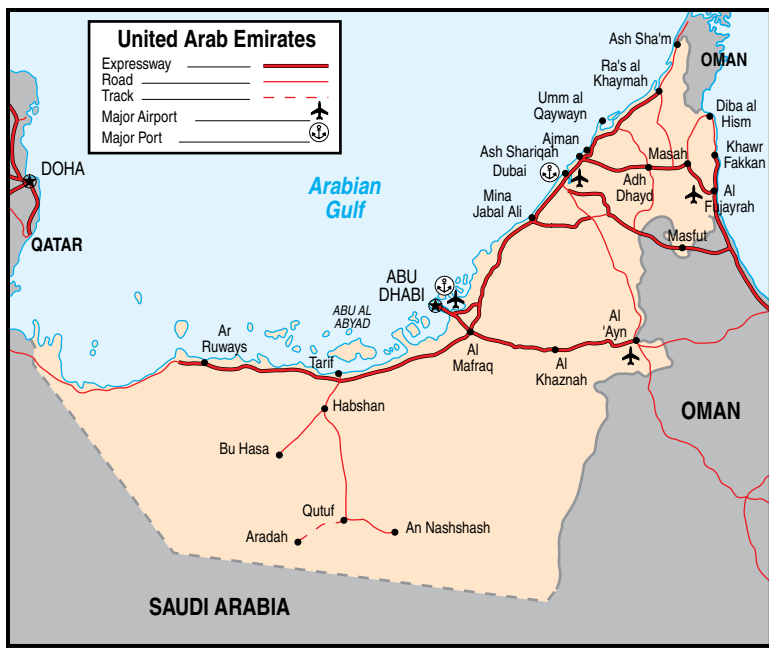
In 2007, Tropical Cyclone Gonu flooded much of the UAE east coast. Gonu was the strongest storm to hit the UAE since record keeping began. Cyclones in the Gulf region rarely form over the Arabian Sea (northern Indian Ocean); fewer come ashore. Cyclones affect the region during spring and summer.

INFRASTRUCTURE

Transportation

The UAE has a modern system with road networks, international airports, and seaports. Roads are the primary means of domestic travel, and seaports are dominant for trading. Airlines provide flights to and from numerous international destinations. There are no railroads, although the government is investing in a national railroad and a metro system for the Dubai City area.

A general terrorist threat against transportation and infrastructure exists. Western governments receive reports of terrorist plots against their interests. Weather phenomena, such as sand and dust storms, affect all transportation sectors.



Transportation Network

Roads

By 2004, the UAE had 4,030 kilometers (2,504 miles) of paved roads. Primary, secondary, and truck roads link interior regions with coastal areas. The road network is undergoing massive development to ease traffic flow, particularly in Abu Dhabi and Dubai.

Primary roads are classified as Emirates Roads (E roads). Major routes include E10, E11, E22, E45, and E66. Running between Abu Dhabi, Dubai, and Al Ayn are E11 and E22 with dual three- or four-lane highways. All other E roads are dual two-lane or single-lane highways. E75 and E30 are truck routes. E roads also run between UAE cities and neighboring countries.

Primary Roads

Roads	Lane Information	Connections	Cities
E10	6 lanes (3 per direction)	E11, E15, secondary roads	Abu Dhabi to As Shahamah connecting Dubai
E11	4 lanes (2 per direction) from Gwaifat to Mafraq (outside Abu Dhabi) and between Dubai and Ra's al-Khaymah; 6 lanes (3 per direction) through Abu Dhabi, Dubai, and Ra's al- Khaymah	E10, E16, E20, E22, E30, E15, E45, E65, E75, E77, secondary roads	Gwaifat via Abu Dhabi and Dubai to Ra's al-Khaymah
E15	4 lanes (2 per direction)	E11, E90, secondary roads	Arada via Gayathi to Ruwais
E16	4 lanes (2 per direction); some sections are 2 lanes (1 per direction)	E11, E20, E22, secondary roads	E11 to Al Ayn via Sweihan
E20	6 lanes (3 per direction) from Abu Dhabi to Zayed Military City; 4 lanes (2 per direction) from Zayed to Al Hiyar	E11, E16, E22, E30, E66, E75, E95, secondary roads	Abu Dhabi to Al Hiyar
E22	6 lanes (3 per direction)	E10, E16, E20, E30, E66, E75, E95, secondary roads	Abu Dhabi to Al Ayn
E30	Truck Route; 2 lanes (1 per direction); small sections of 4 lanes (2 per direction); expanding to 6 lanes into Abu Dhabi after E11 junction	E11, E22, E40, secondary roads	Abu Dhabi to Al Ayn
E40	2 lanes (1 per direction); small sections near Al Ayn are 4 and 6 lanes	E30, E95, secondary roads	Al Khatam to Al Ayn
E45	4 lanes (2 per direction); 6 lanes (3 per direction) through Madinat Zayed	E11, E90, secondary roads	Madinat Zayed, Liwa
E65	2 lanes (1 per direction); 4 lanes (2 per direction) near Himeem and E11	E11, E90, secondary roads	Himeem to E11
E66	6 lanes (3 per direction); 4 lanes (2 per direction) between Al Faq and Al Ayn	E20, E22, E44, E55, E95, secondary roads	Al Ayn to Dubai via Al Hiyar and Al Faq
E75	Truck Route; 2 lanes (1 per direction); small sections of 6 lanes (3 per direction) near junctions	E11, E16, E20, E22, E30, E311, secondary roads	Abu Dhabi to Dubai
E90	4 lanes (2 per direction) until Himeem, 2 lanes (1 per direction) Himeem/E65 and Himeem/E95	E15, E45, E65, E95, secondary roads	Arada via Himeem to E95
E95	2 lanes (1 per direction); small sections in Al Wegan and southern Al Ayn are 4 lanes, 6 lanes available closer to Al Ayn	E40, E22, secondary roads	Connects Al Ayn and Al Wegan to E90

Massive building projects in Dubai have increased traffic and led to heavy congestion, particularly during peak hours. Dubai's Road and Transportation Authority (RTA) is building more roads and bridges under a strategic plan that covers Dubai's transportation needs to 2020. The RTA intends to spend US\$12 billion on upgrades.

Traffic drives on the right side of the road. Driving along roadways is dangerous, particularly outside urban areas, as drivers go at very high speeds and fail to observe traffic rules. Traffic accidents are a leading cause of death. Hazards include insufficient road signage, roaming animals, careless pedestrians, and sand drifts. Roads in Dubai and Ash Shariqah flood during winter when rainfall is heavy.

Buses and taxis are public ground transportation available in the UAE. Bus services are limited; they run daily from Oman to Abu Dhabi and Dubai. Buses also run between Abu Dhabi and Egypt, Jordan, Lebanon, and Syria. Most hotels run bus services to airports, city centers, and resorts. Women have reserved seats on buses. Women should never travel alone, particularly at night.

The RTA plans to introduce bus services exclusively for women. RTA will have 620 new luxury buses, including 300 long buses and 170 with double decks. RTA projects public buses will run 160 routes by 2010; this would cover 95 percent of Dubai City.

Taxis are readily available and inexpensive. They can be reserved by telephone or flagged down in the street. There is a surcharge for air-conditioned taxis. Rates vary depending on location. Travelers only should use officially marked taxis with meters. If using taxis without meters, agree on the price before departing. Avoid shared or service taxis. In Dubai, there is a fleet of pink taxis that provides service only to women.

Abras (water taxis) operate along the coastal waterways. Service is available in Dubai, Deira, and Ash Shariqah. The RTA plans to open 20 *abras* stations in Dubai during 2009.

The Saadiyat Bridge in Abu Dhabi is scheduled to open in 2009. It will have ten lanes, five in each direction, and two urban rail lines. The bridge will link to an expressway that is under construction, connecting Abu Dhabi International Airport to Saadiyat Island. This connection reduces the distance 25 kilometers (15.5 miles). Constructed from prestressed and reinforced concrete, Saadiyat Bridge is to be 1,455 meters (4,774 feet) long, 60 meters (197 feet) wide, and a maximum height of 35 meters (115 feet) above the water. The main span is 200 meters (656 feet) long.

A floating concrete bridge opened in June 2007 in Dubai. The bridge is 360 meters (1,181 feet) long, 3.3 meters (11 feet) high, and 6 meters (20 feet) wide. The bridge was built to ease traffic on the Maktoum and Garhoud bridges. The Business Bay Crossing, which is under construction in Dubai, will have 13 traffic lanes. Some traffic lanes are already in use.



Camels are Common Transportation



Abu Dhabi

In Abu Dhabi and Dubai, workers are constructing and expanding tunnels to ease traffic. In Dubai, workers are building rail tunnels along the metro line.

Abu Dhabi

Construction on the Al Salam Tunnel in Abu Dhabi began in 2008. The tunnel will connect Abu Dhabi's northeast entrance to Mina Zayed. The 3.1 kilometer (2 mile) long tunnel is being constructed 15 meters (49 feet) below Al Salam Street. The tunnel will have eight lanes — four each direction — connecting Abu Dhabi with Reem Island. The tunnel is scheduled to be finished in 2011.

Dubai

The Palm Jumeirah Vehicular Tunnel is the only connection for vehicles between Palm Island and the outer crescent. The tunnel is 1.4 kilometers (less than one mile) long, 38 meters (125 feet) wide, 5.5 meters (18 feet) high, and has a maximum grade of 6 percent. The lowest point at its center is 25 meters (82 feet) under

water. Two walkways in each direction allow pedestrians through the tunnel. The channel above the tunnel allows for a maximum draft of 10 meters (33 feet). Construction on the tunnel was completed in 2007.

Al-Shindagha Tunnel is a four-lane road, two per direction, running under the Dubai Creek and connecting the neighborhoods of Deira and Al-Shindagha. The tunnel opened in 1975. There is also a road tunnel to Dubai International Airport.

Rail

The UAE has no rail network. However, a national railway to connect all seven emirates has been proposed. The National Transportation Authority (NTA) plans to lay the tracks in two phases. Phase one will extend along the coast connecting Ghewaifat, which is near the western border with Saudi Arabia, to Mina Jabal Ali in the emirate of Dubai. The second phase will connect Mina Jabal Ali to Mina Saqr in the emirate of Ra's al-Khaymah. Other stops will be located in Ruwais, Abu Dhabi, Al-Dhaid, Al Fujayrah, and Khwar Fakkan. The tracks are expected to be completed by 2015. Trains will carry dry bulk, cement, sand, rock, and petrochemicals. Passenger services may be added later.

Dubai Municipality is financing the US\$4.2 billion construction of the Dubai Metro, which began in 2006. It will run 87 driverless trains along two lines: Red and Green. The metro system will be able to carry 1.8 million passengers daily. This rail system will accommodate two lines of 1.435 meter (4.7 feet) wide urban light rail totaling 74.6 kilometers (46.3 miles). Trains will run along 44.1 kilometers (27.4 miles) of elevated track and 12.6 kilometers (7.8 miles) of underground track.

The Red Line will link Jabal Ali Port and Al-Rashidiya. There will be 29 stations, four of which will be underground, along the Red Line between Al-Rashidiya and Jabal Ali.

The Green Line will have 14 metro stations, six underground and eight at ground level, and will allow access from Al-Ittihad to Al-Rashidiya bus station through Deira City and Dubai International Airport Terminals 1 and 3. There will be two interchange stations, Al-Ittihad and Burjuman, connecting with the Red Line.

Dubai's Roads and Transport Authority (RTA) is working on plans for two more lines, Blue and Purple, which will provide transit routes between Dubai International Airport and Jabal Ali Airport and to other areas of the city. The Purple Line will provide service along the Al-Khail Road; the Blue Line will service the Emirates Road.

Construction is expected from March 2009 through December 2012. Dubai Metro will operate between the hours of 0500 and 0030. Special sections of the train will be reserved for only women and children. The total planned system will be 318 kilometers- (198 miles-) long upon completion in 2020. The Dubai Municipality Public Transport Department will operate Dubai Metro.

The Palm Jumeriah monorail project in Dubai will cost US\$381 million. Four driverless trains, each consisting of three railcars, will operate along the Palm Jumeriah Monorail. The trains are capable of carrying up to 2,400 passengers per hour per direction. The monorail will extend 2 kilometers (1.2 mile) to link with the Dubai Metro in 2010.

Air

As of 2007, the UAE had 39 airports and 5 heliports. Twenty-two airports have paved runways, ten of which are longer than

3,047 meters (9,997 feet). Most unpaved runways are shorter than 1,523 meters (4,997 feet). Arzanah (2446N 05233E), Das Island (2508N 05252E), Jabal Dhana (2411N 05236E), and Zirku (2451N 05304E) are private airfields.

Primary Air Facilities

Airport	Coordinates	Elevation m (ft)	Runway Dimensions m (ft)	Runway Surface
Abu Dhabi International	2425N 05439E	27 (86)	4,100 x 45 (13,451 x 148)	Asphalt
Al Ayn International	2415N 05536E	265 (869)	4,000 x 45 (13,123 x 148)	Asphalt
Al Dhafra Air Base (Military)	2414N 05432E	23 (75)	3,661 x 46 (12,011 x 151)	Asphalt
			Two identical runways	Asphalt
Al Bateen (Military-Civilian Joint Use)	2425N 05427E	5 (16)	3,200 x 46 (10,499 x 151)	Asphalt
Das Island (Private)	2508N 05252E	4 (13)	1,078 x 30 (3,537 x 98)	Macadam Crushed Rock
Dubai International	2515N 05521E	19 (62)	4,000 x 46 (13,123 x 151)	Asphalt
			4,000 x 60 (13,123 x 197)	Asphalt
Al Fujayrah International	2506N 05619E	46 (151)	3,750 x 45 (12,303 x 148)	Asphalt
Minhad Air Base (Military)	2501N 05522E	50 (165)	3,953 x 45 (12,970 x 148)	Asphalt
Ra's al-Khaymah	2536N 05556E	31 (102)	3,760 x 45 (12,336 x 148)	Asphalt
Ash Shariqah International (Military-Civilian Joint Use)	2519N 05531E	34 (112)	4,060 x 45 (13,320 x 148)	Asphalt

Airlines regularly serving the UAE include Air India, Alitalia, China Airlines, Continental Airlines, Egyptair, Iran Aseman Airlines, Royal Jordanian, Saudi Arabian Airlines, Sri Lankan

Airlines, Turkish Airlines, United Airlines, and US Airways. The national airlines are Emirates and Etihad.

The U.S. Federal Aviation Administration assessed the UAE Civil Aviation Authority as being compliant (Category 1) with International Civil Aviation Organizations (ICAO) safety standards. Personal baggage is screened upon entering airport terminals, with the exception of customers using the Emirates First and Business Class check in. All checked baggage undergoes screening again after check in. All baggage and carry-on items are X-rayed and physically inspected; all passengers are screened with handheld metal detectors. Security screens all passengers and baggage again at a central security checkpoint. Security screens passengers transferring between flights at Dubai International before granting entry into the departure areas. Visitors are encouraged to check for a list of approved items before travelling.

Upon arrival, travelers pick up baggage at an assigned terminal and customs officials X-ray for prohibited items before travelers depart the airport. Airports across the UAE have advanced security systems such as access controls, biometrics, surveillance cameras, metal detectors, X-ray machines, and baggage scanners. Company vehicles working at airports must have passes and special markings to access airport areas.

Maritime

The UAE joined the International Maritime Organization (IMO) in 1980. Under IMO agreements, the UAE meets maritime safety and pollution guidelines.

The UAE is a signatory to the Container Security Initiative (CSI), which allows U.S. Customs and Border Protection officers to be stationed at its port terminals to inspect random containers des-

tinued for the U.S. Dubai Ports Authority became the first Middle Eastern port administration to join the CSI. Also, the UAE is a signatory of proliferation security initiative (PSI) and participated in exercises during 2008. The PSI allows U.S. personnel to interdict vessels suspected of containing materials that can be used to construct and deliver weapons of mass destruction (WMD).

Primary Ports

Primary ports have berthing availability in length for vessels more than 152 meters (500 feet).

Port	Coordinates	Anchor Depth m (ft)	Pier Depth m (ft)
Al Fujayrah	2510N 05621E	23.2 (over 76)	9.4-10.7 (31-35)
Khawr Fakkan	2521N 05623E	16 (52)	11-12.2 (36-40)
Mina Saqr	2558N 05603E	20.1-21.3 (66-70)	11-12.2 (36-40)
Mubarraz Oil Terminal	2428N 05322E	15.5-16.8 (51-55)	N/A
Khwar Umm al-Qaywayn	2535N 05535E	11-12.2 (36-40)	9.4-10.7 (31-35)
Al-Hamriyah	2528N 05529E	15.5-16.8 (51-55)	14-15.2 (46-50)
Dubai (Rashid)	2516N 05517E	9.4-10.7 (31-35)	11-12.2 (36-40)
Mina Jabal Ali	2500N 05503E	15.5-16.8 (51-55)	11-12.2 (36-40)
Das Island	2509N 05252E	23.2 (over 76)	4.9-6.1 (16-20)
Abu Dhabi (Mina Zayed)	2432N 05423E	11-12.2 (36-40)	6.4-7.6 (21-25)
Umm al-Nar	2427N 05429E	9.4 to 10.7 (31 to 35)	6.4-7.6 (21-25)

Abu Dhabi Ports

Mina Zayed is Abu Dhabi's main general cargo port. Jabal Dharna, Umm al-Nar, Das Island, Zirku, and Mubarraz are the major petroleum ports. As of 2007, Mina Zayed handled more than 3.8 million tons of cargo. The port is capable of handling roll on/roll off vessels, tankers, general cargo, and containers. The port can accommodate refrigerated goods. Twenty-one berths are available; 13 are general cargo berths with depths between 13 and 15 meters (43 and 49 feet). The total quayside measures 4,300 meters



Bus/Boat *Photo by Christopher Walker*

(14,108 feet). Four deepwater berths (two 15 meters [49 feet] and two 13 meters [43 feet]) handle container traffic along a quayside measuring 1,000 meters (3,281feet). The roll on/roll off ramp is 200 meters (656 feet) long and has a quay depth of 10.5 meters (34 feet). Tanker berths are 15 meters (49 feet) deep and can accommodate vessels with an overall length of 183 meters (600 feet) and a maximum draft of 12.4 meters (41 feet).

Abu Dhabi Ports Company (ADPC) is building a new major facility, Khalifa Port, in Al-Taweelah. Al-Taweelah is halfway between Abu Dhabi and Dubai. Construction has begun, and the first phase is scheduled to operate by 2011. Then, Mina Zayed will relocate to Khalifa Port. ADPC will control operations, and Dubai Ports World (DPW) will manage the port. In the first phase, Khalifa will have a handling capacity of two million TEUs (20-foot equivalent units) and become Abu Dhabi's primary port.

Dubai Ports

Mina Jabal Ali, which primarily handles bulk cargo and industrial materials, is the largest port in the UAE as well as the largest man-made port in the world. The handling capacity of Jabal Ali increased to 15 million TEUs in 2008, and the port is undergoing expansion. By 2020, Jabal Ali will add 2,500 meters (8,202 feet) of quay with 82 berths, 125 quayside cranes, support equipment, and a draft of 17 meters (56 feet). The port will be able to handle 21.8 million containers annually. Connections to the port begin in September 2009 with Dubai's new Red Line metro.

Dubai is ranked as the eighth busiest container port in the world with 8.9 million TEUs in 2006, up from the 10th busiest and 6.4 million TEUs in 2004. Container throughput in 2007 was 10.6 million TEUs. Dubai is also the third largest re-export hub after Hong Kong and Singapore. Jabal Ali accommodates cruise ships at a 3,000-square-meter (32,292 square foot) terminal. Ferry services are available at Jabal Ali with connections to Bahrain, Iran, Iraq, Qatar, and Umm Qasr. Berthing facilities are available for roll on/roll off vessels and tankers.

Al-Hamriyah Port accommodates small and medium vessels, but it can also hold large cargo vessels. Non-containerized break bulk cargo, liquid petroleum, and petrochemical vessels are the primary clients at Al-Hammriyah. The port has a draft of 16 meters (52 feet).

Rashid has a quay length of 1,400 meters (4,593 feet) and a depth of 13 meters (43 feet). Five berthing areas and nine cranes are available. Throughput was 1.2 million TEUs in 2005; the maximum capacity of the port was 1.5 million TEUs. Rashid and Jabal Ali merged in 1991 to form the Dubai Ports Authority.

Ash Shariqah Ports

Ash Shariqah is the only emirate with a port on both UAE coasts. Mina Khalid is in Ash Shariqah City. Port Khalid was dredged in the early 1980s to enable access for deeper draft vessels. The port serves tankers, container vessels, roll on/roll off ships, and smaller vessels such as coasters, supply boats, tugs, barges, and crew boats. Mina Khalid can handle 400,000 TEUs annually. Construction began in 2007 to expand. A new berth will be created, and overall draft will increase to 12.5 meters (41 feet). Storage space will be expanded 30,000 square meters (322,917 square feet).

The second port is on the east coast. Khawr Fakkan Container Terminal (KCT) accommodates most vessels. A modern highway connects KCT with industrial and urban centers on the UAE gulf coast. During the first expansion, handling and storage capacity increased, four cranes were installed, and quay length was enlarged to 1500 meters (4,921 feet). Then the container-handling capacity rose to three million TEUs a year.

Another expansion approved by the Ash Shariqah government will add about 400 meters (1,312 feet) of quay and up to six cranes. Khawr Fakkan is the only natural deepwater port in the region, and its 16 meter- (52 feet) deep quay is protected by breakwater of 800 meters (2,625 feet).

Ra's al-Khaymah Ports

Mina Saqr spent US\$60 million to improve container handling and add four new berths with an advanced container scanning system. Mina Saqr has eight deepwater berths, four of which are new, each 200 meters (656 feet) long. The port is dredged to 12.2 meters (40 feet). Mina Saqr also accommodates roll on/roll off vessels.



