

Bahrain Country Handbook

1. This handbook provides basic reference information on Bahrain, 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 Bahrain.
2. This product is published under the auspices of the U.S. Department of Defense Intelligence Production Program (DoDIPP). This handbook has been published as a joint effort within the Department of Defense (DoD). This product reflects the coordinated U.S. Defense Intelligence Production Community position on Bahrain.
3. Dissemination and use of this publication is restricted to official military and government personnel from the United States of America, United Kingdom, Canada, Australia, NATO member countries, and other countries as required and designated for support of coalition operations.
4. The photos and text reproduced herein have been extracted solely for research, comment, and information reporting, and are intended for fair use by designated personnel in their official duties, including local reproduction for training. Further dissemination of copyrighted material contained in this document, to include excerpts and graphics, is strictly prohibited under Title 17, U.S. Code.

CONTENTS

KEY FACTS	1
U.S. MISSION	2
U.S. Embassy.....	2
U.S. Consulate.....	2
Entry Requirements.....	2
Passport and Visa Requirements	2
Immunization Requirements	4
Customs Restrictions	4
GEOGRAPHY AND CLIMATE	4
Geography	4
Boundaries	4
Topography	5
Climate	8
Environment	9
TRANSPORTATION AND COMMUNICATION	9
Transportation	9
Roads	9
Rail	11
Air	11
Maritime	12
Communication	13
Radio and Television	13
Telecommunications	13
Newspapers and Magazines	14

Contents (Continued)

Postal Service	14
Internet	14
Satellite	14
CULTURE	14
Society	14
People	15
Education and Literacy Rates	17
Religion	17
Islam	17
Shari'a or Islamic Law	20
Sunni vs. Shi'a Islam	20
Customs and Courtesies	21
Greetings	21
Gestures	22
Basic Arab Religious Attitudes	22
Basic Arab Self-Perceptions	22
Rules of Etiquette	23
Dress	24
Eating	24
Friendship	25
Professional Relationships	26
Family	27
MEDICAL ASSESSMENT	28
Disease Risks to Deployed Personnel	28
Food- or Waterborne Diseases	28
Insect-, Tick-, and Miteborne Diseases	29
Respiratory Diseases	29
Sexually Transmitted and/or Blood-borne Diseases	29
Animal-associated Diseases	29
Other Diseases Present	29
Medical Capabilities	29
Key Medical Facilities	30

Contents (Continued)

HISTORY	31
Chronology of Key Events	33
GOVERNMENT AND POLITICS	34
Government	34
Key Government Officials	34
National Level	34
Local Level	35
Politics	35
Elections	35
Suffrage	37
Parties and Pressure Groups	37
Foreign Relations	37
ECONOMY	39
Statistics	41
Resources	41
Oil and Gas Reserves	43
THREAT	44
Crime	44
Travel Security	44
Terrorism	44
Threat to U.S. Personnel	44
ARMED FORCES	45
Organization and Personnel	45
Mission	45
Training	46
Equipment	46
Key Defense Personnel	47
Deployment	47
Army	48
Organization	48
Equipment	49

Contents (Continued)

Air Force	50
Organization	50
Equipment	50
Navy	51
Organization	51
Equipment	51
Paramilitary	51
Police	51
National Guard	52

APPENDICES

A. Equipment Recognition	A-1
B. International Time Zones	B-1
C. Conversion Charts	C-1
D. Holidays and Calendars	D-1
E. Language	E-1
F. International Road Signs	F-1
G. Individual Protective Measures	G-1
H. Deployed Personnel's Guide to Health Maintenance	H-1
I. Dangerous Animals and Plants	I-1
J. International Telephone Codes	J-1

Contents (Continued)

ILLUSTRATIONS

Bahrain	viii
National Flag	1
U.S. Embassy	3
Area Comparison	5
Arabian Gulf	6
Topography.	7
Manama Weather	8
Transporation	10
Immigration Island Between Saudi Arabia and Bahrain	11
Downtown Manama	15
Population Density	16
The Holy Mosque in Mecca	19
The Prophet's Mosque in Medina, Burial Place of the Prophet . . .	21
Independence Day 14 August 1971	32
King Sheikh Hamad	33
Bahrain Municipalities	36
Women Voting	37
Economy	40
Land Use	42
Enlisted and Office Rank Insignia	48



KEY FACTS

Country Name. Kingdom of Bahrain
(changed from State of Bahrain 14 February 2002)

Country Code. BHR

National Flag. Red with a white serrated band (eight white points) on the hoist side.