Ra's al Khaymah

With completion of a 400-meter (1,312 foot) berth, Mina Saqr's will increase handling capacity to 800,000 TEUs by 2012. A third expansion will increase port capacity to three million TEUs by 2020. Cement, marble, and gravel from nearby quarries and factories are shipped from Mina Saqr.

Ajman Port

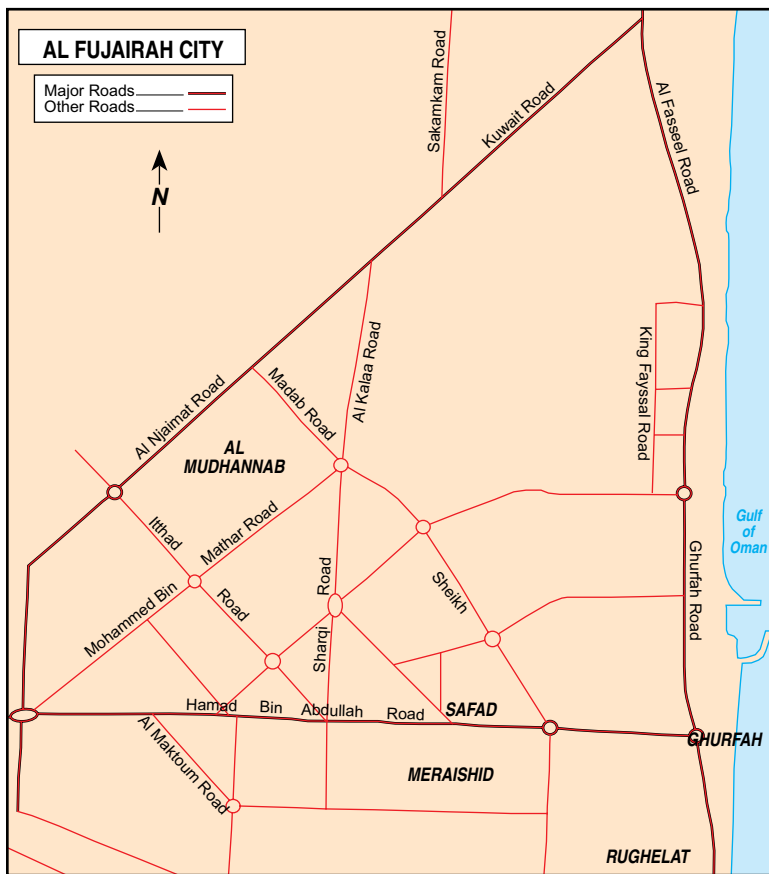
Ajman Port has eight berths to handle container and general cargo. The port has been dredged to 8 meters (26 feet), with plans to deepen to 10.5 meters (34 feet). This would enable visits by 40,000- to 50,000-dead weight tonnage (dwt) vessels up to 175 meters (574 feet) long. Cargo is stored in warehouses covering an area of 43,200 square meters (465,001 square feet). There are also special facilities to handle chemicals, waste paper, and fodder. Maintenance services are available, as are two dry docks and eight wharves. One berth is reserved for wooden boats and launches. Ajman handled approximately 50,000 TEUs in 2006.

Umm al-Qaywayn

The Ahmed bin Rashid Port and Free Zone is in Umm al-Qaywayn about 48 kilometers (30 miles) northeast of Dubai. The complex comprises four wharves with a wall 845 meters (2,772 feet). Umm al-Qaywayn handles ocean-going vessels. The entrance channel has a minimum depth of 10 meters (33 feet) and a width of 100 meters (328 feet).

Al Fujayrah Port

Al Fujayrah Port commissioned an additional 150,000 cubic meters (5.3 million cubic feet) of onshore bunker storage facilities in 2005, allowing it to supply 12 million tons of fuel oil a year. Al Fujayrah's deepwater facility has 1.4 kilometers (less than one mile) of quay and an additional 720 meters (2,362 feet) of tanker berths. The port is dredged to 15 meters (49 feet) with storage for up to 30,000 TEUs. Upgrades to the Al Fujayrah terminal will include new cranes and handling equipment. DPW operates the container terminal while the Port of Al Fujayrah handles all non-containerized cargo such as oil and crushed rock. Al Fujayrah has roll on/roll off and bulk loading services.



Al Fujayrah

Vessels

In 2006, the total number of vessels in the UAE merchant fleet was 417. Forty-two percent of the 1,000 Gross Register Tonnage (GRT) or over fleet were petroleum tankers, but cargo ships, bulk carriers, liquefied gas ships, chemical tankers, container ships, and roll on/

roll off ships also made up the fleet. As of June 2008, 11 ships in the merchant fleet were foreign owned, and 281 had registrations in other countries. Recreational watercraft such as yachts, speedboats, sailboats and other small light watercraft also use the waterways.

Unidentified boats, as well as Iran's Coast Guard, approach U.S. and other vessels operating in the Arabian Gulf. The Iran Coast Guard has detained recreational boaters near the islands of Abu Musa and the Tunbs. Pirates have attacked vessels operating in the waters near the UAE, but there were no recent reports as of July 2008. There are no navigable rivers or lakes in the UAE.

Communication

Government controls most communication assets in the UAE, but a few private radio stations, television broadcasters, and print media are available and operate from the free media zone in Dubai. The telecommunications system is modern and well developed.

The law provides for freedom of speech and of the press. However, in practice the government restricts these rights. According to the Press and Publications Law, foreign and domestic articles relating to the government and its allies, ruling families, or social issues are subject to censorship before distribution. UAE also censors private publications and mosque sermons.

In September 2007, Prime Minister Mohammad bin Rashid al-Maktoom ordered that journalists no longer be imprisoned for violating the Press and Publications Law, but all other punishments remain in effect. The media commonly censor themselves to avoid closure, fines, and harassment from government officials. Foreign journalists are subject to deportation. Dubai has a free media zone with fewer restrictions, including the Internet.

Three large media companies, Abu Dhabi Media Company (ADMC), Arab Media Group (AMG), and Dubai Media control the major radio, television, press, and publication companies. ADMC is a government-owned company based in Abu Dhabi. ADMC has offices in Dubai, Cairo, and Washington, DC AMG, based in Dubai Media City, is government owned. AMG is the largest media group in the UAE. Dubai Media Inc. (DMI), a semi-government owned company formed in 2003, operates major television and radio stations in the emirate of Dubai.

Radio and Television

UAE has 26 radio stations. Abu Dhabi Radio, Quran Kareem Radio, Dubai 92, and Emirates Radio broadcast over satellite radio. BBC and Voice of America broadcast radio programs in the UAE. Stations in the UAE broadcast to around 820,000 radios.

As of 2007, 42 TV stations and more than 200 satellite stations broadcast in the UAE.

Primary Television Stations

	City
Abu Dhabi TV	Abu Dhabi
Abu Dhabi Sports	Abu Dhabi
Emirates TV	Abu Dhabi
Ash Shariqah TV (Channel 22)	Ash Shariqah
Ajman TV (Channel 4)	Ajman
MTV Arabia (Channel 14 [Nilesat], Channel 24 [Arabsat])	Dubai
Dubai Sports	Dubai
Dubai TV	Dubai
One TV (Channel 33)	Dubai
Sama Dubai	Dubai
MBC	Dubai

Satellite, cable, and internet TV are available in the UAE. Cable is in Abu Dhabi, Dubai, Ash Shariqah, Ajman, and Al Ayn. Mobile TV for cellular telephones is also available. The UAE had 20 televisions for every 100 inhabitants in a 2004 estimate.

Telecommunications

The UAE has modern fiber optic integrated services and a digital network with a high use of mobile phones. Microwave radio relays with fiber optic and coaxial cable make up the domestic telephone system. Telephone services are reliable; remote areas have excellent connectivity. Etisalat operates telegram services. Public pay phones are available throughout the UAE. Some pay phones are coin operated, while others are card operated. Phone cards can be purchased at bookstores, supermarkets, pharmacies, and Etisalat offices.

There are connections to the international submarine cables Fiber-Optic Link Around the Globe (FLAG) and Fiber Optic Gulf (FOG) in Al Fujayrah. FLAG began service in 1997; FOG in 1998. The UAE is the landing point for the South East Asia-Middle East-Western Europe 3 (SEA-ME-WE-3) and South East Asia-Middle East-Western Europe 4 (SEA-ME-WE-4) submarine cable networks.

The UAE has a modern cellular network that offers nationwide coverage. Two telecommunication companies offer services—Emirates Telecom Corporation (Etisalat) and Emirates Integrated Telecommunications Company PJSC (du). The government owns the majority of both. The Telecommunications Regulatory Authority (TRA) oversees the industry.

Emirates Telecom Corporation (Etisalat)

The government owns 60 percent of Etisalat, which is the primary provider of fixed and mobile services. The remaining 40 percent

belongs to private shareholders. Etisalat’s network became active in 1994. It uses GSM 900, WAP, GPRS, MMS, VSAT and other third-generation technologies to deliver cellular services. The network covers most of the country. The largest area not receiving coverage is north of Zhilinka, which is in the southwest portion of the country. Etisalat has an international roaming agreement with Thuraya Satellite Telecommunications Company and many others. Thuraya handsets have the capability to operate in GSM 900/1800.

Emirates Integrated Telecommunications Company PJSC (du)

The du network activated in 2007. It offers fixed and mobile services using GSM 900/1800, ISDN, MPLS VPN, MMS, SMS, broadband, and third generation technologies. Mubadala Development Company, TECOM Investment, and public shareholders each own 20 percent of du; the government owns the remaining 40 percent. Du also has an international roaming agreement with Thuraya Satellite Telecommunications Company and many others. Thuraya does have three satellites, but only two are operational

UAE cellular technology allows for media streaming and data transfer from the Internet via mobile phone. Different service packages are available, including pre-paid phones that can be reloaded online. Cell phone penetration is more than 100 percent. The ratio of cellular subscribers is 173 for every 100 people.

United Arab Emirates Telecommunication Statistics (2007)

<i>Total telephone subscribers</i>	8.9 million
<i>Telephone subscribers per 100 inhabitants</i>	205
<i>Main telephone lines</i>	1.3 million
<i>Main telephone lines per 100 inhabitants</i>	31.6
<i>Mobile users</i>	7.6 million

Newspapers and Magazines

The UAE publishes nine newspapers and more than 160 magazines and journals. ADMC owns the *Al Ittihad* and *The National* newspapers, which are based in Abu Dhabi. Circulation for daily publications is 58,000; weekly, 60,000. ADMC also owns the magazines *Majed*, *Al Super* and *Zahrat Al Khaleej*. ADMC launched *The National* in 2008.

The government of Dubai established *Al Bayan* in 1980, but the newspaper is now part of AMG. *Al Bayan* has a daily circulation of more than 94,000. The paper releases three supplements—*Five Senses*, *Maraya*, and *Masarata*. *Five Senses* is a daily supplement focusing on local and global entertainment news. *Maraya*, a Friday supplement, focuses on political developments. *Masarat* is a Sunday supplement focused on local and international cultural affairs.

Emirates Business 24/7 and *Emarat Al Youm*, the Arabic equivalent of *Emirates Business 24/7*, focus on business news. Awraq Publishing, a subsidiary of AMG, launched both in 2007. *Al Khaleej* is the largest Arabic language daily newspaper in the UAE. It is privately owned but receives government subsidies. The newspaper has a daily circulation of more than 80,000 and is based in Ash Shariqah.

Gulf News is a privately owned daily newspaper based in Dubai. Al Nisr Publishing established it in 1978. Weekly publications by Al Nisr include *Entertainment Plus* (Thursday), *Weekend Review* (Friday with *Gulf News*), *Notes* (tabloid available on Sunday), *Sport Xtra* (magazine), and *Wheels* (magazine). *InsideOut* is a monthly magazine published by Al Nisr.

Khaleej Times, a privately owned daily newspaper launched in 1978 as the first English language newspaper in the UAE. It has a

circulation of 70,000. Other publications of *Khaleej Times* include the *Weekend*, *Young Times*, and an online publication.

Publications	Politics	Language	Frequency	Web Address
<i>Al Bayan</i>	Pro-government	Arabic	Daily	www.albayan.ae
<i>Al Ittihad</i>	Pro-government	Arabic	Daily and Weekly	www.alittihad.co.ae
<i>Al Khaleej</i>	Pro-government	Arabic	Daily	www.alkhaleej.co.ae
<i>Emirates Business 24/7</i>	N/A	English	Daily	www.business24-7.ae
<i>Gulf News</i>	Independent	English	Daily	www.gulfnews.com
<i>Khaleej Times</i>	Pro-government	English	Daily	www.khaleejtimes.com
<i>The National</i>	Pro-government	English	Daily	www.thenational.ae
<i>Al Fajr</i>	Independent	Arabic	N/A	N/A
<i>Al Wahda</i>	Pro-government	Arabic	N/A	N/A

Postal Service

Emirates Postal Corporation (EPC), which was formed in 2001 following the restructuring of the UAE General Postal Authority, provides national postal service. Empost, a subsidiary of EPC, is the national and international courier company of the UAE. Other subsidiaries include the Electronic Documentation Center, Emirates Marketing and Promotions, and the Wall Street Exchange Center. EPC has agreements with international couriers such as Western Union and DHL.

Ninety-five percent of the population picks up mail at a post office. The remaining 5 percent receives mail at home. Mail is collected from urban areas four times per working day, twice per week in rural areas. In rural areas, five deliveries are made per week. As of 2006, there were 1,200 post offices, with 496 permanent sites. Seventeen percent of permanent post offices are connected to an electronic network. Worldwide delivery services are available from DHL, UPS, TNT, and FedEx.

Internet

The Internet is widely available and extensively used through a single Internet Service Provider (ISP), Etisalat, which blocks websites offering Voice over Internet Protocol (VOIP) services. The Emirates Internet and Multimedia (EIM) ISP is a subsidiary of Etisalat. EIM resells Internet services from Etisalat.

Internet services available include dial-up, broadband, and satellite connections. Dedicated Internet connections are available. The public accesses the Internet at schools, colleges, cyber cafes, and work. However, most users access the Internet from home computers.

The UAE blocks websites deemed inconsistent with its religious, cultural, political and moral values. This includes pornography, alcohol and drugs, online dating, homosexuality, gambling, and specific self-help sites. Political and religious websites, news sources, and Israeli websites are regularly blocked. Popular blogs and social networking sites also are blocked. Chat rooms, blogs, and instant messaging services that do operate are monitored. A 2006 Information and Privacy Law provides fines and prison terms for users who violate religious, cultural, political, and moral norms.

United Arab Emirates Internet Statistics (2007)

<i>Total Internet hosts</i>	6,001
<i>Hosts per 10,000 inhabitants</i>	13
<i>Users</i>	2.3 million
<i>Users per 100 inhabitants</i>	52.5
<i>Total number of Personal Computers</i>	1.4 million (2006)
<i>PCs per 100 inhabitants</i>	30 (2006)
<i>Broadband Internet per 100 inhabitants</i>	5.17

Satellites

The UAE has four satellite earth stations — three Intelsat, one Arabsat. Two Intelsat satellite earth stations are in the Indian Ocean, and one is in the Atlantic Ocean. Intelsat satellite earth stations are designed for telecommunications services. Each member organization owns its ground equipment while subscribing to Intelsat's satellite services.

The UAE is an Arab League member of Arabsat and the fifth highest shareholder behind Saudi Arabia, Kuwait, Libya, and Qatar. Arabsat has four satellites which provide television, radio, and broadband Internet access. Satellites were launched in the 1980s, 1990s, and 2000s; the latest in 2008.

Thuraya provides a range of satellite telecommunications services supporting mobile coverage, broadband access, Global Positioning System (GPS), and maritime communications. Thuraya 1 satellite was launched on 21 October 2000. It became the first satellite initiated from the Middle East. Thuraya 2, which has a 12- to 15-year lifespan, was launched on 10 June 2003 into a geosynchronous orbit. Thuraya 3 was launched into a geosynchronous orbit on 15 January 2008. Boeing built the satellite, which has a 12-year lifespan. Based in Abu Dhabi, Thuraya is majority owned by Etisalat.

Al Yah Satellite Communications Company (Yahsat) is a wholly owned subsidiary of Mubadala Development Company. The first satellite, Yahsat 1A, will launch in late 2010. Yahsat 1B will follow in 2011. UAE Armed Forces and a U.S. communications company have signed leases with Yahsat. Both satellites will have an operational lifespan of 15 years.

CULTURE

Statistics

Population	4.1 million
<i>Growth Rate</i>	3.8%
Birth Rate	16.6 births per 1,000 population
Death Rate	2.1 deaths per 1,000 population
Net Migration Rate	24.4 migrants per 1,000 population
Life Expectancy at Birth	Total population: 75.9 years Male: 73.4 years Female: 78.6 years
Age Structure	0 to 14 years: 20.5% 15 to 64 years: 78.6% 65 years and older: 0.9%
Last Census	2005

Population Patterns

Because the majority of the harsh desert interior remains uninhabited, the UAE population is concentrated in the coastal capital cities that are the core of each emirate. More than 80 percent of the population lives within urban conglomerations. The total population density is low, only 28 people per square kilometer (72 per square mile). Urban settlements account for nine percent of total land area, and within urban areas the population density is 420 people per square kilometer (1,087 per square mile). The rural population is small, and population growth is only significant in the major cities. The UAE has experienced rapid urbanization. The largest population centers are the emirates of Abu Dhabi and Dubai, which are also the two largest cities.

Population of Major Cities

City	Emirate	Population
<i>Dubai</i>	Dubai	1,354,980 (2006)
<i>Ash Shariqah</i>	Ash Shariqah	685,000
<i>Abu Dhabi</i>	Abu Dhabi	630,000
<i>Al Ayn</i>	Abu Dhabi	350,000
<i>Ajman</i>	Ajman	202,244
<i>Ra's al-Khaymah</i>	Ra's al-Khaymah	113,347
<i>Al Fujairah</i>	Al Fujayrah	74,330

Ethnic Density

UAE's total population is more than 4 million. Nearly 20 percent are Emiratis. The remainder is expatriates. Most expatriates are from South and Southeast Asia — Bangladesh, India, Pakistan, and the Philippines — accounting for more than half the population. The single largest group is from India, which totals more than 40 percent of all expatriates. Iranians and Arabs — Palestinians, Egyptians, Jordanians, Omanis, and Yemenis — account for 23 percent of the population. The remainder comes from the West; nearly 28,000 are Americans. In Dubai, expatriates represent about 200 nationalities.

Society

The UAE is less than 40 years old. As a young country where expatriates outnumber Emiratis four to one, UAE is searching for a national identity and struggling to find balance between modernity and traditional Islamic beliefs. Most Emiratis believe the economy has improved (69 percent) but that globalization is moving too quickly (77 percent), according to a BBC World Service poll conducted between 31 October 2007 and 25 January 2008.



Population

Many leading figures believe that technology, economic development, influence of foreigners, and waning interest in the Arabic language, particularly among the youth, threaten the culture. Some call for tighter immigration policies. Others believe that the society should remain open and that education, language, and religion should reinforce culture — traditions, heritage, and values. Many youths do not think the culture is threatened.

In a March 2008 poll, Zogby International found that regional issues such as the Israeli-Palestinian conflict, Iran's nuclear program, and the Iraq war were important issues. Fifty-two percent sympathized with HAMAS, and 44 percent blamed the govern-

ment of Palestinian President Mahmoud Abbas for the situation in Gaza. Fifty-five percent believed Iran had a right to its nuclear program and that international pressure should cease. Fifty-one percent believed that the outcome would be positive for the Middle East if Iran acquired nuclear weapons.

Zogby also found that 71 percent had a negative view of the United States. Ninety percent would have a more favorable view if the United States participated in the establishment of a Palestinian state with Jerusalem as its capital and Israeli withdrawal to the 1967 borders. Fifty-three percent would have a more favorable view if the United States withdrew from Iraq.

People

Emiratis descended from two Arab tribal confederations — Qawasim and Bani Yas — and longtime immigrants from Persia and other Gulf countries. Qawasim were mainly land and sea traders in what became known as the emirates of Ra's al-Khaymah and Ash Shariqah.

The Bani Yas were Bedouin, agricultural, and pastoral people in what became known as the emirates of Abu Dhabi and Dubai. Emiratis comprise nearly 20 percent of the population. The remainder consists of expatriates from nearly 200 nationalities.

The ratio of males to females is more than 2 to 1 — 68 percent male, 32 percent female — when counting Emiratis and expatriates. The ratio is almost even when counting only Emiratis — 51 percent males, 49 percent females. This ratio is consistent with UAE's birthrate of 100 males to 96 females.

Ethnic Groups

Emiratis and expatriates work well together in a range of jobs at all levels. Emiratis are primarily civil servants, accounting for almost 80 percent of all public sector workers. Expatriates account for 98 percent of the private sector workforce.

The UAE constitution provides for equality regardless of race, nationality, religion, and social status. However, some discrimination based on gender and nationality has been reported. The government stated a goal of achieving fairness to expatriates in terms of labor and management issues, social services and healthcare delivery, educational opportunities, and housing. However, the government imposed hiring quotas in certain industries to boost the participation of Emiratis in the private sector.

Family

Family is the foundation for civil society in the UAE. Family interactions and succession are the primary basis for government, trade, and industry. This stems from the traditional tribal structure of society, with extended families forming the primary unit in social interactions. The family is of primary importance to the government as well, and many means of support and protection for the family are in place. These include interest-free loans for homes, grants for newlyweds, and government-provided healthcare. Family dynasties have ruled each emirate since independence.

Although extended family ties are valued, the nuclear family typically forms its own separate household. Relatives often live near each other. Extended families are depended upon for support. Family connections and honor take precedence over all else, and family loyalty is part of every decision.

Several generations sometimes live together, and families care for their elderly. Families are very close knit and private. Care of children is vitally important within UAE society. Laws ensure the safety and protection of children within the family, and national institutions guarantee care for orphans and abandoned children.