Chief of State. King Sheikh Hamad bin Isa Al Khalifa

Capital. Manama

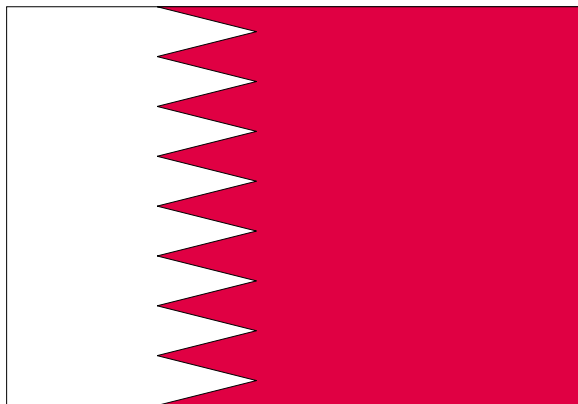
Time Zone. UTC (formerly GMT) + 3, EST + 8

Population. 645,360 (July 2001)

Languages. Arabic is the official language, but Farsi, English, and Urdu are also spoken.

Currency. 1 Bahraini dinar (BD)=1,000 fils. The exchange rate is fixed at US\$1=BD0.3768. Credit cards are widely accepted at businesses and bank ATMs.

Calendar. The fiscal year is the same as the calendar year.



National Flag

U.S. MISSION

U.S. Embassy

Chief of Mission: Ambassador Johnny Young.

Location: The Embassy is in Building 979, off Sheikh Isa bin Sulman Highway, in the 321 block (Al Zinj district) of Manama, next to the Ahli Sporting Club.

Mailing Address: American Embassy, Box 26431, Manama, Bahrain

Telephone: (973) 273-300. After hours: (973) 275-126

Fax: (973) 272-242

Telex: 9398 USATO BN

Internet: www.usembassy.com.bh/index.html

Hours: Saturday through Wednesday, 0800 to 1700

U.S. Consulate

Mailing Address: P.O. Box 26431, Manama, Bahrain

Telephone: (973) 273-300 ext. 1101

Fax: (973) 256-242

E-mail: consularmanama@state.gov

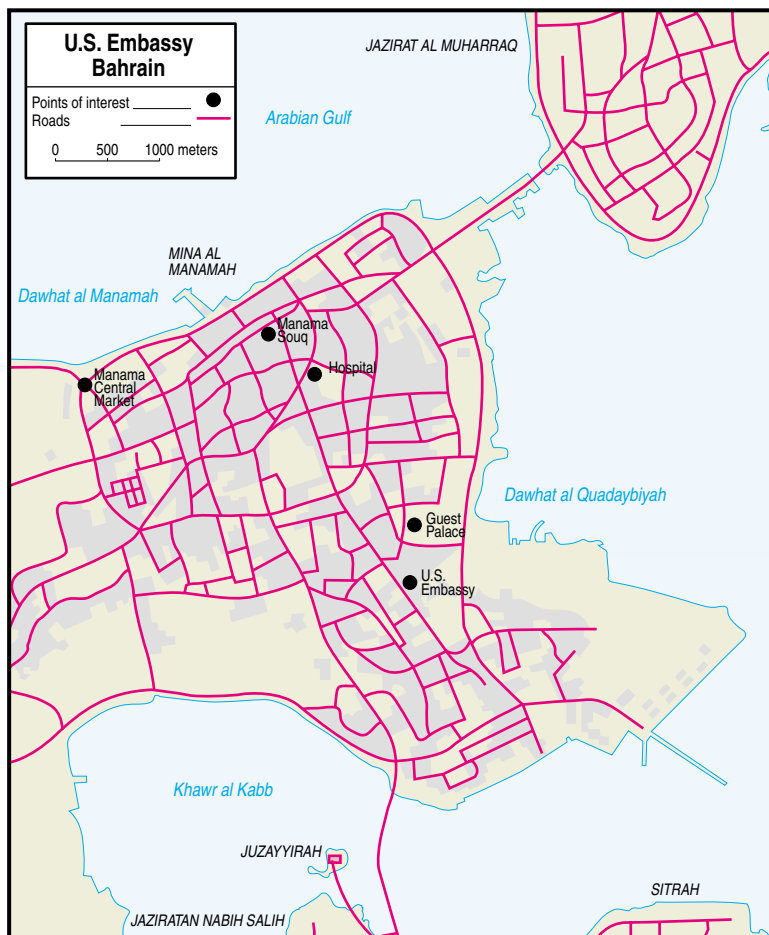
Hours: Saturday through Wednesday, 0900 to 1500.