Traditionally, marriages were arranged between members of the same tribe, usually cousins. While traditional Emiratis still prefer arranged marriages, greater choice is now available. Young people may reject suitors and marriage proposals. Men typically marry after finishing their education, around age 26, while women often marry younger. Emiratis are strongly encouraged to marry citizens and grow the population. A state marriage fund exists to help defray wedding costs. The government has capped dowries and provides free marriage counseling. Marriages are typically lavish affairs with extensive celebration.

Roles of Men and Women

The UAE is a patriarchal society, and traditional views of the roles of women in the family have been slow to change. Men are the leaders in society and in the home; men continue to hold the majority of positions of influence. Women traditionally are responsible for the home but have increasingly gained roles in the public and private sector. The UAE has precedent for the public participation of women in sectors such as agriculture and trade due to seasonal absences of men for fishing and pearl diving. The role of women in modern UAE continues to develop and change.

The UAE has worked to increase women's participation in social and economic life. The UAE constitution guarantees equal legal status, including the right to work. Government-sponsored councils and committees work to increase placement of women in

the public and private sectors and to ensure legal equality. Legal changes extended maternity leave in 2001 and increased maternal rights in 2003.

The UAE increased access to higher education for women. Women account for the majority of students enrolled in higher education and 40 percent of the civil service. Women serve as leaders of large corporations and are becoming more influential in government. The first female UAE government minister, Sheikh Lubna Al Qasimi, was appointed the Minister of Economy and Planning in 2004. The first woman was elected to the Federal National Council (FNC) in 2006, and eight others were appointed. Women serve various functions throughout the government of the Emirates, including public prosecutors, directors of local departments, and members of the diplomatic corps.

Despite legal and social efforts, women continue to face discrimination. Family matters are governed by local Shari'a (Islamic law) courts. Women face legal discrimination under Shari'a, including the devaluation of their testimony. Muslim women are forbidden to marry non-Muslims, while Muslim men are not restricted. Women do not pass their citizenship to children from a marriage to a foreigner, but citizenship is often granted upon request. Women inherit less than male siblings and have more difficulty getting divorced.

Violence against women, especially domestic violence, is a pervasive problem. Legal protection is limited, and women are reluctant to file complaints for social, cultural, and economic reasons. Authorities often are negligent in pursuing reported violence. While rape is illegal, spousal rape is not addressed.

Societal pressure perpetuates traditional roles. Women are encouraged to work in jobs that require little interaction with the opposite gender and have limited contact with the public. Many women

choose to focus solely on raising families. Segregation of the sexes is common in domestic settings, primarily in the company of visitors. Homes often include *majilis*, or sitting areas for men only, designed to prevent interactions between male guests and female family members.

The minimum age of employment is 15 for both part- and full-time work. The minimum age for marriage is 15. Emiratis are considered independent, personally responsible adults at age 18.

Customs and Courtesies

Emiratis are Muslim, and Arabic is their official language. Although culture and traditions are firmly rooted in Islam, UAE is open and tolerant of other cultures. English commonly is used in business and government transactions and among expatriates. Other languages spoken include Hindi, Urdu, Persian, Malayalam, and Tagalog.

The traditional greeting is *as-salam alaykum* (may peace be with you). The proper response is *walaykum as-salam* (and peace be with you). Men greet one another by shaking hands and touching noses. Women greet one another by kissing both cheeks.

Friends and family members of the same gender address one another by first name. Acquaintances and members of the opposite sex address one another using professional titles, *Sayed* (Mr.) or *Sayed* (Mrs.) before first names, and *Um* (mother of) or *Abu* (father of) before name of eldest son.

Emiratis use the right hand for eating, gesturing, giving and receiving items, and shaking hands. The left hand is considered unclean because it traditionally is used for personal hygiene. Using the left hand is considered impolite. Pointing fingers and giving

the “thumbs up” gesture are impolite. Instead, Emiratis point with the entire hand. Crossing legs when sitting, pointing feet at someone, and exposing the bottom of soles also are offensive.

Modesty is important. Men and women tend to wear traditional, conservative attire. Women wear *abayas* (black robes) and *shailahs* (head and face covering) in public. Older, married, more conservative women may wear *burqas* (black masks covering nose and mouth). Men wear white robes called *dishdashas* and light cloth headdresses called *ghutras* with black headbands called *agals*. Female visitors should cover as much skin as possible. Baggy, loose-fitting trousers and long skirts are acceptable. Males should wear conservative business suits. When not wearing business attire, men should at least cover back, shoulders, and tops of arms.

It is customary to remove shoes before entering homes. Generally, the wife will not be present. If she is, hosts often invite male guests into the living room and female guests into another room to socialize with the wife. In households where everyone is in the same room, familiar interaction between male guests and the host’s wife is inappropriate.

Express appreciation at meals and always accept refreshments such as coffee or tea. When hosting, always offer such refreshments. Refusing to offer or accept is considered impolite. Shaking the cup gently from side to side signifies that you have had enough to drink.

Traditional meals are eaten on the floor without utensils. However, it is okay for guests to request utensils. Family and guests sit in a circle in such a way that hides the bottom of feet. The food sits in the middle of the circle. Guests should leave shortly after the meal because hanging around after the meal is impolite. When invited

to a restaurant, the host pays the bill. Generally, a tip of ten percent is appropriate.

Bargaining or haggling is normal and expected in small shops and *souks*, not in franchises and large European chain stores. Shoppers should have an idea what an item is worth or what they are willing to pay beforehand. If negotiated in a polite and respectful manner, prices may come down considerably from the original quote. After vendors agree to a price, negotiating further is insulting and leaving empty handed is impolite.

Education and Literacy

The UAE has invested in education and increased educational opportunities throughout the emirates. Public education began in the 1950s for men and women. Neighboring countries assisted in the development of the educational system until the UAE began to earn large oil revenues during the 1960s. Since then, the UAE has developed an extensive system that provides free comprehensive education for citizens from pre-primary to advanced degrees. Extensive private education also exists. The government provides funding to send thousands of students abroad for higher education. The UAE plans to ensure all citizens receive education by 2015.

The UAE has a four-tier education system that lasts for 14 years. It was established in 1971. The first phase begins with kindergarten from ages 4 to 5. The second phase, primary education, lasts six years from ages 6 to 12. Preparatory education lasts from ages 12 to 15, and secondary education lasts from ages 15 to 18. Education is mandatory until the ninth grade. Education is gender segregated after age 6.

State education is in Arabic. English is taught from primary school on, with advanced classes offered in preparatory and sec-

ondary school. Other foreign languages are used in instruction in private schools, which attract 40 percent of pupils. The school year is from September to June. The school week follows the work week — Sunday to Thursday. Expatriate students have access to the educational system and comprise one-third of students.

Primary education is divided into two cycles, each three years long. The first cycle has a single instructor who teaches all subjects. The second cycle has separate instructors for each subject, and class periods are longer. Core subjects include Islamic education, Arabic, English, mathematics, and science. Active subjects include art, music, and family education for girls. At the final cycle, social sciences — history, geography, and civics — become part of the core curriculum. Annual exams determine advancement.

Preparatory education, which consists of similar core studies, qualifies students to pursue either general or technical secondary school. General secondary education covers Islamic education, Arabic, English, history, geography, mathematics, physics, chemistry, biology, geology, computer science, physical education, and family education. Students choose to focus either on social or physical sciences during the second year. Social sciences include sociology, economics, and history. Physical sciences include physics, chemistry, biology, and geology. Technical secondary education focuses on vocational skills and includes workplace participation. Students receive certificates of completion if they pass exams.

Most students who complete secondary school apply for higher education. UAE has two state-owned universities; the University of the United Arab Emirates was the first. It is based in Al Ayn and has five separate campuses serving more 150,000 students. The second, Zayed University, focuses on technological partnerships and has two campuses.

The UAE also offers higher education through a system of 12 men's and women's colleges that prepare students for careers in computer science, medicine, education, and other important fields. Various private universities also provide higher education, including the American Universities of Ash Shariqah and Dubai, Ash Shariqah University, and Ajman University of Science and Technology. A cluster of more than 20 international institutions of higher learning are part of the Dubai International Academic City, which provides a regional base for foreign institutions and serves more than 8,000 students.

Education is a priority for Emiratis. Literacy and gender equality in education are two primary concerns. Literacy has been a central focus since independence, and the government has pledged to eradicate illiteracy by 2015. The UAE has a literacy rate of 88.7, with less than 1 percent gender disparity between men and women. Primary enrollment is at 85 percent, and secondary net enrollment is at 77 percent. Women have enrollment levels of 78 percent



University of Ash Shariqah

at the secondary level and a much greater enrollment rate in higher education. Enrollment rates have steadily increased since 1971.

The arts and literature in the UAE exist as part of the greater realm of Arab literature. The most popular form of literature is poetry, followed by folk stories, proverbs, and recitations. Poetry remains the most developed and influential form of literature in the Arab nations, and even the President of the UAE has composed poetry. Early classical Arabic compositions continue to be studied by Emiratis. Classical Arabic UAE poets such as Mubarak Al Oqaili, Salem bin Ali Al Owais, and Ahmed bin Sulayem rose to prominence during the early 20th century and continue to be popular.

Religion

Out of the population of 4.1 million, about 80 percent are non-citizens and belong to various religions. Of these, an estimated 70 percent are Muslim, 10 percent are Christian, and the rest includes Hindus, Buddhists, Sikhs, and Baha'i. Official numbers are unavailable, and the government counts the members of several minority religions as Muslim. All Emiratis are Muslim. About 85 percent are Sunni Muslims, mostly from the Maliki tradition; the remaining 15 percent are Shi'a Muslims.

Islam is the official state religion. The government controls virtually all aspects of religious practice, and funds and subsidizes 95 percent of Sunni mosques and imams. The remaining five percent are private mosques that operate on large endowments. The government distributes weekly guidance on sermon content to all mosques and clergy and monitors all sermons for political content.

Shari'a is the basis for family and criminal courts in the UAE. Non-Muslims are also tried in Shari'a courts. Conversion to Islam is strongly promoted. Annual lists of converts are published, and prisoners who convert can receive reduced sentences. Prisoners in

Dubai who memorize the Koran are eligible for reduced sentencing based on the length of passages and the severity of their crime.

While Islam is the official religion of the UAE, the constitution provides for freedom of religion and religious practice, provided that such observances are not damaging to public morality. These freedoms are generally respected with some exceptions.

Non-Muslims are forbidden to proselytize, and conversion from Islam is illegal. Foreign missionaries are restricted to humanitarian efforts.

Religions other than Islam are restricted to observances only within religious facilities or private residences. Minority religions without religious facilities conduct private observances in their homes without interference. The government gives strong preference to other “religions of the book,” which includes Christianity



Grand Mosque Dubai *Photo by Christian Horcel*

and Judaism. The government has awarded land grants and permits for churches. Facilities are greater than those provided for other minority religions.

Despite minor restrictions, the UAE is considered the most liberal and tolerant Arab country. Tolerance for other religions and a moderate view of Islam are tenets that were part of the founding of the nation. There are no reports of societal discrimination against those who practice other religions.

Recreation

Men enjoy a variety of sports, of which soccer is a favorite. Traditional nomadic sports such as falconry and camel racing are still popular. Camel racing, traditionally part of the winter season, has become the primary spectator sport. Horse racing is also popular, and the Dubai World Cup carries one of the largest prizes in the world. Other popular sports include golf and cricket. Water sports, such as *dhow* (sailboat) racing, are very popular in the UAE. Younger Emiratis enjoy modern water sports such as water-skiing. Diving, snorkeling, and fishing are also popular.

Dubai positions itself as an international recreation destination with various amusement parks and resorts. Dubai is also the home to one of the world's largest indoor ski slopes, Ski Dubai, and is the site of the planned largest indoor skiing dome, the Snowdome.

Women are not involved in sports. Women enjoy family outings to the park or beach. Families also camp in the desert. Domestic pastimes include watching movies and listening to music together.

Cultural Considerations

Dignity, honor, self respect, saving face, and social status are important to Emiratis. So is avoiding anything that would bring

shame and embarrassment. Their primary loyalties are to family, clan, and tribe. Secondary loyalties are to emirate or region, country, and Arab world. Familial, clan, and tribal affiliations help determine social status. Primary loyalties take priority over schedules and deadlines. Phone calls and visits from friends and family often interrupt business meetings.

Initial meetings are for getting acquainted so conducting business can take a long time. It is important to spend time cultivating relationships because Emiratis prefer to do business face to face with people they know and trust. Having a connection who can introduce you is better than attempting to do business on your own. It is common to see men walking holding hands. This signifies close bonds and friendship. It has no sexual overtones.

It is customary to greet first the person with the highest status in business and social settings. Generally, this is the oldest person in the room. It is tempting to assume the person doing the most talking has the senior status, but the opposite is true. The person talking the most is generally the least important. The most silent person is generally the most important. Use titles before first names to show proper respect. If titles are unknown, learn them in advance. Emiratis are exceedingly generous and hospitable. If you show strong admiration for an item, they will offer it to you as a gift. Refusing to accept it is impolite.

Muslim men generally do not touch women unless they are relatives. So avoid shaking an Arab woman's hand unless she extends hers first. Businesswomen should avoid shaking an Arab man's hand unless he extends his first. Family life is sacred. So avoid specific questions about female family members. Muslims do not consume pork or alcohol.

Normal business hours are from 0800 to 1700 Sunday through Thursday. Some businesses close at noon on Thursday. Others take long midday breaks and stay open later. Government offices operate 0730 to 1500 Sunday through Wednesday. Normal business is put on hold during religious holidays and prayer times. Muslims fast from sunrise to sunset during the month of Ramadan. Offices close in the afternoon, and most business is conducted early in the morning or after the evening fast is broken. Do not eat or drink in front of Muslims during the fasting period. Muslims pray five times each day during specific times. Interrupting prayer and walking in front of people who are praying is considered impolite.

MEDICAL ASSESSMENT

Disease Risks to Deployed Personnel

The National Center for Medical Intelligence (NCMI) assesses the UAE as **INTERMEDIATE RISK** for infectious diseases, with an overall disease risk that will adversely impact mission effectiveness unless force health protection measures are implemented. Risk varies greatly depending on location, individual exposures, and other factors. More detailed information is available at <http://www.ncmi.detrick.army.mil>. The following summarizes infectious disease risks in the UAE.

Food- or Waterborne Diseases

Sanitation varies with location but typically is below U.S. standards. Local food and water sources (including ice) may be contaminated with pathogenic bacteria, parasites, and viruses to which most U.S. service members have little or no natural immunity. Diarrheal diseases can be expected to temporarily incapacitate a high percentage of personnel within days if local food, water, or ice is consumed.

Hepatitis A and typhoid fever can cause prolonged illness in a smaller percentage of unvaccinated personnel. Consuming unpasteurized dairy products or raw animal products increases the risk of diseases such as brucellosis and Q fever; rare cases may occur in the absence of countermeasures. In addition, significant outbreaks of viral gastroenteritis (e.g., norovirus) and food poisoning (e.g., *Bacillus cereus*, *Clostridium perfringens*, and *Staphylococcus*) may occur.

Vector-borne Diseases

Ecological conditions (primarily in rural areas) support populations of arthropod vectors, including mosquitoes, ticks, and sandflies, particularly during warmer months (April through November). Rare cases of Crimean-Congo hemorrhagic fever (less than 0.1 percent per month) could occur among personnel exposed to tick bites. Other vector-borne diseases occur at low or unknown levels; as a group, these may constitute a potentially serious operational risk. The World Health Organization declared the UAE malaria-free in October 2007.

Sexually Transmitted and/or Bloodborne Diseases

Gonorrhea, chlamydia, and other infections are common and may affect a high percentage of personnel who have sexual contact, particularly those who have contact with prostitutes. HIV/AIDS and hepatitis B also are risks associated with unprotected sexual contact. Although the immediate impact of HIV/AIDS and hepatitis B on an operation is limited, the long-term health impact on individuals is substantial.

Water-contact Diseases

Operations or activities involving extensive water contact may result in personnel in some locations being temporarily debilitated

with leptospirosis. In addition, bodies of surface water are likely to be contaminated with human and animal waste. Wading or swimming may result in exposures to enteric diseases such as diarrhea and hepatitis via incidental ingestion of water. Prolonged water contact also may lead to the development of a variety of potentially debilitating skin conditions such as bacterial or fungal dermatitis.

Animal-associated Diseases

Rabies risk is low, comparable to the risk in the United States.

Medical Capabilities

The quality of medical care in the UAE is good for the region but does not meet Western standards. Adequately equipped public hospitals provide routine and emergency medical and surgical care. Most hospitals are near the major metropolitan areas of Abu Dhabi and Dubai. As is the case in all other Gulf States, UAE hospitals tend to lack a sufficient number of qualified nursing personnel. The overall quality of care at private facilities is somewhat better than that provided at government hospitals.

While public ambulance services are available through a direct-dial service (telephone 999 in Dubai and Ash Shariqah; 998 in Abu Dhabi), past reporting indicates ambulance technician skills were minimal and did not meet requirements for emergency medical technician certification in the United States. Ambulances are not equipped to U.S. standards, dispatch and control procedures are poor, and response time is much slower than Western standards. Most physicians and nurses are expatriates. Most expatriate physicians are trained in Asia or Europe and deliver good medical care. Over time, the scarcity of continuing education opportunities and lack of available or reliable diagnostic technology generally caused the quality of care in the UAE to drop below Western standards.

However, 2006 reporting indicated that the UAE partnered with major Western medical universities to create medical centers of excellence. These partnerships were designed to widen physicians' access to advanced diagnostic capabilities, as well as the training required to maintain and sustain provider skills. The quality of nursing care is fair. While Arabic is the official language, Persian, English, Hindi, and Urdu also are commonly spoken.

Roughly 95 percent of all pharmaceuticals, medical equipment, and medical supplies are imported. Civilian and military blood supplies are tested to ensure clearance of infectious diseases, including HIV/AIDS, viral hepatitis B and C, syphilis, and malaria. While the UAE reportedly continuously updates virology screening programs to meet the latest international standards, UAE blood banks so far have failed to obtain certification under the standards set forth by the American Association of Blood Banks.

Key Medical Facilities

Sheikh Khalifa Medical City

Coordinates: 24-28-06N 054-21-56E

Location: Corner of Sudan Street and Al Karamah Street

City: Abu Dhabi

Type: Government, 320 beds (room to expand)

Telephone 663-1000

Capabilities: *Medical:* General, cardiology, endocrinology, gastroenterology, nephrology, neurology, nuclear medicine, pediatrics, radiology, dentistry.

Surgical: General, ophthalmology, orthopedic.

Ancillary Services: Intensive care unit (ICU), cardiac care unit (CCU), CT scanner, MRI, x-ray, ultrasound, laboratory, blood bank, dialysis, helipad.

Comments: This facility used to be named Al Jazeira Hospital. The U.S. Embassy recommends use of this facility.

American Hospital

Coordinates: 25-14-05N 055-18-50E

Location: Off Al Quta Eyat Road near Al Nasr Leisureland

City: Dubai

Type: Private, 100 beds

Telephone 336-7777

Capabilities: *Medical:* General, cardiology, gastroenterology, internal medicine, family medicine, pediatrics.

Surgical: General, anesthesia, obstetrics, gynecology, ophthalmology, otorhinolaryngology (ENT), urology.

Ancillary Services: OR, ICU, blood bank, emergency room, pharmacy, physical therapy, helipad, laboratory w/blood gas analyzer, x-ray, CT scanner. MRI, ultrasound, electrocardiogram (ECG).

Comments: Hospital opened in 1996 and has been accredited by the Joint Commission International Organization. The U.S. Embassy recommends use of this facility.

HISTORY

Little is known about the ancient history of the UAE. The region has been inhabited for thousands of years. Stone tools recovered from the Hajar Mountains and more recent evidence dating back to 5500 B.C. indicate that the area was occupied by fishermen, farmers, and herders who engaged in trade with other civilizations such as Mesopotamia (modern Iraq) and the Indus culture of India. The Mesopotamians referred to the region as Magan and traded food for copper and other natural resources such as lumber from India. The city of Dilmun (4000 to 2000 B.C.) became a prosperous trade center located on what is now the island state of Bahrain.

Significant settlements in the UAE did not appear until the Bronze Age when the Umm al-Nar (2500 to 2000 B.C.) settled near what

is now Abu Dhabi. The Umm al-Nar cultivated the date palm and expanded agriculture to include cereals, fruits, and vegetables and the herding of sheep, goats, and cattle. The development of underground irrigation systems (*falaj* irrigation) allowed the population to expand and permanent settlements to develop. Large settlements and the domestication of the camel as a pack animal boosted foreign trade and drew attention to the area as a strategic trade hub. The region suffered a number of conquests as a result.

Alexander the Great's conquests never reached the modern UAE territory, and none of his Seleucid successors were able to establish dominance in the region. This era was known as the Mleiha Period (300 B.C. to 250 B.C.), which was named after a flourishing town at Mleiha, a settlement on the gravel plain south of Dhaid in Ash Shariqah Emirate. The Sassanians succeeded the Parthians in the third century A.D. They controlled the region for several hundred years until the arrival of Prophet Muhammad's emissaries (630 A.D.) and the rise of Islam. Islamic armies took control of Arabia and the Gulf region attempting to convert everyone to Islam. While Arabs readily accepted Islam, Persians (Sassanians) did not, and Muslim leaders confronted and defeated the Sassanians. At the same time, the death of Muhammad resulted in a revolt against Islam by dissidents, and a major battle between the Muslim army and the dissidents took place at Diba al Hism. The dissidents rejoined Islam.

The UAE prospered during the Islamic period. Trade extended beyond the markets of Mesopotamia to China, India, Indonesia, and Malaysia. Abu Dhabi became an important trading center. Muslim countries of the Middle East controlled east-west trade until the 15th century and the arrival of the Portuguese, who occupied Julfar and other coastal cities. For more than 100 years they taxed trade with India and the Far East. The Shah of Iran enlisted the aid of Britain

and Holland in 1622 to drive Portugal out of the Gulf in return for revenues from Iranian ports. After driving out Portugal, Britain and Holland competed against each other for Iranian markets.

During this time, the local Qawasim (forebears of the current royal houses of Ash Shariqah and Ra's al-Khaymah) strengthened. Ash Shariqah and Ra's al-Khaymah were important centers of Qawasim power in the emirates. The area became known as the pirate coast because the Qawasim were profitable traders on the Arabian and Persian sides of the Gulf and were known for their attacks on foreign ships. Their power declined quickly when Britain raided and destroyed Ra's al-Khaymah and several other Gulf ports, leading to the General Treaty of Peace in 1820. The treaty ended the plundering and piracy against Britain but not between warring tribes. It was not until 1835 that another treaty was signed by the sheikhs who agreed to report such activity to Britain rather than retaliate. An 1853 truce, signed by the seven sheikhs and mediated by Britain, ended all maritime hostilities, and the coastal sheikhdoms became known as the Trucial Coast.

France, Germany, and Russia began to take an interest in the Gulf region in the late 1800s. As a result, Britain quickly signed the "Exclusive Agreement" with the Trucial Coast preventing the sheikhs from allowing any other country into their territory without British consent. In return, Britain committed to the protection of the seven sheikhdoms without interfering in their internal affairs. The sheikhs remained the absolute rulers of their respective territories. At British urging, the sheikhs established a Trucial Council in 1952 and developed a set of common administrative policies that would later lead to a federation of states. Border disputes with Oman and Saudi Arabia delayed the federation and led to armed conflicts with several emirates requiring intervention by Britain. These disputes would not be settled for decades.

Pearling was a major industry from the 1790s until it was badly damaged by World War I. The industry completely collapsed during the Great Depression (1920s) as a result of the development of Japanese cultured pearls and heavy taxes imposed by India on imported pearls. Prospecting for oil began in the 1930s, and oil was discovered off the coast of Abu Dhabi in 1960. Commercial production started two years later, making Abu Dhabi the largest and richest emirate. The benefits of oil production were not seen until Sheikh Zayid bin Sultan Al-Nuhayan replaced his brother as ruler in 1966, and petroleum revenues began to be used for public works and services.

Britain decided to end its treaties with the Trucial States in 1968 and began withdrawing its troops. The Trucial States, Bahrain, and Qatar formed the Federation of Arab Emirates in preparation for independence. Bahrain and Qatar withdrew from the federation in 1971, leaving the six states of Abu Dhabi, Ajman, Al Fujairah, Dubai, Ash Shariqah, and Umm al-Qaywayn to form the UAE in December. The sheikhdom of Ras al-Khaimah joined the UAE in February 1972. Sheikh Zayid bin Sultan al-Nuhayan was appointed the first president of the UAE and held the office until his death in 2004. Sheikh Rashid bin Said al-Maktum, ruler of Dubai, became vice president and his eldest son, Sheikh Maktum bin Rashid al-Maktum, was named prime minister. When Sheikh Rashid died in 1990, Sheikh Maktum became ruler of Dubai and vice president and prime minister of the UAE.

The UAE adopted a provisional constitution in 1971. Although it was intended to expire in five years, it remained in place until the adoption of a permanent constitution in 1996. The UAE also joined the Arab League in 1971, and Sheikh Zayed commenced the first meeting of the new 50-member assembly. The country's first challenge was the Iranian occupation of the islands of Greater

and Lesser Tunb, part of Ra's al-Khaymah, and Abu Musa, part of Ash Shariqah (1970 to 1971).

Despite a number of new rulers for the sheikhdoms (Sheikh Sultan bin Mohammad al-Qasimi, Ash Shariqah in 1972; Sheikh Hamad bin Mohammad bin Hamad al-Sharqi, Al Fujayrah 1974; Sheikh Rashid bin Ahmad al-Mualla, Umm al-Qaywayn 1981, and Sheikh Humaid Bin Rashid al-Nuaimi, Ajman 1981), the UAE continued to coalesce and function as one country. Its four main objectives were to educate the people, solve regional issues peacefully, strengthen Arab ties, and participate in the international community. The executive council replaced the Abu Dhabi cabinet in 1973, and the oil departments of Abu Dhabi, Dubai, and Ash Shariqah were merged into one petroleum ministry the same year.

The UAE became a founding member of the Gulf Cooperation Council (GCC) in 1981, along with Bahrain, Kuwait, Oman, Qatar, and Saudi Arabia. The first summit was held in Abu Dhabi, and plans for the US\$700 million Delma oil project were developed. The multi-purpose Delma facility included plans for landing containers and oil tanks and serving the three oil fields of Al Sattah, Jurnin, and Delma.

Sheikh Zayid bin Sultan al-Nuhayyan was elected to a fourth term as UAE president in 1986. His popularity stemmed from his belief that the citizens were the country's biggest asset. This included women, who were encouraged to participate in society in addition to their traditional role of raising children.

The 1990s were turbulent for the UAE. Sheikh Rashid Bin Said al-Maktum, ruler of Dubai and UAE vice president, died in 1990 and was succeeded by his son, Sheikh Maktum Bin Rashid al-Maktum. UAE forces joined the allies in 1991 and severed relations with Iraq after Iraq invaded Kuwait in 1990. Relations were restored in 1998.

The Bank of Credit and Commerce International (BCCI) owned by Abu Dhabi's ruling family failed in 1991, and its executives were accused of fraud, sued for damages, and jailed. In 1992, Iran required visitors to Abu Musa and Greater and Lesser Tunb to have Iranian visas, which angered the UAE. The dispute escalated when Iran built an airport on Abu Musa and a power station on Greater Tunb. The UAE became the first Arab country to participate in a NATO peacekeeping mission by sending troops to Kosovo in 1999.

During the next 8 years, the UAE became more involved in world affairs and underwent internal changes. Bank assets of 62 organizations and individuals suspected of funding terrorism were frozen in 2001. UAE and Oman finalized their border demarcation in 2002. President Sheikh Azyed bin Sultan al-Nahyan died in 2004 and was succeeded as ruler of Abu Dhabi by his son, who was also elected president of the UAE by the Federal National Council. A major political controversy in the United States in 2006 forced the state-owned Dubai Ports World to give up control of six major American ports because two of the 9/11 hijackers were from the UAE. The first national elections were held for half of the members of the Federal National Council in 2006, although fewer than 7,000 people were allowed to vote.

The country worked to diversify its economy, reduce dependence on foreign workers, and allow the formation of trade unions. Extensive plans for the building and improvement of infrastructure were developed. The goal was to make the UAE self-sustaining. By the end of 2007, Dubai became one of the largest shareholders of the London Stock Exchange and the owner of what would become the tallest skyscraper in the world, the Burj Dubai, at 693 meters (2,274 feet).

The UAE grew into a modern international tourist and business center and one of the safest and most stable countries in the world. It

has one of the highest per capita incomes in the world and holds about 10 percent of the world's total known oil reserves; 90 percent of UAE's resources are in Abu Dhabi and about 10 percent in Dubai. The country is no longer solely reliant on oil and gas revenues. Trade, tourism, real estate, and construction are large contributors, most notably in Dubai. This growth is supported by the large number of foreign workers living in the country, estimated at more than 80 percent of the population.

The dispute over Abu Musa and the Greater and Lesser Tunb Islands carried over into 2008. Arab leaders called for Iran to end its occupation and requested that the UN keep the issue on its agenda until Iran withdraws.

Chronology of Key Events

Date	Event
<i>15th Century</i>	Portuguese arrive
<i>1622</i>	Britain and Holland drive out Portugal; Britain and Holland compete for markets
<i>1820</i>	Signing of General Treaty of Peace ends plundering and piracy against Britain
<i>1853</i>	Sheikhdoms become Trucial Coast
<i>1892</i>	France, Germany, and Russia take interest in the Gulf Region; Britain signs "Exclusive Agreement"
<i>1952</i>	Sheikhs establish Trucial Council
<i>1960</i>	Oil discovered off Abu Dhabi
<i>1962</i>	Oil production begins
<i>1966</i>	Sheikh Zayid bin Sultan al-Nuhayyan becomes ruler of Abu Dhabi
<i>1968</i>	Britain decides to end treaties with Trucial States

- 1971* Abu Dhabi, Ajam, Al-Fujayrah, Dubai, Ash Shariqah, and Umm al-Qaywayn form the United Arab Emirates; provisional constitution adopted; UAE joins Arab League; Iran occupies Abu Musa and Greater and Lesser Tunb Islands
- 1972* Ra's al-Khaymah sheikhdom joins the UAE
- 1973* Abu Dhabi, Dubai, and Ash Shariqah oil departments merge into one UAE Petroleum Ministry
- 1981* UAE becomes a founding member of the Gulf Cooperation Council (GCC)
- 1986* Sheikh Zayid bin Sultan al-Nuhayyan elected to fourth term as UAE president
- 1991* Relations with Iraq are severed when Iraq invades Kuwait; UAE forces join Allies
- 1992* Iran requires visitors to Abu Musa and Greater and Lesser Tunb Islands to have Iranian visas; requirements anger UAE
- 1999* UAE becomes first Arab country to participate in a UN peacekeeping mission by sending troops to Kosovo
- 2001* Bank assets frozen for 62 organizations and individuals suspected of funding terrorism
- 2002* UAE and Oman finalize border demarcation
- 2004* President Sheikh Zayed bin Sultan al-Nuhayyan dies
- 2006* Dubai Ports World forced to give up control of six major American ports
- 2006* First national elections are held for half of the members of the Federal National Council
- 2007* Dubai becomes one the largest shareholders of the London Stock Exchange
- 2008* Arab leaders call for Iran to end illegal occupation of Abu Musa and the Greater and Lesser Tunb Islands

GOVERNMENT AND POLITICS

Government

The UAE is a federation with seven self-governing emirates formed from previously autonomous emirates. UAE has a central government with three branches having limited power. The constitution reserves all powers not specifically given to the federal institutions for the individual emirates. The government is based upon the original 1971 constitution that was drafted upon independence. The constitution became permanent in 1996. A crown prince heads each emirate. Each emirate still operates autonomously.

The coastal emirates, initially known as the Trucial States, have their own treaties with Britain. The emirates always have been autonomous but gave Britain some control of external relations in exchange for protection and friendship. Treaties guaranteeing peace along the coast were signed in 1853, forming the Trucial States. Treaties signed in 1892 put all of the Trucial States under British protection. The coastal sheiks began to work toward a federation on the recommendation of Britain in 1952, leading to independence as a federation of emirates in 1971. The original constitution has remained in effect.

The federal government has three branches — executive, legislative, and judicial. The executive branch includes the Supreme Council, the top decision-making body, and a council of ministers. The Federal Supreme Council (FSC) comprises the rulers of the seven emirates and is headed by a president and vice president who are elected from among its members to 5-year terms. The president appoints the remaining executive members. The last presidential election was in 2006. The Federal National Council (FNC) forms the legislative branch. It has 40 members. Half are elected, and half are appointed for 2-year terms. The first and most recent elections were in 2006.

Each emirate has an autonomous governing body with a composition unique to the emirate. Positions within local government are primarily hereditary, with a ruler and a crown prince holding the position for life. Modernization and reform for each emirate government is determined from within.

National Level

The federal government is divided into executive, legislative, and judicial branches. The legislative and judicial branches are not fully independent in practice due to the extensive influence of the executive branch. The FSC, the supreme source of power in the UAE, is led by the president, and has authority to create and depose ministries and prime ministers. It also has influence over the judicial branch through controlling appointments and visas for expatriates in the judiciary.

The federal government has limited powers. It is responsible for foreign policy, defense, education, public health, communications, immigration, and territorial issues. While the constitution reserves all other powers for the individual emirates, local governments have relinquished certain additional powers to the federal government since independence, including water management and judicial authority. Since independence, the UAE has worked to strengthen federal institutions with varying degrees of success. The national government ensures economic and trade cooperation between emirates. The individual emirates support the national government by giving it a portion of their annual budgets. The relationship between federal and local governments continues to change and develop, with an increasing trend toward involvement of the federal system in local affairs.

Executive Branch

The executive branch comprises the Federal Supreme Council (FSC), or Supreme Council of the Union, and the Council of Ministers. The FSC, formed by the seven rulers of the emirates, is the supreme governing body and has legislative and executive functions. The FSC holds presidential elections every 5 years. Only two presidents have served since UAE attained its independence. Sheikh Zayid bin Sultan al-Nuhayyan, the ruler of Abu Dhabi, served as president from 1971 until his death in 2004. His son, Crown Prince of Abu Dhabi, Sheikh Khalifa bin Zayid al-Nuhayyan, succeeded him.



Khalifa bin Zayid al-Nuhayyan

The president is responsible for appointing government officials and diplomats. The president also signs bills into law. The FSC ratifies federal laws, formulates general policy, and has the authority to relieve cabinet ministers under the order of the president. The FSC also has final authority in fiscal matters.

Each emirate has one vote in the FSC, and decisions are made by majority, provided that the majority includes the vote of Abu Dhabi and Dubai. The president and the FSC have the ability to rule by decree during times of emergency, as long as they do not suspend the constitution.

The prime minister, who is appointed by the president, is the head of government and leads the Council of Ministers. A 24-member cabinet was appointed in February 2006, with a ministry of foreign trade added in February 2008. The prime minister can be the vice president as well. The Council of Ministers has authority to draft legislation and create policy and is responsible for their implementation. The Council also prepares the annual budget.

Legislative Branch

The Federal National Council (FNC), or national assembly, is the legislative body. It has 40 members. Half are elected, and half are appointed for renewable 2-year terms. The goal is to eventually have an entirely elected body. Membership is proportionate to the population of the individual emirates. Abu Dhabi and Dubai, the largest emirates, each have eight members. Ash Shariqah and Ra's al-Khaymah have six members, while the other three emirates each have four members. The first elections were in 2006. The rulers of each emirate appointed an electoral college to participate in the elections. The speaker and two deputy speakers are appointed from the members. Ordinary sessions are held once a year for at least 6 months.

The FNC is responsible for evaluating and amending, if necessary, all proposed legislation. It can examine and question federal ministers. It can also request hearings to determine the effectiveness of policies. Such discussions can be followed by recommendations, which are either implemented or rejected by the cabinet.

Judicial Branch

The judicial branch consists of the Union Supreme Court and various civil and criminal courts. The Supreme Court consists of a

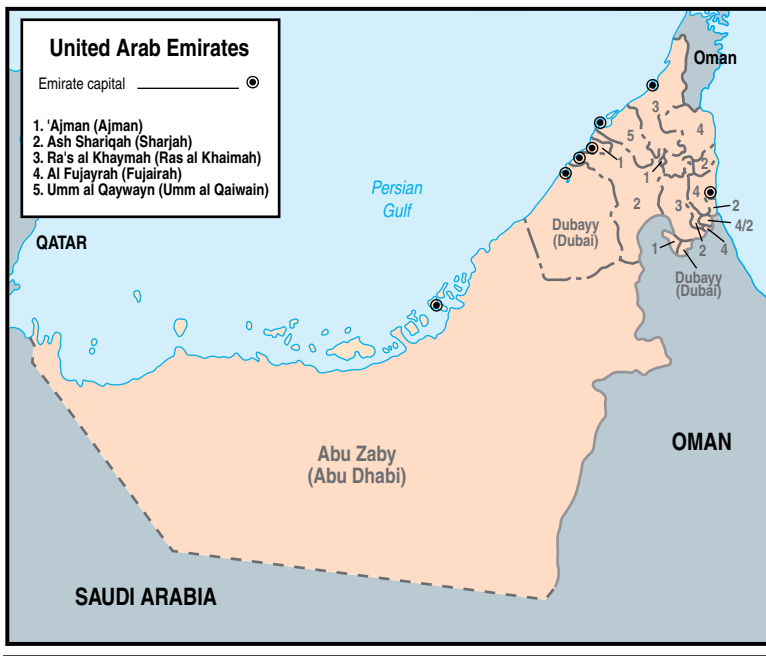
president and no more than five judges, all appointed for life by the President of the UAE. The Supreme Court settles disputes between the emirates, interprets the constitution, and determines constitutionality of laws. The Court also resolves disputes between lower courts and oversees cases regarding misconduct of government officials. Decisions by the Supreme Court are final and binding.

The UAE has a dual-court system. The constitution states that Shari'a is law of the land. Shari'a courts handle criminal and family law cases based upon each emirate's interpretation of Shari'a. The federal courts handle civil matters. Federal courts include courts of first instance, federal appeals courts, and the Supreme Court. Federal courts handle most cases. The entire judiciary is appointed, and many judges are foreign nationals. The majority of the emirates are part of the federal system, but Abu Dhabi, Dubai, and Ra's al-Khaymah have opted to maintain independent court systems.

Local Level

Each emirate maintains an autonomous government that exists parallel to, and interacts with, the federal government. Any powers not specifically designated for the federal government are reserved for the individual emirate governments. These include some important provisions such as control over mineral rights. Individual emirates may conclude limited agreements with foreign nations, provided such agreements do not undermine the interests of the UAE.

The composition of each government differs. Abu Dhabi, the largest and wealthiest emirate, has its own government overseeing an eastern and western administrative region. The Executive Council heads the government. A crown prince rules the Council. Rulers maintain power through dynasty and tribal consensus.



Administrative Districts

The Council has various departments for both regions. Major cities, Abu Dhabi and Al Ayn, are administered by municipalities, and each is headed by a nominated municipal council. Abu Dhabi also has a legislative National Consultative Council, similar to the FNC, with 60 members selected from families nationwide. The council is managed by a secretary-general and implements and examines legislation. Local departments govern smaller settlements.

Similar structures involving executive and legislative councils that delegate to municipalities and departments form the governments of the rest of the emirates. Smaller emirates have less complexity in their governance. Ash Shariqah, an emirate with three enclaves

on the east coast, delegates some authority to the traditional tribal level but still maintains Executive and Consultative Councils to govern the emirate. Remote settlements are often governed by a local representative selected by the ruler and government of the emirate. These are typically local tribal leaders. Giving them power has facilitated cohesion within the individual emirates.

Key Government Officials

Federal Government Officials

- President, Ruler of Abu Dhabi Sheikh Khalifa bin Zayid al-Nahyan
- Vice President and Prime Minister, Ruler of Dubai Sheikh Muhammad bin Rashid al-Maktum
- Ruler of Ash Shariqah, Dr. Sheikh Sultan bin Muhammad al-Qasim
- Ruler of Ra's al-Khaymah, Sheikh Saqr bin Muhammad al-Qasimi
- Ruler of Al Fujayrah, Sheikh Hamad bin Muhammad al-Sharqui
- Ruler of Umm Al-Qaiwan, Sheikh Rashid bin Ahmed al-Mualla
- Ruler of Ajman, Sheikh Humaid bin Rashid al-Nuaimi
- Deputy Prime Minister, Sultan bin Zayid al-Nuhayan
- Ambassador to the United States, Sheikh Yousef al-Otaiba

Local Government Officials

- Crown Prince of Abu Dhabi, General Sheikh Muhammad bin Zayed al-Nahyan
- Crown Prince of Dubai, Sheikh Hamdan bin Muhammad bin Rashid al-Maktoum
- Crown Prince and Deputy Ruler of Ash Shariqah, Sheikh Sultan bin Muhammad al-Qasimi

- Crown Prince and Deputy Ruler of Ra's al-Khaymah, Sheikh Saud bin Saqr al-Qasimi
- Crown Prince of Al Fujayrah, Sheikh Muhammad bin Hamed al-Sharqi
- Crown Prince of Umm al-Qaywayn, Sheikh Saud bin Rashid al-Mu'alla
- Crown Prince of Ajman, Sheikh Ammar bin Humaid al-Nuaimi

Politics

While some traditional rivalries exist between emirates and tribal leaders, the ruling families and centralized government remain firmly in control. There is no organized opposition, and the ruling families remain popular. Political reforms begun in 2004 led to the first national elections in the UAE in 2006, where direct election was introduced for half the members of the FNC. The rulers chose electors to represent each emirate.

Rulers maintain power primarily through dynasty and tribal consensus, ensuring that some degree of popular political participation exists. This is traditionally accomplished through the *majilis*, an open council in which all members of the tribe are free to express concerns. Group consensus from the *majilis* will often result in policy changes. In larger emirates, the ruler and various members of the government and ruling family continue to hold regular *majilis*. The *majilis* system remains of higher importance in the smaller emirates, such as Al Fujayrah, whose ruler holds an open *majilis* weekly.

Political Parties

Political parties do not exist in the UAE.

Foreign Relations

The UAE's primary foreign policy concerns since independence have been security, stability, and economic prosperity for all emirates. The UAE consistently has worked for greater regional cooperation, peaceful solutions of conflict, greater collaboration between Arab nations, relief for nations in need, and general support of Arab causes. Its policies are generally pro-western. The UAE has close relations with most of its Arab neighbors.

As an oil-dependent nation strategically located on the mouth of the Straits of Hormuz, through which the majority of the world's oil exports travel, the UAE has worked to position itself as a vital part of the world's economy. The UAE strongly identifies with the shared culture, history, and religion of the Arab world. Regional cooperation, especially in economics and security, is vitally important to the UAE, given that it was the founding member of the Gulf Cooperation Council in 1981. While the UAE desires regional consensus, it is not afraid to act alone in the interests of stability and security. It was an active part of coalition forces during OPERATION DESERT STORM in 1991, and during the 2003 conflict in Iraq it was the first Arab country to offer support to the United States.

Despite its efforts at regional cooperation, the UAE has remained firm on ongoing border disputes with its neighbors. Its dispute over the Musandam Peninsula with Oman was settled in 2003, but disputes with Saudi Arabia and Iran are ongoing. Iran continues to occupy and develop facilities on the disputed islands of Abu Musa and Greater and Lesser Tunb, despite UAE protests. The dispute with Saudi Arabia is the result of an oil field on the Abu Dhabi-Saudi Arabia border. A 1974 agreement would have settled the issue, but Saudi Arabia refuses to recognize it.

Extensive foreign aid is a central part of the UAE's foreign policy. The UAE leadership believes that foreign aid is a duty of all Muslims and intends to use its wealth to help those in need. The UAE provides substantial foreign aid to countries such as Iraq, Lebanon, and other nations throughout the Middle East and Africa. The UAE launched the "Dubai Cares" campaign in 2007, which seeks to provide primary education for a million school children in poor countries throughout the Middle East and North Africa.

The UAE pledged immediate humanitarian aid and US\$300 million in loans to Lebanon in 2007 to rebuild. The UAE also provides substantial humanitarian and financial aid to Iraq, including forgiving most of Iraq's US\$3.8 billion debt. The UAE also gives aid to various hospitals and charities throughout the region. The UAE Red Crescent provides disaster relief and works with refugee camps, rural hospitals and schools.

United States

The United States and the UAE have had good relations since independence in 1971. Relations include extensive economic and military cooperation, along with shared security and strategic interests. The UAE is the United States' largest export market in the Arab world and is a primary source of petroleum. More than 750 U.S. firms have a presence in the UAE. Relations strengthened considerably during the coalition effort to end the Iraqi occupation of Kuwait, and in 2002 both nations participated in a strategic dialogue on all aspects of their relationship. The UAE continues to be a key partner in the Global War on Terror (GWOT) and hosts more U.S. Navy ships than any port outside of the United States. The United States and the UAE have signed numerous bilateral agreements on aviation, defense, environment, international finance, trade, and taxation.

Iran

Relations between the UAE and Iran have been strained by Iran's refusal to resolve a border dispute centering on several islands in the Arabian Gulf. The UAE fears Iran's regional ambitions. However, the two Arabian Gulf nations cooperate economically and share culture and history. The UAE is Iran's top trade partner, with bilateral trade amounting to US\$14 billion. The UAE promotes Iran's right to peaceful nuclear technology and opposes economic sanctions.

Oman

Oman and the UAE have good relations that are a priority for both. Relations are based on common interests, shared culture and history, and economic cooperation. Joint ventures in the public and private sectors, as well as scientific and cultural cooperation, have strengthened bilateral relations. The UAE and Oman settled their border demarcation in July 2008. Oman is an active member of the GCC and supports greater regional cooperation.

Saudi Arabia

UAE relations with Saudi Arabia have been close despite continued unresolved border tensions. Relations are strong due to common interests, similar pro-Western policies, shared culture and history, and economic cooperation. Saudi Arabia is the largest member of the GCC and supports greater regional cooperation. Saudi Arabia and the UAE share travel and security agreements.

Qatar

Qatar and the UAE have good relations. Qatar was a founding member of the GCC and continues to work toward greater regional cooperation.

Yemen

Yemen and the UAE have close relations based upon economic and cultural cooperation. Relations improved since 2000 due to a series of bilateral meetings. The UAE supports Yemen joining the GCC and has worked to facilitate its membership process. The UAE and Yemen have signed agreements on economic and aviation cooperation.

Bahrain

Relations between Bahrain and the UAE are very close. Bahrain was part of the UAE until declaring independence separately in 1971, and Bahrain has continued a close consultative relationship with the emirates. Bahrain and the UAE share close economic and cultural ties. Bahrain helped form the GCC and has continued to work toward closer regional cooperation.

Iraq

Relations between Iraq and the UAE are excellent. The UAE has remained a major supporter of Iraqi stability, providing foreign aid and loan forgiveness in an effort to promote the new government. The UAE was the first Gulf country to normalize relations with the post-U.S. intervention government, appointing an ambassador to Baghdad in August 2008. Iraq and the UAE have close economic and cultural ties.

Britain

The UAE and Britain share a long history of good relations, and bilateral relations continue to be good. The UAE remains the largest export market for British non-military goods, and a large number of British nationals reside in the UAE. Cultural relations remain strong as well, and the British Council maintains offices in several cities. Economic ties continue to develop.

International Organizations

The UAE participates in numerous international organizations, to include:

- Arab Bank for Economic Development in Africa
- Arab Fund for Economic and Social Development
- Arab League
- Group of 77
- Gulf Cooperation Council
- International Red Cross and Red Crescent Societies
- International Monetary Fund
- Interpol
- Non-Aligned Movement
- Organization of Arab Petroleum Exporting Countries
- Organization of the Petroleum Exporting Countries
- United Nations
- World Trade Organization

Non-governmental Organizations

Local nongovernmental organizations (NGO) are required to register with the Ministry of Social Affairs. Governmental subsidies are awarded based on size. The UAE does not allow international NGOs to base operations within its borders but has cooperated with international human rights and environmental NGOs.

Corruption

The UAE ranked 34 out of 179 countries in the 2007 Transparency International Corruption Perception Index, with 1 representing the lowest level of corruption and 179 the highest. There were reports of corruption at the administrative level, but there were no prosecutions reported during 2007. Corruption is illegal and carries

criminal penalties. The government lacks transparency and does not effectively ensure the right to information. Dubai's government increased anti-corruption investigations in 2008, specifically targeting bribery in the government.

ECONOMY

General Description

The UAE has a diverse and free-market economy, high per capita incomes, and a large trade surplus. However, it remains heavily dependent on the petroleum sector, which accounts for nearly 40 percent of gross domestic product (GDP). UAE has the second largest economy in the Middle East. The UAE has the fifth largest proven oil reserves and the fourth largest proven natural gas reserves in the Middle East. The UAE also has the fifth largest



Loading Barrels of Oil

proven natural gas reserves in the world. UAE is the fifth largest oil exporter in the world. More than 90 percent of its oil and natural gas is in Abu Dhabi. UAE has liberal economic policies designed to encourage investment in other sectors to reduce heavy reliance on petroleum.

Economic Aid

The UAE has received more than US\$2 million from the United States between 2005 and 2007. The assistance was for nonproliferation, antiterrorism, de-mining, and related projects (NADR). More than US\$300,000 was requested for 2008 to assist with international military training and education (IMET) and international narcotics and law enforcement (INCLE).

Banking Services

The banking sector consists of the Central Bank of the UAE and more than 50 commercial and investment banks. As of 31 March 2008, there were 23 domestic banks with 558 branches and 28 foreign banks with 141 branches throughout the country.

Economic Statistics

<i>GDP</i>	US\$167.3 billion (2007 estimates)
<i>GDP Growth Rate</i>	7.4%
<i>Per Capita GDP</i>	US\$37,300
<i>Inflation Rate</i>	11%
<i>Budget Revenues</i>	US\$58.9 billion
<i>Budget Expenditures</i>	US\$38 billion
<i>National Debt</i>	US\$57.5 billion
<i>Unemployment Rate</i>	2.4% (2001 est.)
<i>Total Value of Imports</i>	US\$97.9 billion (2006 est.)

<i>Import Commodities</i>	Manufactured goods: 81%; Agricultural products: 9%; Fuels and mining products: 5.9%; Other: 4.1% (2006 est.)
<i>Import Partners</i>	EU27: 24.8%; India: 10.8%; China: 8.5%; United States: 6.3%; Japan: 5.8; Other: 43.8% (2006 est.)
<i>Total Value of Exports</i>	US\$142.5 billion (2006 est.)
<i>Export Commodities</i>	Fuels and mining products: 53%; Manufactured goods: 35.4%; Agricultural products: 2.6%; Other: 9% (2006 est.)
<i>Export Partners</i>	Japan: 24.2%; South Korea: 10.3%; Taiwan: 10.2%; Thailand: 5%; India: 4.6%; Iran: 3.5%; EU27: 2.6%; Other: 39.6% (2006 est.)
<i>Labor Force Composition</i>	Agriculture: 7%; Industry: 36%; Services: 57% (2005 est.)

Resources

Petroleum is the primary natural resource. Oil and gas account for nearly 40 percent of GDP and in 2006 accounted for nearly 70 percent of total export revenue. The UAE has 97.8 billion barrels of oil and 213.5 trillion cubic feet of natural gas reserves, of which 92.2 billion barrels and 198.5 trillion cubic feet are in Abu Dhabi. UAE produces more than 2 million barrels per day. Beach pollution from oil spills is a primary issue.

Industry

UAE's services sector consists of business, social, private, household, financial, government, and real estate; wholesale, retail, trade, and maintenance; transportation, storage, and communications; and

restaurants and hotels. Services represent 57 percent of the labor force (2005 est.) and 39 percent of GDP (2006 est.). The industry sector consists of oil; construction; manufacturing; mining and quarrying; and electricity, gas, and water. Industry represents 36 percent of the labor force (2005 est.) and 59 percent of GDP (2006 est.). Agriculture, livestock, and fisheries employ 7 percent of the labor force (2005 est.) and account for 2 percent of GDP (2006 est.).



Industry

The petroleum sector is primarily in Abu Dhabi. The UAE has several free trade and industrial zones designed to diversify its economy and promote investment in the nonoil sector. Each of these free zones contains thousands of companies that receive special benefits. Each zone has an independent Free Zone Authority (FZA) that issues licenses and assists companies get established.

Utilities

UAE had 12,800 megawatts of installed electricity generation capacity at the end of 2004. Ninety percent of all generation capacity is in Abu Dhabi, Dubai, and Ash Shariqah while 97 percent of all electricity is produced from natural gas. The remaining 3 percent comes from diesel generation and steam turbines, primarily in the Northern Emirates.

Abu Dhabi Water and Electricity Authority (ADWEA), Dubai Electricity and Water Authority (DEWA), Ash Shariqah Electricity and Water Authority (SEWA), and the Federal Electricity and Water Authority (FEWA) are separate entities that generate electricity through gas-fired power plants throughout the country. The UAE is expanding older plants and building new plants to keep up with electricity demand.

UAE has 220-volt current at 50 Hz frequency and uses types D and G plugs. Type D has three large round pins in a triangular pattern. Type G is a large plug with a fuse inside for protection and three rectangular blades. The top blade is centered above the fuse and is vertical. The bottom two blades are below the fuse and are horizontal.

Water

The UAE produces most of its water through desalination, often in the same plants that produce electricity. Water treatment facilities include the Abu Dhabi Steam Turbines, Al Mirfa Umm Al-Nar, and S1 power plants under ADWEA; numerous Jabel Ali and Aweer power and desalination stations under DEWA; and the Wasit, Layyah, Khawr Fakkan, and Kalba desalination plants under SEWA. About half of desalinated water is produced in Abu Dhabi. The UAE also

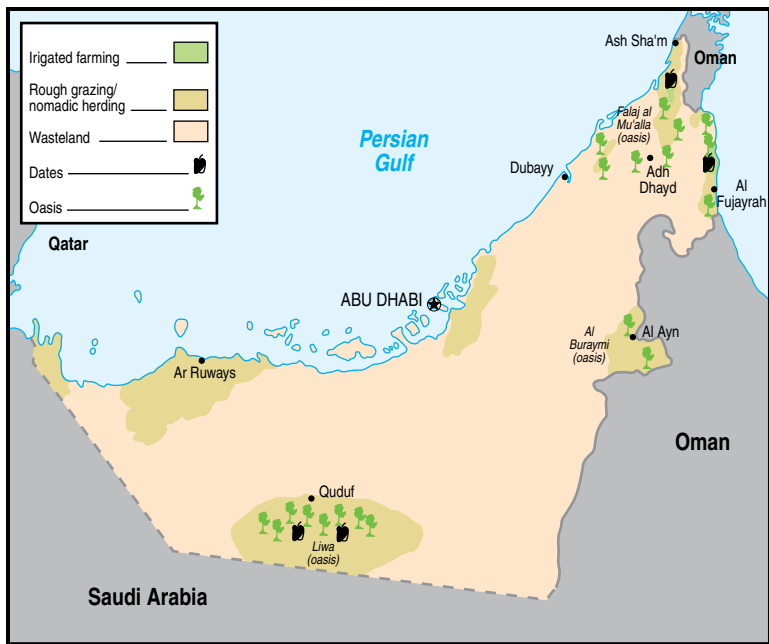


Pottery Shop

constructed more than 130 recharge and storage dams to capture seasonal river flow from 15 catchment areas. The entire UAE population has access to improved water sources and 98 percent have access to improved sanitation (2004 est.). The UAE is expanding older plants and building new plants to keep up with demand.

Agriculture

Agriculture is a small portion of the UAE's economy, accounting for seven percent of the labor force (2005 est.) and two percent of GDP (2006 est.). Principle crops include dates, green fodder, vegetables, citrus fruits and mangos. Livestock includes goats, sheep, camels, cows, and horses. Produce includes meat, poultry, eggs, and milk. The UAE has more than 35,000 farms. More than 20,000 are in Abu Dhabi. Almost 68 percent of all agricultural land is used for palm trees.



Land Use

The UAE uses organic agricultural techniques and provides farmers with equipment, training, fertilizer, seeds, and fresh water, especially fodder farms, which supply most of the animal feed. UAE also provides free veterinary services and vaccines for livestock.

Foreign Investment

The UAE received foreign direct investment (FDI) of nearly US\$10.9 billion in 2005, US\$12.8 billion in 2006, and US\$14.2 billion in 2007. This accounted for 8.2 percent, 7.5 percent, and 7.1 percent of GDP, respectively. FDI stocks as a percentage of GDP rose from 1.5

percent in 2000 to 22 percent in 2006. Total U.S. investment in the UAE was US\$2.3 billion in 2004 and \$US2.6 billion in 2005.

The UAE was the third largest recipient of FDI in West Asia in 2005 behind Turkey and Saudi Arabia. The UAE also has several free trade and industrial zones designed to diversify its economy and spur investment in the nonoil sector. These zones are responsible for a significant portion of foreign investment. Most of the investment is in oil and gas field machinery and services; power and water; computer/peripherals; medical equipment and supplies; airport development and ground equipment; telecommunications; and franchising.

Economic Outlook

The UAE has three strong economic pillars — large petroleum revenue, diverse nonoil sector, and consistent budget surpluses. These have contributed to strong economic growth the past several years. Average growth between 2003 and 2007 was more than 9 percent. Economic forecasts predict average growth during the next 5 years will be more than 7.5 percent.

As a country with 10 percent of the world's proven oil reserves, oil revenue that accounts for nearly 70 percent of export earnings, and petro-



Gold Souq

leum revenue that accounts for nearly 40 percent of GDP, UAE benefits from high oil prices.

The UAE has set up free zones and provides special incentives to attract foreign investment into the nonoil sector. Incentives include complete foreign ownership and repatriation of capital and profits. There also is total exemption from import and export taxes and personal income taxes. Corporations are tax exempt for 15 years, and they can renew the exemption for an additional 15 years.

Inflation could present challenges if it remains high or increases. It reached 11 percent in 2007. According to *The Economist*, it averaged 9.9 percent between 2003 and 2007. Inflation can be a concern when economies grow at such a fast pace because of increased demand for goods and services and rising standards of living.

A significant challenge is to increase private-sector employment among Emiratis. Currently, they account for only 2 percent of all private-sector employees and 80 percent of the public sector. Emiratis generally seek public-sector employment because of higher salaries, better benefits, and shorter working hours. If the UAE can reverse this trend, then it will become less dependent upon immigrant labor.

THREAT

Crime

The UAE is relatively safe, but sexual assaults and petty crimes do occur. Women should never travel alone because physical and verbal harassment of women is common, especially at night. Violent crime is low, but standard precautions should be practiced. Most reports of crime occur in the expatriate community, which is predominantly South Asian. U.S. Embassy officials believe crime is

higher than the media reports. The UAE does not release official crime statistics.

Geographical location and free-trade zones provide criminal entities operating in Southwest Asia easy access to manipulate monetary exchanges. The most common commercial fraud involves money laundering. The real estate and commodities sectors (mostly diamonds and gold) along with the *hawala* (traditional informal money transfer system) are used for money laundering and financing terrorist activities. Embezzlement, fraud, and bribery adversely affect business.

Human trafficking is a serious problem, for which the UAE is a destination and transit country. Women from countries such as Afghanistan, Armenia, China, Ethiopia, Georgia, Iran, Iraq, Russia, Somalia, Tajikistan, Ukraine, and Uzbekistan are trafficked to the UAE for commercial sexual exploitation. Third-country recruiters seek foreign women to work as secretaries or hotel staff, and these women sometimes are coerced into prostitution and domestic servitude. The UAE is also a transit country for women who are trafficked for forced labor in Oman; men are coerced into involuntary work in Iraq. Children are also trafficked.

Women and girls from Bangladesh, Ethiopia, Eritrea, India, Indonesia, Nepal, Philippines, and Sri Lanka travel to the UAE to work as domestic servants. They may face involuntary servitude, nonpayment, unlawful withholding of passports, restriction of movement, and physical or sexual abuse. Men from Bangladesh, India, Nepal, Pakistan, and Sri Lanka travel to the UAE to work in the construction industry and can be subjected to similar conditions as women.

Drug Trafficking

The UAE is a trans-shipment point for narcotic traffickers. Amphetamines, opium, cannabis, Ecstasy, hashish, heroin, and precursor chemicals are trafficked through the UAE. Most drugs arriving in the UAE are destined for Europe, Africa, and the United States.

Hashish and opiates reportedly arrive by sea from Afghanistan, Iran, Pakistan, and other Southwest Asia countries. Precursor chemicals, Ecstasy, bupropion, and other psychotropic drugs are smuggled through the UAE to Pakistan. Cannabis is trafficked into the UAE from Afghanistan and Lebanon. In 2006, there was a cannabis resin seizure in the amount of 1,245 kilograms (2,745 pounds). Fewer than 10 kilograms (22 pounds) of amphetamines were seized during the same period.

Organized crime in the UAE is linked to narcotics, arms, and human trafficking; business, government, and insurance fraud; art and cultural theft; computer crimes, extortion; bribery; murder; terrorism; money laundering; and kidnapping. The UAE uses severe punishment — such as lengthy prison sentences, heavy fines, and the death penalty — to deter drug trafficking.

The UAE Drug Enforcement Administration (UAE DEA), a subordinate of the Ministry of Interior (MOI), is the lead agency for combating domestic narcotics trafficking. The UAE DEA is tasked with coordinating drug enforcement efforts of all emirates. The UAE devotes resources to fighting drug abuse and participates in regional and international initiatives. The U.S. Drug Enforcement Administration (U.S. DEA) works with UAE authorities to combat drug smuggling and narcotics-related money laundering. The U.S. DEA established an office in Dubai in 2005. The UAE has pub-

lic awareness campaigns and drug addict rehabilitation centers in Dubai, Abu Dhabi, Ajman, and Ash Shariqah.

Major Intelligence Services

Each emirate has a police force that is responsible for gathering and acting upon intelligence related to security, crime, and drug trafficking. The police forces of Dubai and Abu Dhabi have departments responsible for investigations. These include the General Department of Investigation in Dubai and the Department of Security Affairs of the Abu Dhabi Police. The Abu Dhabi Police have modern intelligence capabilities and cooperate with other international forces in counterterrorism and counternarcotics.

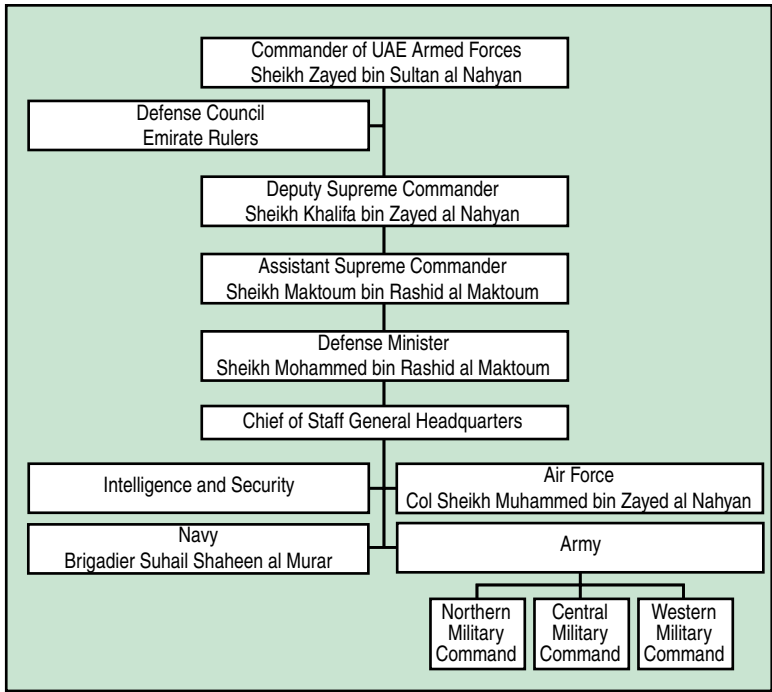
ARMED FORCES

Army

The principal role of the army is to defend the UAE against external aggressors until the forces of treaty-obligated allies are able to deploy. The UAE's well-equipped military is an all-volunteer force comprising some 65,500 personnel, of whom 59,000 are serving in the Army. Approximately 30 percent of armed forces personnel are expatriates. Women also serve in the military.

Organization

In times of war, the three military regional headquarters function as federal commands. In peacetime, the military forces of Abu Dhabi and Dubai operate separately. The wartime order of battle consists of two mechanized infantry brigades with two motorized infantry and one armored brigade, as well as an artillery brigade in the integrated structure. Additionally, Dubai has two infantry















Military Structure

brigades under independent national command. Support elements include a combat engineer group and logistics.

The order of battle is controlled from three military region HQs, which in times of war function as federal commands. In peacetime, the Abu Dhabi and Dubai forces tend to operate separately.

The wartime order of battle consists of one royal guard brigade, two armored brigades, three mechanized infantry brigades, with two motorized infantry brigades and an artillery brigade in the integrated structure. In addition, Dubai has two infantry brigades

Ground Forces Enlisted Rank Insignia	(1)	(1)			
	Jundi Mustajidd	Jundi	Jundi Awwal	'Arif	Raqib
U.S. Equivalent	Basic Private	Private	Private 1st Class	Corporal	Sergeant
	(3) 				
Raqib Awwal	Wakil				
Staff Sergeant	Sergeant First Class	Master Sergeant	First Sergeant	Command Sergeant Major	Sergeant Major of the Army
Ground Forces Officer Rank Insignia					
	Mulazim Thani	Mulazim Awwal	Naqib	Ra'id	Muqaddam
U.S. Equivalent	2d Lieutenant	1st Lieutenant	Captain	Major	Lieutenant Colonel
		(2)	(5)	(5)	(5)
'Aqid	'Amid	Liwa'			
Colonel	Brigadier General	Major General	Lieutenant General	General	General of the Army
(1) No Insignia (2) Insignia Not Known (3) Worn on Wrist Band (4) Cap Insignia (5) No Rank					

Army Insignia

under national command. Support elements include technical engineering, a combat engineer group, and logistics.

The artillery brigade consists of three fully operational artillery regiments, with the 155 mm M109L47 Self-Propelled Howitzer. Each regiment has 24 howitzers organized into three batteries.

In 2000, the UAE decided to purchase the Russian-made Pantsir S1 anti-aircraft system in a deal covering 50 systems. It was sub-

sequently reported in October 2006 that the Russians would begin assembly of the first system in November 2006. Deliveries of the system to the UAE were expected to start in 2007 with 12 additional units in 2007; 24 in 2008; and 14 in 2009.

The Dubai Brigade is an independent formation operating under local command and control, except in time of mass mobilization.

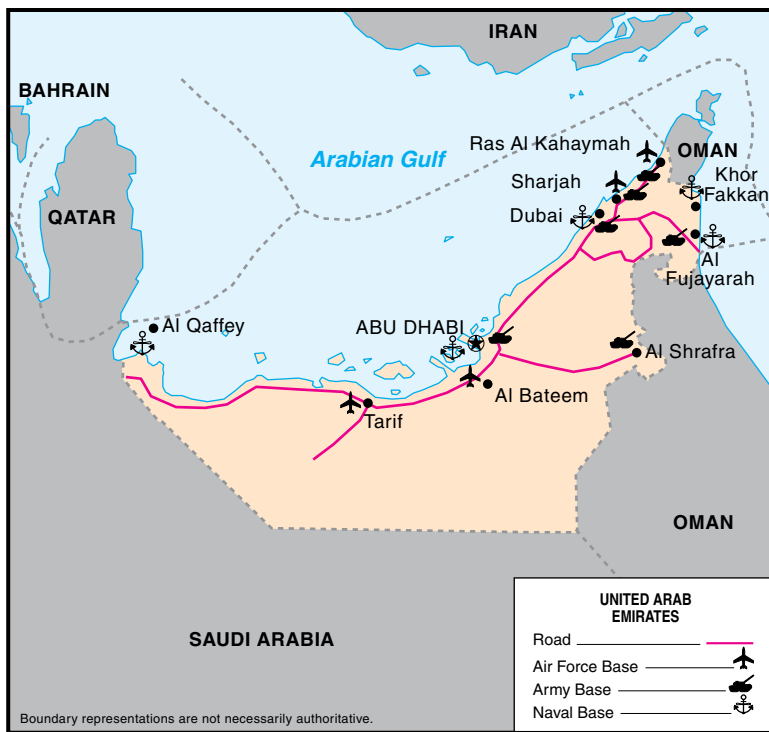
The UAE has contributed its 3rd (Hazza bin Zayed) Battalion to join the GCC's Peninsula Shield Force, based in eastern Saudi Arabia at Hafr al-Batin. The Peninsula Shield Force, under the command of a Saudi officer, is designed to be a rapid deployment force for the six GCC states. Most of its complement is supplied by Saudi Arabia and Kuwait, only small units being supplied by the other four members. The force returned home in December 2005.

In 2006, the UAE army gained control of its own aviation branch. The UAE Air Force and Air Defense's Boeing AH-64A Apache and Eurocopter AS550C3 Fennec were transferred to the 10th Army Aviation Group at Al Dhafra Airbase.

Bases

The UAE has the following army bases:

- Al Ayn Camp
- Al Maqam Camp - Royal Guard
- Al Fujayrah Camp
- Infantry Command School - Al Ayn
- Madina Zayed
- Manama Camp
- Masafi Camp
- Tarif Camp



Military Bases

The General Headquarters is located in Abu Dhabi and the Ministry of Defense in Dubai. The UAE has garrisons in Abu Dhabi, Dubai, and Ash Shariqah.

Personnel

The UAE army has 59,000 personnel. The composition of the armed forces reflects a high dependence on foreign expatriates, with Egyptians, Moroccans, Baluchis, and Sudanese personnel serving in relatively high numbers. Thirty percent is composed of European

and South Asian expatriates. In a step during 2007 to encourage UAE citizens to join the police and armed forces, the government announced a 70-percent increase in security force salaries.

Deployments

The UAE sent forces to assist Kuwait during the 1990-1991 Gulf War. A UAE infantry battalion went with the United Nations force to Somalia in 1993, and the UAE 35th Mechanized Infantry Battalion served in Kosovo. A UAE regiment went to Kuwait during the Iraq War. In September 2007, UAE military field engineers arrived in Beirut to clear areas of south Lebanon from mines and cluster bombs. In 2007, the UAE peacekeepers deployment in Afghanistan started.

Equipment

Armor

Type	Role	Quantity
<i>Leclerc</i>	MBT	436
<i>AMX-30</i>	MBT	95
<i>OF-40 Mk2 Lion</i>	MBT	36
<i>BMP-3</i>	AIFV	653
<i>AMX-10P</i>	AIFV	15
<i>AMX-13/VCI</i>	AIFV	15
<i>FNSS ACV</i>	Armored Combat Vehicle	136
<i>Scorpion</i>	Light Tank	76
<i>AML-90</i>	Reconnaissance	90
<i>Saladin</i>	Reconnaissance	20
<i>Ferret</i>	Reconnaissance	20
<i>VCR</i>	APC	80
<i>VAB</i>	APC	20

Type	Role	Quantity
<i>EE-11</i>	APC	100
<i>Panhard M3/VTS</i>	APC	240
<i>RG-31</i>	Mine-protected APC	28
<i>TPz 1 Fuchs</i>	NBC Reconnaissance Vehicle	32
<i>Guardian</i>	APC (Amphibious)	90
<i>Nimr II</i>	High Mobility Tactical Vehicle	500

Artillery

Type	Role	Quantity
<i>105 mm ROF Light Gun</i>	Gun	62
<i>130 mm PRC Type 59-1</i>	Field Gun	20
<i>155 mm Mk F3</i>	Self-Propelled Gun	18
<i>155 mm G-6</i>	SPG-Howitzer	78
<i>155 mm M109L47</i>	Self-Propelled Howitzer	85
<i>300 mm Splav BM 9A52</i>	Multiple Rocket Launcher	6
<i>Smerch</i>		
<i>70 mm LAU-97</i>	Multiple Rocket Launcher	18
<i>122 mm FIROS-25</i>	Multiple Rocket Launcher	48
<i>120 mm Brandt</i>	Mortar	21
<i>81 mm L16</i>	Mortar	114
<i>81 mm Brandt</i>	Mortar	20

Anti-tank Weapons

Type	Role	Quantity
<i>Milan</i>	Anti Tank Guided Weapon	230
<i>TOW</i>	Anti Tank Guided Weapon	25
<i>HOT</i>	Anti-tank Guided Weapon	20
<i>9K113 Konkurs</i>	Anti-tank Guided Weapon	180
<i>106 mm M40</i>	Recoilless Rifle	12

Type	Role	Quantity
<i>84 mm Carl Gustav</i>	Rocket Launcher	250

Air Defense Weapons

Type	Role	Quantity
<i>20 mm Former Yugoslavian M55 Triple Barreled ADA</i>	Light Anti-Aircraft (Towed)	N/A
<i>35 mm (twin) Swiss GDF-001 through -003 and -005 ADA</i>	Radar Guided Anti-Aircraft (Towed)	30
<i>20 mm (twin) Panhard VDAA M55A1, M55A2</i>	Self-Propelled Anti-Aircraft Gun	42
<i>Mistral</i>	Manportable SAM	20
<i>Blowpipe</i>	Manportable SAM	20
<i>Igla-1 (SA-16 'Gimlet')</i>	Manportable SAM	10
<i>Dzhigit</i>	SAM Twin Launchers for Igla-1 missiles	40
<i>Crotale</i>	Low-Altitude SAM System	3
<i>30 mm Russian Pantisr-S1</i>	Gun-Missile Air Defense System	≤ 50
<i>30 mm GCF-BM</i>	Light Anti-Aircraft Gun	20

Infantry Weapons

Type	Role
<i>9 mm FN 35</i>	Pistol
<i>9 mm H&K P7M13</i>	Pistol
<i>9 mm H&K MP5</i>	Sub-Machine Gun
<i>5.56 mm HK53</i>	Sub-Machine Gun
<i>5.56 mm M16A1</i>	Assault Rifle
<i>5.56 mm FAMAS</i>	Assault Rifle

Type

7.62 mm AKM

7.62 mm G3

7.62 mm FN FAL

5.56 mm HK23E

5.56 mm Minimi

7.62 mm FN MAG

12.7 mm Browning M2HB

40 mm M203

Role

Assault Rifle

Assault Rifle

Assault Rifle

Light Machine Gun

Light Machine Gun

General-Purpose Machine Gun

Heavy Machine Gun

Grenade Launcher

Air Force**Organization**

The UAE Air Force (UAEAF) was formed in 1976 through a consolidation of assets from Abu Dhabi, Dubai, and the other emirates. Its tactical doctrine is an adaptation of British, French, and U.S. doctrine. The UAEAF has approximately 4,000 personnel.

Mission

The mission of the UAEAF is moving away from a defensive role toward one of deterrence. The UAEAF focuses on offensive capabilities with recent purchases of the Block 60 F-16E/F and upgrades to the Mirage 2000 aircraft.

Bases

The UAEAF is headquartered at Al Bateen AFB, Abu Dhabi and is divided among two commands: one in Abu Dhabi (Western Command); and one in Dubai (Central Command). The UAEAF aircraft inventory is dispersed among five bases. Al Dhafra, Al Bateen

and Al Ayn are all in the emirate of Abu Dhabi. Dubai International is in Dubai, and Minhad is in the emirate of Ash Shariqah.

Equipment

Fixed Wing

Aircraft	Quantity
F-16E/F	80 (60E, 20F)
Mirage 2000-9	68
Mirage V	5
Hawk (trainer)	46
PC-7	30
C-130H	6
Cessna 208B	7

Rotary

Aircraft	Quantity
AH-64A	30
Bell 214B	4
Bell 412	6
IAR-330L	10
SA 330C	10
CH-47	12

Navy

The United Arab Emirates Navy is primarily a coastal defense force with limited conventional combat capability. Priorities include patrolling territorial waters, combating illegal smuggling, and protecting offshore oil platforms. A small force of about 2,400 personnel, the UAE Navy moves to improve its blue water pres-

ence with the acquisition of six Baynunah-class corvettes (FFL). The U.S. Navy makes more port calls in the UAE than in any country other than the United States.

Organization

The UAE's moves in the maritime environment are motivated by a desire to protect the flow of oil to international customers. Profits from oil exports form the foundation of the Emirates' economy. Shipments primarily are transported through the strategic Strait of Hormuz. In light of Iran's presence on three Arabian Gulf islands claimed by the UAE, and threats to close the Strait of Hormuz to shipping in the event of a conflict, the UAE's naval modernization program addresses these concerns about national security. The UAE's fast attack and patrol craft are organized in various flotillas and squadrons. One marine battalion also falls under navy control.

U.S. and British naval tactics for small-attack craft heavily have influenced UAE operations, as have French missile tactics. Training occurs in country with allied navies, including the British Royal Navy and French Marine National. The range and endurance of Emirati naval deployments is limited.

Bases

The primary naval base is located at Taweelah, between the UAE's main cities of Abu Dhabi and Dubai. Other facilities are spread throughout the UAE's seven emirates.

Personnel

The UAE Navy has 2,400 personnel.

Equipment

Surface Fleet

Type	Role	Quantity
Muray Jib (MGB 62)	Fast Attack Craft-missile	2
Ban Yas (TNC 45)	Fast Attack Craft-missile	6
Mubarraz	Fast Attack Craft-missile	2
Ardhana	Patrol Craft	6
Frankenthal (Type 332)	Minehunter-coastal	2
L64, L65, L66, L67	Landing Craft-tank	N/A
L 41, L42	Landing Craft-tank	2
L 62 +2	Landing Craft-vehicle	3
Al-Feyi	Landing Ship-logistics	3
Serna	Landing Craft-utility	2
D 1051	Diving Tender	1
Al-Shaali	Transport Craft	12
Arctic 28	Rigid Inflatable	8
Transportbåt 2000	Landing Craft	12

Naval Aviation

Type	Role	Quantity
SA 316/319S Alouette	Reconnaissance	4
AS565 Panther	Anti-Ship	7
AS535 Cougar/Super Puma	Anti-Ship	7

Force Requirements and Modernization

The UAE Navy's acquisition of six Baynunah-class corvettes represents a significant upgrade in naval capability. These corvettes will focus on patrol and surveillance in the UAE's territorial waters and economic exclusion zone. Additionally, the Baynunah-

class vessels are to carry eight MM40 block 3 Exocet surface-to-surface missiles and Evolved Sea Sparrow surface-to-air missiles. The corvettes also will be capable of mine laying and detection. The first unit in the new class will be commissioned in 2010. The UAE may acquire submarines in the future.

Coastal Defense

UAE maintains a national coast guard, the UAE Border and Coast Guard Directorate, organized under the UAE Armed Forces Command. The directorate is responsible for search and rescue, counternarcotics, and preventing illegal immigration.

Paramilitary

UAE's Emirates maintain several internal security units. These include a 50-person special weapons and tactics team under the Dubai Police and the Amiri Guards under the Ash Shariqah police department, responsible for protecting public buildings and the emir of Ash Shariqah.

National Police

UAE does not maintain a national police force; instead, each emirate maintains an autonomous police department under the national Interior Ministry. Abu Dhabi and Dubai's police forces are the largest, best-funded, and most technically proficient in UAE.

APPENDIX A: EQUIPMENT RECOGNITION

INFANTRY WEAPONS

9-mm Submachinegun Heckler & Koch Model MP5



Cartridge	9.0 x 19.0 mm
Effective Range	200 m
Maximum Range	1,600 m
Rates of Fire	
Cyclic	650 to 800 rounds/minute
Single-Shot	50 to 50 rounds/minute
Method of Operation	Delayed blowback, selective fire
Feed Device	30-round box magazine
Weight Unloaded	2.0 to 3.4 kg (varies with model and optional equipment)
Length	325 to 780 mm (varies with model)

5.56-mm Assault Rifle M16A1



Cartridge	5.56 x 45 mm
Effective Range	800 m
Maximum Range	3,600 m
Cyclic Rate of Fire	700 rounds/minute
Method of Operation	Gas blowback, direct action, selective fire
Feed Device	20- or 30-round box magazine
Weight Unloaded	3.40 kg
Length	990 mm

5.56-mm Heckler & Koch Model 53



Cartridge	5.56 x 45 mm
Effective Range	400 m
Cyclic Rate of Fire	700 rounds/minute
Method of Operation	Delayed blowback, selective-fire
Feed Device	25- or 30-round detachable box magazine
Weight Unloaded	3 kg
Length	780 mm

5.56-mm General Purpose Machinegun Heckler & Koch Model 23



Cartridge	7.62 x 45 mm NATO
Effective Range	1,500 m
Cyclic Rate of Fire	750 rounds/minute
Method of Operation	Delayed blowback, automatic
Feed Device	Metal link belt
Weight Loaded	8.75 kg (with butt stock and bipod)
Overall Length	1,030 mm

40-mm M203 Grenade Launcher



Cartridge	40 x 46 mm
Method of Operation	Breech loaded, sliding barrel
Effective Range	Point target 150 m; area target 350 m
Weight (Loaded)	1.63 kg
Overall Length	380 mm

NOTE: The M203 grenade launcher was originally designed for attachment to the M16-series assault rifles. The M203 can be used attached to an M16 assault rifle or M4 carbine, or as a standalone weapon attached to a modified stock.

5.56-mm FAMAS



Cartridge	5.56 x 45 mm
Effective Range	300 m
Cyclic Rate of Fire	700 rounds/minute
Method of Operation	Delayed blowback, selective fire, and 3-rd burst capability
Feed Device	25-round detachable box magazine
Weight Unloaded	3.3.61 kg
Length	757 mm

7.62-mm Automatic Rifle Heckler & Koch Model G3A3



Cartridge	7.62 x 51 mm
Effective Range	400 m
Maximum Range	2,400 m
Cyclic Rate of Fire	500 to 600 rounds/minute
Method of Operation	Delayed blowback, selective fire
Feed Device	30-round box magazine
Weight Unloaded	4.3 kg
Length	1,025 mm
Overall Length	1,025 mm (fixed butt); 840 mm (retracted butt)

7.62-mm General Purpose Machinegun FN MAG



Cartridge	7.62 x 51 mm NATO
Effective Range	1,500 m
Cyclic Rate of Fire	650 to 1,000 rounds/minute
Method of Operation	Gas, automatic
Feed Device	Disintegrating metal link belt
Weight Loaded	13.92 kg (with butt stock and bipod)
Overall Length	1,260 mm

0.50-in. (12.7-mm) Heavy Machinegun Browning M2 HB



Caliber	12.7 x 99 mm
Ranges	
Effective	1,500 m
Maximum	6,800 m
Cyclic Rate of Fire	450 to 600 rounds/minute
Method of Operation	Short recoil
Feed Device	Disintegrating-link belt
Weight	38 kg
Overall Length	1,651 mm

5.56-mm FN Herstal Minimi Light Machinegun



Cartridge	5.56 x 45 mm NATO
Effective Range	1,000 m
Cyclic Rate of Fire	700 to 1,000 rounds/minute
Method of Operation	Gas, automatic only
Feed Device	Disintegrating metallic link belt or box magazine (M16 type)
Weight Loaded	7.1 kg (with butt stock and bipod)
Overall Length	1,040 mm

7.62-mm AK-47/AKM



Cartridge	7.62 x 39 mm M1943
Effective Range	300 m
Cyclic Rate of Fire	600 rounds/minute
Method of Operation	Gas, selective-fire
Feed Device	Detachable box magazine
Weight Loaded	3.86 kg
Overall Length	880 mm

7.62-mm FN FAL



Cartridge	7.62 × 51 mm NATO
Effective Range	600 m
Cyclic Rate of Fire	600 - 700 rounds/minute
Method of Operation	Gas, selective-fire
Feed Device	Detachable box magazine
Weight Loaded	4.45 kg
Overall Length	1090 mm

ARMOR

Leclerc MBT



Crew	3
Armament	
Main	1x 120-mm gun
Coaxial	1x 12.7-mm machinegun
Antiaircraft	1x 7.63-mm machinegun
Maximum Speed	72 km/h
Maximum Range	450 km (with internal fuel) 550 km (with external fuel)
Gradient	60 percent
Vertical Obstacle	1.25 m
Trench	3.0 m
Fording	1.0 m (4 m with preparation)
Combat Weight	54,600 kg
Length x Width x Height	9.87 x 3.71 x 2.92 m
Fuel Capacity	1,300 liters of diesel (2x 200-liter external tanks optional)

AMX-30



Crew	4
Armament	
Main	1x 105-mm gun
Coaxial	1x 20-mm cannon or 1x 12.7-mm machinegun
Antiaircraft	1x 7.62-mm machinegun
Maximum Speed	65 km/h
Maximum Range	500 - 600 km
Gradient/Slide Slope	60 percent/30 percent
Vertical Obstacle	.93 m
Trench	2.9 m
Fording	1.3 m (4 m with snorkel)
Combat Weight	36,000 kg
Length x Width x Height	9.48 x 3.1 x 2.86 m
Fuel Capacity	1,090 liters (can operate on oil, gas, or parafin)

Oto Melara OF-40 MBT



Crew	4
Armament	
Main	1x 105-mm gun
Coaxial	1x 7.62 mm machinegun
Antiaircraft	1x 7.62-mm machinegun or optional 12.7-mm machinegun
Maximum Speed	60 km/h
Maximum Range	600 km
Gradient/Slide Slope	60 percent/30 percent
Vertical Obstacle	1.1 m
Trench	3 m
Fording	1.2 m (4 m with snorkel)
Combat Weight	45,500 kg
Length x Width x Height	9.22 x 3.51 x 2.45 m
Fuel Capacity	1,000 liters of diesel

BMP-3



Crew; Troops	3; 7
Armament	
Main	1x 100-mm 2A70 gun
Coaxial	1x 30-mm dual-feed cannon
Coaxial	1x 7.62-mm PKT machinegun
Bow	2x 7.62-mm PKT machinegun
Smoke Grenade	2x3 81-mm
Maximum Speed	70 km/h (10 km/h on water)
Maximum Range	600 km
Gradient/Slide Slope	60 percent/30 percent
Vertical Obstacle	0.8 m
Trench	2.5 m
Fording	Amphibious
Combat Weight	18,700 kg
Length x Width x Height	7.14 x 3.15 x 2.30 m
Fuel Capacity	690 liters (Multifuel capability)

AMX-10P



Crew; Troops	3; 8
Armament	
Main	1x 20-mm M693 cannon
Coaxial	1x 7.62 mm machinegun
Maximum Speed	65 km/h
Maximum Range	500 km
Gradient/Slide Slope	60 percent/30 percent
Vertical Obstacle	0.7 m
Trench	2.1 m
Fording	Amphibious
Combat Weight	14,500 kg
Length x Width x Height	5.90 x 2.83 x 2.83 m
Fuel Capacity	528 liters of diesel

AMX VCI



Crew; Troops	3; 10
Armament	
Main	1x 20-mm cannon, or 1x 12.7-mm M2 HB, or 1x 7.62-mm machinegun
Maximum Speed	64 km/h
Maximum Range	500 - 550 km
Gradient/Slide Slope	60 percent/30 percent
Vertical Obstacle	0.65 m
Trench	1.6 m
Fording	1.0 m
Combat Weight	15,000 kg
Length x Width x Height	5.70 x 2.67 x 2.41 m
Fuel Capacity	410 liters of diesel

FNSS ACV



Crew; Troops	2; 11
Armament	
Main	1 25-mm cannon
Coaxial	1x 7.62 mm machinegun
Maximum Speed	65 km/h (6.3 km/h on water)
Maximum Range	490 km
Gradient/Slide Slope	60 percent/30 percent
Vertical Obstacle	.74 m
Trench	1.83 m
Fording	Amphibious
Combat Weight	13,687 kg
Length x Width x Height	5.26 x 2.82 x 2.01 m
Fuel Capacity	416 liters

Scorpion 90



Crew	3
Armament	
Main	1x 90-mm Cockerill Mk III M693 cannon
Coaxial	1x 7.62 mm machinegun
Maximum Speed	73 km/h
Maximum Range	866 km
Gradient/Slide Slope	60 percent/45 percent
Vertical Obstacle	0.5 m
Trench	2.05 m
Fording	1.07 m
Combat Weight	8,700 kg
Length x Width x Height	5.29 x 2.23 x 2.10 m
Fuel Capacity	423 liters of diesel

AML-90



Crew	3
Armament	
Main	1x 90-mm cannon
Coaxial	1x 7.62 mm machinegun
Maximum Speed	90 km/h
Maximum Range	600 km
Gradient/Slide Slope	60 percent/45 percent
Vertical Obstacle	0.3 m
Trench	3.1 m
Fording	1.1 m
Combat Weight	5,500
Length x Width x Height	5.80 x 1.97 x 2.07 m
Fuel Capacity	156 liters of gasoline

Saladin



Crew	6
Armament	
Main	1x 76-mm L5A1 gun
Coaxial	1x 7.62-mm machinegun
Antiaircraft	1x 7.62-mm machinegun
Maximum Speed	72 km/h
Maximum Range	400 km
Gradient	46 percent
Vertical Obstacle	0.46 m
Trench	1.52 m
Fording	1.07 m
Combat Weight	11,500 kg
Length x Width x Height	5.28 x 2.54 x 2.38 m
Fuel Capacity	241 liters of gasoline

Ferret Mk II



Crew	2
Armament	
Main	1x 7.62-mm machinegun
Maximum Speed	93 km/h
Maximum Range	306 km (160 km cross-country)
Gradient/Slide Slope	46 percent/30 percent
Vertical Obstacle	0.34 m
Trench	1.22 m
Fording	0.91 m
Combat Weight	4,400 kg
Length x Width x Height	3.84 x 1.90 x 1.88 m
Fuel Capacity	96 liters of gasoline

Panhard VCR/TT



Crew; Troops	3; 9
Armament	
Main	1x 7.62-mm machinegun or 1x 20-mm cannon
Maximum Speed	90 km/h
Maximum Range	700 km
Gradient/Slide Slope	60 percent/30 percent
Vertical Obstacle	0.8 m
Trench	1.1 m
Fording	Amphibious
Combat Weight	7,900 kg
Length x Width x Height	4.87 x 2.50 x 2.56 m
Fuel Capacity	242 liters of gasoline

VAB APC (VMO Type)



Crew; Troops	2; 10
Armament	
Main	1x 12.7-mm machinegun
Maximum Speed	92 km/h
Maximum Range	1,000 km
Gradient/Slide Slope	46 percent/35 percent
Vertical Obstacle	0.65 m
Trench	1.50 m
Fording	Amphibious
Combat Weight	13,000 kg
Length x Width x Height	5.98 x 2.49 x 2.06 m
Fuel Capacity	300 liters of diesel

EE-11 Urutu



Crew; Troops	1; 12
Armament	
Main	1x 7.62- or 12.7-mm M2 HB machinegun
Maximum Speed	105 km/h
Maximum Range	850 km
Gradient/Slide Slope	60 percent/30 percent
Vertical Obstacle	0.6 m
Trench	1.0 m
Fording	Amphibious
Combat Weight	14,000 kg
Length x Width x Height	6.10 x 2.65 x 2.90 m
Fuel Capacity	380 liters of diesel

Panhard M3



Crew; Troops	2; 10
Armament	
Main	2x 7.62-mm machineguns
Maximum Speed	90 km/h
Maximum Range	600 km
Gradient/Slide Slope	60 percent/30 percent
Vertical Obstacle	0.3 m
Trench	0.8 m
Fording	Amphibious
Combat Weight	6,100 kg
Length x Width x Height	4.45 x 2.40 x 2.48 m
Fuel Capacity	165 liters of gasoline

RG-31 APC



Crew; Troops

2; 10

Armament

Main

Various, including: 5.56-mm, 7.62-mm, or .50 (12.7 mm) M2 HB machine guns or a 40-mm automatic grenade launcher

Maximum Speed

105 km/h

Maximum Range

>1,000 km

Gradient/Slide Slope

60 percent/35 percent

Combat Weight

10,200 kg

Length x Width x Height

5.81 x 2.47 x 2.72 m

Fuel Type

Diesel

TPz 1 Fuchs



Crew; Troops	2; 10
Armament	
Main	1x 20-mm cannon or 1x 7.62-mm machinegun
Maximum Speed	105 km/h (road)/10.5 km/h (water)
Maximum Range	800 km (road)
Gradient/Slide Slope	60 percent/30 percent
Vertical Obstacle	0.7 m
Trench	1.2 m
Fording	Amphibious
Combat Weight	17,000 kg
Length x Width x Height	6.83 x 2.98 x 2.30 m
Fuel Capacity	390 liters of diesel

Guardian (BTR-3U) APC



Crew; Troops	3; 6
Armament	
Main	1 × 30-mm KBA-3 cannon
Secondary	1 × 30-mm AGS-17 automatic grenade launcher
Secondary	1 × 7.62-mm or 12.7-mm machine gun
Maximum Speed	100 km/h (road)/9 km/h (water)
Maximum Range	600-800 km (road)
Gradient/Slide Slope	60 percent/40 percent
Vertical Obstacle	0.3 m
Trench	2 m
Fording	Amphibious
Combat Weight	16,400 kg
Length x Width x Height	7.65 x 2.90 x 2.86 m
Fuel Capacity	300 liters of diesel

NIMR II High Mobility Tactical Vehicle



Crew; Troops	2; up to 6
Armament	
Main	1 x medium machine gun
Maximum Speed	140 km/h
Maximum Range	1,000 km (road)
Gradient/Slide Slope	60 percent/60 percent
Vertical Obstacle	0.3 m
Trench	2 m
Fording	1.2 m
Combat Weight	7,000 kg
Length x Width x Height	4.90 x 2.20 x 2.50 m
Fuel Capacity	200 liters of diesel

ARTILLERY

130-mm PRC Type 59-1



Gun Caliber	130.0 mm x 52.0
Types of Rounds	HE-frag., HE-frag.-incendiary, DPICM, illumination, smoke
Range, Direct Fire	1,170 m
Range, Indirect Fire	7,800 to 27,150 m (38,000 m extended)
Rates of Fire	
Burst	8 to 10 rounds per minute
Normal	6 rounds per minute
Traverse Limits	Left 30.0 degrees, right 28.0 degrees
Elevation Limits	-2.5 to +45.0 degrees
Travel Weight	6,300 kg
Travel Length x Width x Height	10.8 x 2.4 x 2.8 m

155-mm Mk F3



Crew	2 (on weapon), 8 (on follow-on vehicle)
Configuration	Tracked
Armament	1 x 155-mm howitzer
Maximum Range	20,047 m
Rates of Fire	3 rds/min
Armor	10 - 20-mm
Night Vision	Yes
NBC Capable	No
Maximum Road Range	300 km (gas engine), 450 km (diesel engine)
Maximum Road Speed	60 km/h (gas engine), 64 km/h (diesel engine)
Fuel Capacity	450 liters
Fording	1 m
Gradient	40%
Vertical Obstacle	(forwards) 0.6 m; (reverse) 0.4 m
Combat Weight	17,400 kg
Height	2.085 m (traveling)
Length	6.22 m (gun forward)
Width	2.7m

Comments: The hull of the F3 is of all-welded steel with the driver's compartment at the front on the left, the engine compartment to his right, and the armament to the rear. The F3 is recognizable by its five rubber-type road wheels, three return rollers and the exposed crew positions. The other eight members of the crew follow the F3 in a separate vehicle. For short distances, four crew members can ride on the F3.

155-mm Self-propelled Gun-Howitzer G-6



Crew; Section Size	2 to 5; 7
Caliber	155.0 mm x 45.0
Ammunition Types	HE-Frag, DPICM, illumination, smoke
Range	
Direct Fire	3,000 m
Conventional	30,000 m
Extended	Up to 50,000 m
Rate of Fire	3 rounds/minute
Elevation Limits	-5.0 to +75.0 degrees
Traverse Limits	40.0 degrees left or right
Vehicle Maximum Speed	85 km/h
Road Range	700 km
Grade	40 percent
Trench	1.0 m
Fording	1.0 m
Travel Weight	47,000 kg
Travel Length x Width x Height	10.4 x 3.4 x 3.5 m
Emplacement/Displacement Time	1 minute/30 seconds

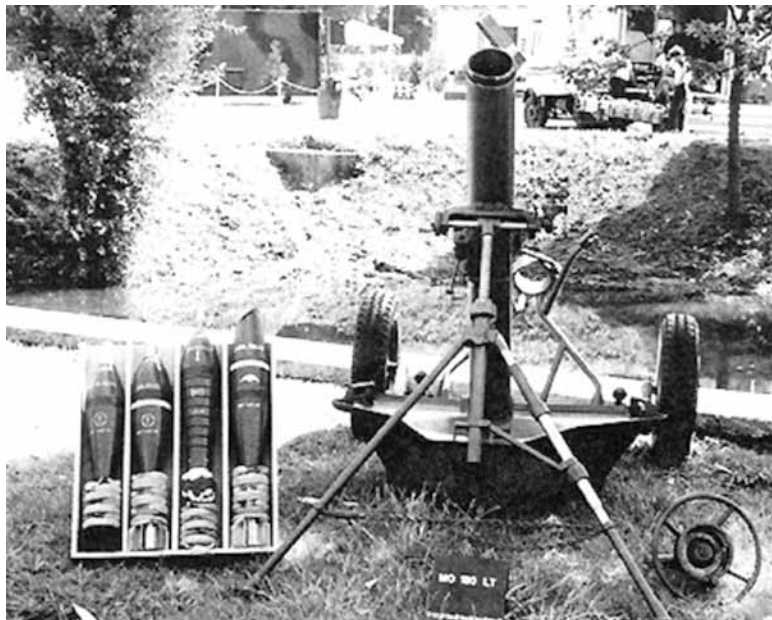
155-mm Self-propelled Howitzer M109L47



Crew; Section Configuration	6; 8 Tracked
Armament	(main) 1 x 155-mm howitzer (anti-aircraft) ; 1 x 12.7mm or 7.62 mm MG
Maximum Range	22,000 m (conventional); 38,000 (extended)
Rates of Fire	4 rds/min
Armor	20-mm
Elevation Limits	-3.0 to +53.0 degrees
Traverse Limits	360 degrees
Maximum Road Range	350 km
Maximum Road Speed	35 km/h
Emplacement/Displacement time	30 sec / 30 sec
Fording/Vertical Obstacle	1 m / .5 m
Gradient	60%
Combat Weight	27,000 kg
Height x Length x Width	3.2 x 11.3 x 3.2 m

Comments: The M109L47 is an upgraded M109A2/A3 assembled in the Netherlands specifically for export to the UAE. The "L47" portion of the nomenclature is from the Swiss cannon upgrade, a new 47-caliber cannon. Other upgrades include better armor protection, increased ammunition storage, and enhanced onboard electronics.

120-mm Brandt



Minimum Range	500 m
Maximum Range	9,000 m
Ammunition Types	HE, HE-RA, smoke, illum, practice, marker
Traverse Limits	17 degrees
Elevation	+45 to +80 degrees
Travel Weight	402 kg
Barrel Length	with breech cap, 1.746 m
Rate of Fire	12 rds/min

81-mm MO-81-61 Mortar



Crew	3
Caliber	81-mm
Maximum Range	5,000 m
Rate of Fire	10 rds/min (normal) 15 rds/min (burst) 8 rds/min (sustained)
Barrel Length	1.115 m (MO-81-61C) 1.450 m (MO-81-61L)
Weight	42 kg

122-mm FIROS Rocket Launcher



Crew	3
Configuration	6x6
Armament	122-mm rocket; smoke; HE
Maximum Speed	90 km/h
Maximum Range	34,000 m
Combat Weight	19,000 kg
Length x Width x Height	7.3 x 2.5 x 3.0 m (travelling)
Fording	1.5 m
Vertical Obstacle	0.78 m

9A52 Smerch 300-mm MRL



Crew; Section	3; 5
Armament	12 x 300-mm rockets
Maximum Range	90 km
Rates of Fire	12 rds/38 sec
Elevation Limits	0 to +55.0 degrees
Traverse Limits	30 degrees left/right; 60 degrees total
Maximum Road Range	1,000 km
Maximum Road Speed	60 km/h
Emplacement/Displacement time	3 min / 1 min
Fording	1.25 m
Gradient	70%
Combat Weight	39,500 kg
Height x Length x Width	3.4 x 12.4 x 3.0 m

ANTIARMOR

MILAN Ground Launcher



Maximum Range and Flight Time	2,000 m in 12.5 seconds
Night Vision Device	Thermal Imaging
Warhead Type	Unitary Shaped Charge
Warhead Penetration	1,000-mm of RHA
Guidance/Command Link	SACLOS/Wire
Attack Profile	Direct LOS
Launch Platforms	Ground Tripod, Compact Turret

84-mm Carls Gustav Rocket Launcher



Crew	2
Maximum Range	2,100 m
Effective Range	450 m
Length	1.3 m

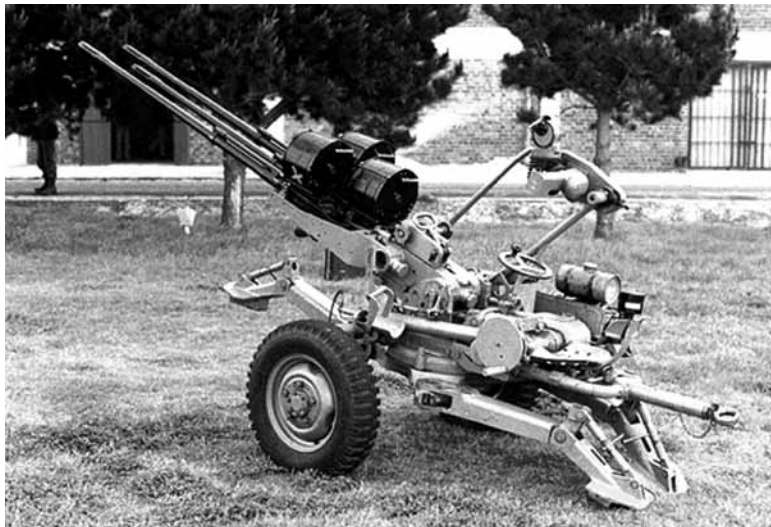
TOW Ground Tripod Launcher



Maximum Range and Flight Time	3,750 m in 20 seconds
Night Vision Device	Thermal Imaging
Warhead Type	Unitary Shaped Charge
Warhead Penetration	750-mm of RHA
Guidance/Command Link	SACLOS/Wire
Attack Profile	Direct LOS

AIR DEFENSE

M55 20-mm



Crew	5-7
Maximum Ranges	
Horizontal	5,500 m
Vertical under 80 degrees	4,000 m
Tactical antiaircraft	1,500 m
Rate of Fire	700 rds/min/barrel (cyclic)
Combat Weight	1,100 kg
Length x Width x Height	4.3 x 1.27 x 1.47 m (travelling)

Swiss GDF 35-mm Twin



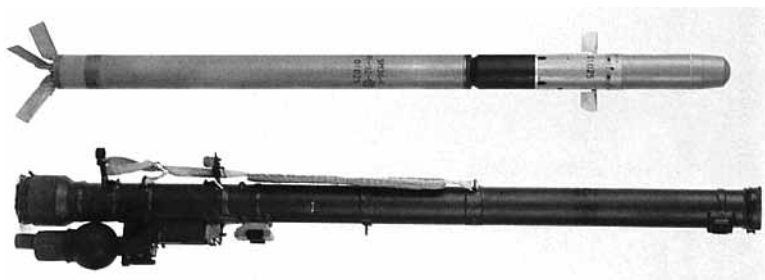
Crew	3
Maximum Ranges	
Vertical	8,500 m
Horizontal	11,200 m
Antiaircraft	4,000 m
Rate of Fire	550 rds/min/barrel
Combat Weight	6,400 kg
Length x Width x Height	7.8 x 2.28 x 2.6 m (travelling)
Emplacement/Displacement Time	3 min / 5 min
Traverse Limits	Unlimited
Elevation	-5 to +92 degrees
Maximum Travel Speed (towed)	60 km/h
Platform	Hydraulically operated two-axle carriage

RBS-70



Crew	2
Maximum Range	4,000 m
Combat Weight	26.5 kg
Length	1.745m

SA-14



Guidance

Maximum Range

Combat Weight

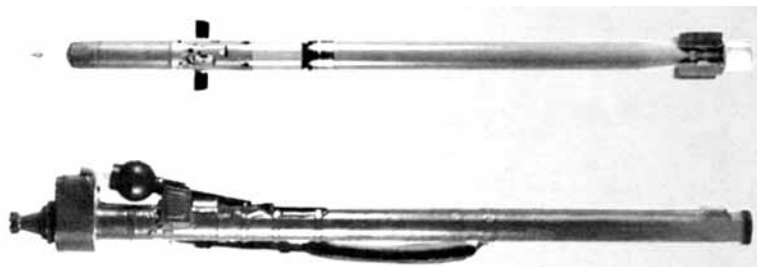
Length

Passive IR homing FM tracking logic seeker
2,000 m (approaching jet) 4,500 m (approach-
ing prop A/C or helicopter)

16 kg

1.5 m

SA-16



Guidance

Maximum Range

Combat Weight

Length

Passive IR homing FM tracking logic seeker
4,500 m (approaching target) 5,200 m (receding
target))

16.65 kg

1.7 m

Javelin



Crew	2
Maximum Range	5,500 m
Combat Weight	43 kg
Length	1.39 m

Mistral



Crew	1
Type	two-stage, low altitude
Warhead	3 kg HE
Maximum Effective Range	6,000 m
Minimum Effective Range	300 m
Guidance	Infrared passive homing
Length	1.86 m (missile); 2 m (tube)
Weight	24 kg (launcher plus missile)
Launcher	Man-portable or vehicle-mounted single-round disposable; vehicle-mounted twin-round disposable

AIRCRAFT

F-16E/F



Mission	Multirole fighter
Crew	1 (E) or 2 in two tandem cockpits (F)
Maximum Level Speed	> Mach 2.0 at 12,200 m
Ferry Range	2,415 nmi (with external fuel, without CFTs)
Combat Radius	Up to approximately 1,000 nmi
Service Ceiling	>15,240 m
Armament	
Primary	20-mm multibarrel cannon, wingtip air-to-air missiles
Secondary	Combination of precision guided or unguided air-to-surface weapons, antiship missiles, anti-radiation missiles, air-to-air missiles
Max. Ext. Load	8,742 (9,190) kg
Maximum Takeoff Weight	22,679 kg (with full external load)
Weight Empty	
F-16E (with CFTs)	9,017 (9,466) kg
F-16F (with CFTs)	9,419 (9,867) kg
Length x Wingspan x Height	15.03 x 9.45 x 5.09 m

NOTE: Originally known as Block 60; redesignated as F-16E (single-seat) and F-16F (two-seat) in late 2003, this is the most advanced version and has Northrop Grumman AN/APG-80 multimode agile beam radar with active electronically scanned array (AESA) antenna; also has internal Northrop Grumman AN/AAQ-32 internal FLIR navigation and targeting system, plus advanced cockpit layout, with three 127 x 178 mm (5 x 7 in) colour liquid crystal displays having picture-in-picture and moving map capability.

Mirage 2000-9RAD; -9DAD; Mirage V



Mission	Multirole fighter
Crew	1 (RAD) and 2 in two tandem cockpits (DAD)
Maximum Level Speed	>Mach 1.6
Ferry Range	1,000 nmi (with external fuel, without CFTs)
Combat Radius	>500 nmi
Service Ceiling	>18,290 m
Armament	
Air-to-air	2x 275 kg Super 530D or 2x 250 kg 530F missiles, 2x 90 kg 550 Magic or Magic 2 missiles.
Air-to-ground	U.S. Mk 20, Mk 82, GBU-24 and GBU-12 bombs; 2x 520 kg AS 30L, Armat anti-radar, or anti-ship missiles; 4x 185 kg MBDA LR F4 rocket launchers.
Maximum External Load	6,200 kg
Maximum Takeoff Weight	17,500 kg
Weight Empty	7,600 kg
Length x Wingspan x Height	14.33 x 9.13 x 5.14 m

C-130H, C-130HE



Type	Multimission transport
C-130H	Signals Intelligence
C-130HE	4 or 5
Crew	92 troops, 64 paratroopers, or 74 litter patients with 2 attendants
Passengers, C-130H/E	325 kn
Maximum Cruise Speed	300 kn
Economy Cruise Speed	
Range, with reserves	
With Maximum Payload	2,046 nmi
With Standard Load, Max. Fuel	4,250 nmi
Service Ceiling	10,060 m
Maximum Payload	19,356 kg
Maximum Normal Takeoff Weight	70,310 kg
Maximum Overload Takeoff	79,380 kg
Weight	
Operating Weight Empty	34,686 kg
Length x Wingspan x Height	29.79 x 40.41 x 11.66 m

AH-64A Apache Attack Helicopter



Crew	2 tandem
Armament	30-mm automatic cannon; combination of up to 16x ATGMs (Hellfire) and 76x 2.75-in rockets; air-to-air missiles
Maximum Speed	197 kn
Range with Typical Weapons	286 nmi at 154 kn
Maximum Design Takeoff Weight	9,525 kg
Basic Weight Empty	Approximately 5,165 kg
Main Rotor	
Number of Blades	4
Diameter	14.6 m
Wingspan	5.0 m
Fuselage Length x Width x Height	15.0 x 3.0 x 4.6 m

Medium Transport, SAR Helicopter Bell 214A, 214B, 214C



Crew; Passengers	2; 14
Maximum Speed	140 kn
Range	245 nmi at 140 kn, 6,260-kg takeoff weight
Armament	Possibly door-mounted crew-served weapons
Cargo Handling or Sling Load	3,628.8 kg
Maximum Design Takeoff Weight	7,257.6 kg
Rotor Diameter (No. Blades)	Main 15.2 m (2); tail 2.9 m (2)
Fuselage Length x Width x Height	13.4 x 2.8 x 4.1 m

Medium-Lift Utility Helicopter Bell 412



Crew; Passengers	2; 14
Armament	Provisions for door-mounted weapons; unguided rockets
Cruising Speed	260 km/h
Range	745 km
Maximum Payload	2,095.8 kg
Maximum Takeoff Weight	5,397.8 kg
Basic Empty Weight	3,090.7 kg
Rotor Diameter (No. Blades)	Main 14.0 m (4); tail 2.6 m (2)
Fuselage Length x Width x Height	12.7 x 2.8 x 3.5 m

SA 330L Puma



Type	Medium multimission helicopter
Crew; Passengers	2; 18
Armament	Possibly a side-firing 20-mm gun, axial-firing 7.62-mm machineguns, rockets, ATGMs
Maximum Speed	167 kn
Range, Full Load	310 nmi at 120 kn
Service Ceiling	4,800 m
Maximum Payload	3,448.0 kg
Cargo Handling or Sling Load	3,200 kg
Normal Design Takeoff Weight	7,400 kg
Basic Weight Empty	3,536 kg
Main Rotor	
Number of Blades	4
Diameter	15.0 m
Tail Rotor	
Number of Blades	5
Diameter	3.04 m
Fuselage Length x Width x Height	14.06 x 3.50 x 4.54 m

NOTE: The SA-330L is the military export variant of the SA-330J medium lift multi-purpose helicopter produced by Aerospatiale of France as an all weather helicopter. It is produced in Romania as the IAR 330L and in Indonesia as the NAS 330L. UAE upgrades its fleet of IAR 330L's to the SM standard. The IAR-330SM standard included Turbomeca Makila 1A1 engines and Rockwell Collins avionics.

SHIPS

KORTENAER Class FRIGATE (FF)



LOA x Beam x Draft	130.5 x 14.6 x 6.1 m
Displacement, Full Load	3,556 metric tons
Complement	140
Speed, Full Power	30 kn
Range	4,100 nmi at 22 kn
Armament	8 RGM-84 Harpoon SSM 16 RIM-7M NATO Sea Sparrow 1x 76-mm x 62; 1x 30-mm x 75 GOALKEEPER
Guns	
Radar Systems	
Surface Search	ZW-06/00; SCOUT
Early Warning	LW08/00
Fire Control	GOALKEEPER; STIR-2.4M; WM-20
Acoustic Systems	
Acoustic Countermeasure	SLQ-25, towed
Navigation	Echo Sounder
Search and Attack	SQS-505, hull-mounted
Underwater Communication	ATR-504

LURSSSEN FPB 62 Class PGG



LOA x Beam x Draft	63 x 9.3 x 2.6 m
Displacement, Full Load	3,556 metric tons
Complement	41
Speed, Full Power	34.7 kn
Armament	8 x MM 40 EXOCET 8 x CROTALE NAVAL 1x 76-mm x 62; 1x 30-mm GOALKEEPER
Guns	
Radar Systems	
Surface Search	DECCA-1226; SCOUT
Early Warning	SEA GIRAFFE
Fire Control	CASTOR II J/C; CEROS-200; GOALKEEPER;
NOTE: Other LURSSSEN variants include the LURSSSEN FPB 44 PTG and the LURSSSEN TNC 45.	

COMBATTANTE BR 71 Class CORVETTE



LOA x Beam x Draft	71.3 x 11 x 2.8 m
Displacement, Full Load	1,500 metric tons
Complement	44
Speed, Full Power	37 kn
Range	900 nmi at 35 kn
Armament	8 MM 40 EXOCET 8 EOLVED SEA SPARROW
Guns	1x 27-mm; 1x 76-mm
Radar Systems	
Surface Search	TERMA-1A
Fire Control	RTN-25X
IFF	MK XII
Acoustic Systems	
Navigation	Echo Sounder

VOSPER 110-FT PC



LOA x Beam x Draft	33.5 x 6.4 x 1.9 m
Displacement, Full Load	134 metric tons
Complement	26
Speed, Full Power	29 kn
Range	1,800 nmi at 18 kn
Armament	1x 20-mm x 70; 1x 30-mm x 75
Radar Systems	DECCA-916 RM
Acoustic Systems	MS 32F

ANTISHIP MISSILES

RGM-84 SERIES HARPOON SSM



Type	Long-range radar-guided antiship missile
Launch Platform	
RGM-84C	Ship
UGM-84C	Submarine
Range	67 nmi
Warhead	222-kg HE blast-penetration
Guidance	Inertial with active radar
Fuze	Delayed-action impact
Launch Weight	681.9 kg
Wingspan	0.83 m
Missile Length x Diameter	4.63 x 0.34 m
NOTE: Lengths and weights include a booster.	

M 39, MM 40 Block 2 Exocet



Type

AM 39 (shown above)

MM 40 Block 2

Air-launched medium-range antiship missile
Ship-launched medium-range antiship missile

Range

38 nmi

Warhead

165-kg blast-fragmentation warhead with delayed-impact and radar proximity fuzing

Guidance

Inertial and active radar

Flight Profile

Sea-skimming

Launch Weight

AM 39

670 kg

MM 40 Block 2

870 kg

Wingspan

Approximately 1 m

Missile Length x Diameter

AM 39

4.69 x 0.35 m

MM 40 Block 2

5.8 x 0.35 m

NOTE: Maximum range is achieved with the aid of over-the-horizon targeting data from aircraft or another ship. After launch, the AM 39 (shown above on Super Puma) reportedly chooses a cruise altitude of 9 to 15 m; at 12 to 15 km from the target, it descends to between 3 and 8 m, depending on Sea State, for its terminal approach. The MM 40 can fly at an altitude of 2 to 3 m, depending on Sea State. The MM 40 also can be preprogrammed to follow a specific route to the target area and carry out specific flight maneuvers.

APPENDIX B: HOLIDAYS

Holiday	Description	Traditional Date(s)
<i>New Year's Day</i>	Celebration of the beginning of the calendar year	1 January
<i>Al-Hijra (Islamic New Year)</i>	Celebrates Muhammad's journey from Mecca to Medina; time of reflection; cards sometimes exchanged between family and friends	20 January 2009 7 December 2010 26 November 2011 15 November 2012 (varies)
<i>Moulid El Nabi (Prophet Muhammad's Birthday)</i>	Commemorates the birth of Muhammad; special candles are made and people dress well and have family gatherings	9 March 2009 26 February 2009 15 February 2011 5 February 2012 (varies)
<i>Leilat Al-Meiraj (Ascension of the Prophet)</i>	Celebrates the night journey and ascent of Muhammad from Mecca to Jerusalem; Muhammad ascent into heaven and is told about <i>salat</i> (Muslim ritual prayers)	20 July 2009 9 July 2010 28 June 2011 16 June 2012 (varies)
<i>Eid al-Fitr (end of Ramadan)</i>	Celebrates the end of the Ramadan fast	2 October 2008 21 September 2009 10 September 2010 30 August 2011 19 August 2012 (varies)

<i>National Day</i>	Celebration of independence for the seven Trucial States	2 December
<i>Eid al-Adha (Celebration of Sacrifice)</i>	Commemorates Abraham's willingness to sacrifice his son; a Muslim offers a <i>quarba-ni</i> (sacrifice) and divides it into three portions: for the poor; friends and family; and his own household	20 December 2008 27 November 2009 12 November 2010 6 November 2011 26 October 2012 (varies)

APPENDIX C

LANGUAGE

Arabic Alphabet

Arabic, considered by Muslims to be the language of Allah, is spoken by more than 197 million people worldwide. English is widely spoken in official and business circles. Farsi is commonly heard in Bahrain, Kuwait, and the UAE, while Urdu/Hindi is common throughout the Gulf due to the large number of Pakistani and Indian expatriates who work there.

The Arabic alphabet is written from right to left but numerals are written from left to right. There are 28 characters, all of which are consonants, and 10 numerals. Vowels are unwritten, although three markers are used to ensure proper pronunciation. While there is no capitalization in Arabic, each letter has a different form depending on where it falls in the word -- at the beginning, middle, end, or standing alone.

Arabic is a Semitic language; its structure and grammar are different from English. Words are formed from roots by changing the vowels between the consonants, which usually begin and end the word. For example, the word for book is *Ketab* and the word for library is *Maktabah*. The root is K-T-B.

Key phrases in Arabic

English	Arabic
<i>Yes.</i>	aywaa
<i>No.</i>	laa
<i>Please.</i>	min faadlaak
<i>Welcome.</i>	aahlaan wa saahlaan

English

Thank you.

Hello.

How are you?

Good morning.

Good morning. (reply)

Good evening.

Good evening. (reply)

Good night.

Goodbye.

With the grace of God.

Where?

When?

What?

How?

How much/many?

Who?

Why?

Which?

What is this?

What does this mean?

Do you speak English?

I understand.

I don't understand.

Can you help me?

I'm hungry.

I'm thirsty.

I'm tired.

I'm lost.

Hurry!

No smoking!

Arabic

shokran

marhaba

keef halaak?

sobah alKher

sobah an noor

maasa alKher

maasa an noor

laylaa saaidaa

maa al saalamaa

al hamdu allah

aayn?

maati?

ma?

kayf?

kaam?

maan?

limaza?

ay?

ma esm haaza?

ma maa'ni haaza?

haal taataakaalaam Englizi?

aana aafhaam.

aana laa aafhaam.

momkin tisa'idini?

aana gaa'anaa.

aana aatshan.

aana taa'aabanaa.

aana toht.

bisor'aa!

maamnoo' al taadkheen!

Vocabulary

English

Arm (body)

Bandage

Beach

Blanket

Book

Boots

Bridge

Building

Coat

Entrance

Exit

First Aid Kit

Flashlight

Gloves

Gulf

Harbor

Hat

Head

Highway

Hospital

Insect Repellent

Knife

Leg

Map

Market

Matches

Medicine

Mosque

Arabic

zaara'

aasaabe

al shati

Baataniye

ketab

boot

al koobri

al maabni

mi'taf

Dokhool

khorooj

ilbah is'aafaat aawaalliyaa

baatariyaa

jowanti

al khaalij

al mina

kobaa'aa

raa'aas

taarig

mostaashfi

tarid lilhaashaarat

saakin

sag

khaarita

Sook

ood sagab

Daava'

al jami'

English*Police**Radio**River**Sea**Seacoast**Shoes**Soap**Taxi**Toilet**Tower**Watch**Big**Small**Fast**Slow**Early**Late**Near**Far**Hot**Cold**Heavy**Light**Open**Shut**Right**Wrong**Old**New***Arabic**

bolis

radyo

al naahr

al baahr

shati al Baahr

hiza

saboon

taaksi

al twaaleet

al borj

sa'aah

kaabir

saagir

saari'

bati

mobaakir

mit'akher

Kaarib

baa'id

sakhen

Barid

taagil

khaafif

maaftuh

maa'ful

sahh

gaalaat

gaadim

Jaadid

Military Vocabulary

English

Aircraft
Aircraft Carrier
Air Defense
Airfield
Ammunition
Amphibious
Anti-air artillery
Antilanding Defense
Antitank artillery
Army
Artillery
Aviation
Battalion
Battleship
Bomb
Camouflage
Cruiser (ship)
Chemical Weapon
Coastal Defense
Corps
Destroyer (ship)
Division
Engineer
Garrison
Gun
Hand grenade
Headquarters
Helicopter
Howitzer

Arabic

ta'ereh
hameleh ta'erat
defa' javi
motar
zaakhireh
baar ma'i
maadfa'iyeh modade al-ta'erat
defa' zed al-aabrar
maadfa'iyeh modade al-daababat
jish
maadfa'iyeh
tiran
kaatibeh
baraajeh
gaanbaaleh
taamooyeh
torad
saalah Kimavi
defa' saheli
filg
maadmor
faaraageh
mohandes
hamieh
maadfa'
gaanbeleh baadwiyyeh
giadeh
helicoopter
hawetzer

English*Infantry**Latitude**Longitude**Machinegun**Map**Military**Mine**Minefield**Mortar**Nuclear Weapon**Platoon**Radar**Reconnaissance**Rifle**Submachinegun**Tank**Tactics**Torpedo**Topography**Weapon**Weather***Arabic**

mosha'e

khat al-aarad

khat al-tool

reshash

khaariteh

aaskaari

al-laagam

haagl al-laagam

haven

saalah noovi

faasileh

radar

'estaatla'

bandgiyeh

reshash gaasir

daababeh

taktiki

toorpid

toboografia

saalah

al-taages

APPENDIX D: DANGEROUS PLANTS AND ANIMALS

Snakes

Gasperetti's Horned Desert Viper

Description:

Adult length usually 0.3 to 0.6 meter, maximum of 0.85 meter. Background generally yellowish, yellowish brown, pale gray,



pinkish, or pale brown with rows of dark spots along the back. Belly whitish. Tip of tail may be black. May have a long spine-like horn above each eye.

Habitat:

Found in deserts with rock outcroppings and fine sand. Often in very arid places, however, may be found near oases.

Activity and behavioral patterns:

Nocturnal. Can make itself almost invisible by wriggling down into loose sand. Hides in rodent holes and under stones. When angered, rubs inflated loops of body together to make rasping hiss. Can strike quickly if disturbed.

Venom's effects:

Venom primarily hemotoxic. Local symptoms include pain, edema, redness, possible hematoma at site of bite. No fatalities reported.

Central Asian Saw-scaled Viper

Description:

Adult length usually 0.4 to 0.6 meter, maximum of 0.85 meter. Background color grayish, greenish, or yellowish brown; belly white, speckled with



brown or black. Well-defined pale continuous undulating line along flanks. Distinctive cruciform white marking on top of head appears like imprint of bird's foot.

Habitat:

Found in open scrubby, dry, sandy, and rocky areas.

Activity and behavioral patterns:

Mainly nocturnal in hot weather; sometimes diurnal in cool weather. When alarmed, throws itself into double coil somewhat like figure eight and rubs sides of body together, producing violent rustling sound. Very nervous; quick to strike at slightest provocation. Often climbs shrubs and low-lying trees during rainy season.

Venom's effects:

Little known about venom. Characteristics likely similar to other *Echis* spp. Likely hemotoxic. Fangs relatively large compared to size of snake. Local symptoms likely include pain, swelling, and enlarged tender lymph glands. Fatalities recorded.

Sochurek's Saw-scaled Viper

No Photograph Available

Description:

Maximum length of 0.8 meter. Background color gray-beige; belly whitish, usually with dark gray spots. Series of pale, dark-edged

dorsal spots, which may connect in zig-zag line. Incomplete undulating pale line along sides. Distinctive gray cross pattern on top of head.

Habitat:

Very adaptable. Found in sandy, rocky, and cultivated areas. Avoids wet terrain, but may enter water if necessary.

Activity and behavioral patterns:

Primarily nocturnal and terrestrial; but climbs low bushes and trees.

Venom's effects:

Potent hemotoxin. Pain and swelling start soon after bite. Systemic bleeding may start within 6 hours after bite. Other symptoms may include vomiting, abdominal pain, regional lymph node enlargement, hematuria, and shock. Deaths recorded.

False-horned Viper

Description:

Adult length usually 0.5 to 0.7 meter, maximum of 0.9 meter. Background generally pale or bluish gray to khaki; gray or brown-gray blotches or cross-bands on back. Alternating faint spots on throat and body sides. Ventral side white; tail black. Head very broad; distinct from neck. Horn, composed of several overlapping scales, above each eye.



Habitat:

Most often found in desert bush. Also found in sandy, rocky terrain, as well as burrows and crevices in elevations of up to 2,000 meters.

Activity and behavioral patterns:

Nocturnal. Sluggish, placid, less likely to bite during the day. Dangerously active and aggressive at night. When disturbed, hisses loudly but not particularly vicious. Locomotion characteristically sidwinding. Frequently hides in rodent tunnels and beneath rocks.

Venom's effects:

Primarily neurotoxic. May produce a few local symptoms such as minor pain, mild tingling of the local area, stiffness; more serious bite causes weakness followed by ptosis. Victim may be conscious, but be unable to respond due to paralysis.

Dangerous Invertebrates

Scorpions

Although scorpions in the region are capable of inflicting a painful sting, none are known to be life-threatening.



Spiders

Although there are several spider species found in the region that are capable of inflicting a painful bite, including some very large and physically imposing tarantulas, none are known to be life-threatening.

Millipedes

Millipedes do not bite and in general are harmless to humans. If handled, some larger millipedes (may be more than 50 centimeters long) secrete a very noxious fluid that can cause severe blistering upon contact; some can squirt this fluid at least 2 feet.

Centipedes

Although area centipedes are capable of inflicting a painful bite, none are known to be life-threatening.



Insects

There is little specific information of medical importance regarding insects. However, nearly all countries have at least one species of moth having venomous/urticating hairs and/or whose larva (caterpillar) has venomous spines. Some caterpillars are very hairy (such as puss moths and flannel moths) and almost unrecognizable as caterpillars, with long silky hairs completely covering the shorter venomous spines. Others bear prominent clumps of still, venomous spines on an otherwise smooth body. Contact with these caterpillars can be very painful. Some are brightly colored.

Paederus are small (usually 4 to 7 millimeters), slender rove beetles that do not look like typical beetles and have very short wing covers that expose most of their flexible abdomens. When crushed, their body fluid contains an agent that will blister skin on contact. The lesions take about a week to heal, and the area remains painful for several weeks. The substance is extremely irritating if it gets into the eyes; temporary blindness has been reported.

Dangerous Plants

Velvet Bean

Other names:

Cowitch, cowhage, pica-pica, ox eye bean, horse-eye bean.

Mechanisms of toxicity:

Many of the species' pods and flowers are covered with irritant hairs (proteolytic enzymes). Can be dangerous if they become embedded in the eye. Beans tend to be foul tasting, even after thorough boiling, so little danger of ingestion exists.

**Comments:**

Many species are widely naturalized.

Bushman's Poison**Other name:**

Poison tree, wintersweet.

Mechanisms of toxicity:

Seeds have a high concentration of toxin (cardiac glycosides); fruit pulp contains only traces.



Wood extract is easily ab-

sorbed through the skin; can be mixed with latex from one of the Euphorbia family and gum from Acacia to make arrow poison; also used as an ordeal poison. Extracts applied to prickly fruits and laid in paths of barefoot enemy to kill. Symptoms of toxicity include pain, nausea/vomiting, abdominal pain, diarrhea. Variable latent period (interval between exposure and symptoms) with cardiac conduction defects and sinus bradycardia; hyperkalemia. Some species cause dermatitis, but this is not a common problem.

Comments:

Dense evergreen shrubs or small trees with a milky sap found in Arabia and tropical eastern and southern Africa. Fruit resembles an olive or small ellipsoidal plum and turns reddish to purple-black at maturity (one to two seeds). Fruit exudes a milky sap when cut. Aromatic flowers are tubular, white/pink, in dense clusters in the forks of the leaves.

Panama Tree**Other names:**

Castano, tartargum.

Mechanisms of toxicity:

Seeds are edible, but pods have internal stiff bristles that easily penetrate skin, causing intense irritation.

Comments:

There are 200 tropical species.

***Desert Rose*****Other names:**

Monkey poison, mock azalea, impala lily.

Mechanisms of toxicity:

Cardiac glycosides; used for ordeals, arrow poison, and as a fish stupifier.

Comments:

Five species; shrubs or trees; tropical and subtropical African and Arabian distribution. Thrive best in dry areas; have thick stems.



Gomboge Tree

No Photograph Available.

Mechanisms of toxicity:

The bark exudate is a drastic purgative. Can be fatal.

Comments:

The gum resin is called gomboge; used in lacquers, metal finishes, and watercolors in China since the 13th century. A non-toxic plant; aril is delicious; one of the best tropical fruits; only in Malaysia/Thailand.

Heliotrope

Other names:

Cherry pie, scorpion's tail, Indian heliotrope.

Mechanisms of toxicity:

Contains pyrrolizidine alkaloids. Cause of large epidemics (Afghanistan, India) of illness following ingestion of bread made with flour contaminated with members of this genus. The pathologic effects (Budd-Chiari syndrome) take weeks to months, and death comes slowly over years. Chronic copper poisoning has occurred associated with this plant.



Comments:

A large genus of worldwide distribution (250 tropical and temperate trees and shrubs).

English Yew

Other names:

Ground hemlock, American yew, Japanese yew.

Mechanisms of toxicity:

Taxine A and B, classed as steroid alkaloids, are present in all plant parts except the aril. A single chewed seed is deadly. An hour after ingestion, nausea, dizziness, and abdominal pain begin. This is followed by reddening of the lips, dilatation of the pupils, shallow breathing, tachycardia, and coma. Then the pulse slows, blood pressure drops, and death occurs through respiratory paralysis. No proven treatment exists. Emptying the stomach hours after ingestion may be helpful as leaves may not pass through the GI tract expeditiously. Various clinical measures (circulatory stimulants, artificial respiration, cardiac pacemaker) have not prevented death in suicide cases.

Comments:

An evergreen shrub or small tree bearing a characteristic fleshy, red, sweet-tasting aril with a single green to black, partly exposed, hard-shelled seed within. In North America, the Japanese yew, the toxicity of which may exceed that of the English yew, has repeatedly caused fatal animal poisonings. Was once known as the “tree of death.”