Entry Requirements

Passport and Visa Requirements

Visitors must have valid passports and visas. Three- and 7-day visas may be obtained at the airport in Manama, but obtaining visas before travel is recommended. Further information on entry requirements is available at the Bahrain Embassy, 3502 International Drive, N.W., Washington, D.C. 20008, telephone (202) 342-0741/2; or the Bahrain

Permanent Mission to the UN, 2 United Nations Plaza, East 44th St.,
New York, N.Y. 10017, telephone (212) 223-6200.



U.S. Embassy

Immunization Requirements

Visitors should have current vaccinations for yellow fever, typhoid, and polio. Immune serum globulin (to prevent hepatitis A) is recommended for stays longer than 3 weeks or if food, water, and ice precautions cannot be followed.

Customs Restrictions

Bahrain customs authorities enforce strict regulations concerning firearms, ammunition, or other weapons; pornography or seditious literature; and habit-forming or hallucinatory drugs. The Bahrain Embassy in Washington, D.C. and Bahrain's Consulate in New York can provide further information regarding customs requirements.

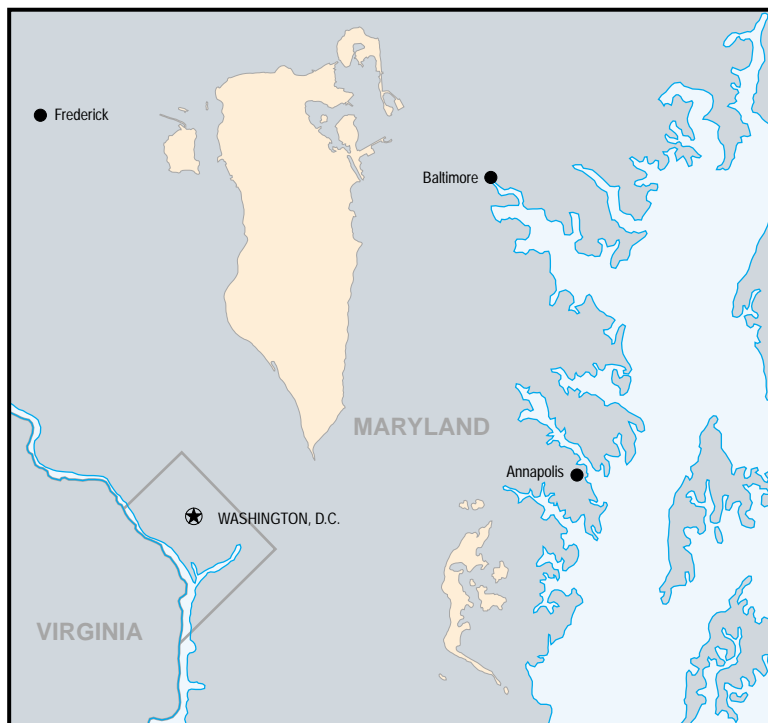
GEOGRAPHY AND CLIMATE

Geography

Bahrain is an archipelago of 33 islands (only 5 are inhabited) between the Gulf of Bahrain and the Arabian Gulf. Its total land area is 692 square kilometers (270 square miles). It is 48 kilometers- (30 miles-) long by 16 kilometers- (10 miles-) wide. Bahrain is 3.5 times the size of Washington, D.C., and the islands are generally level expanses of sand and rock.

Boundaries

Bahrain is 24 kilometers (15 miles) from the east coast of Saudi Arabia and 28 kilometers (17 miles) north of Qatar. A 27-kilometer (17-mile) causeway built in 1986 connects Bahrain to Saudi Arabia. In 2001, the International Court of Justice awarded Bahrain the Hawar Islands, which had also been claimed by Qatar, and Zubarah Island was granted to Qatar.



Area Comparison

Topography

The main island of Bahrain is low-lying and barren with a limestone surface. The main island coastline is 161 kilometers (100 miles). The island supports the barest desert vegetation; however, there is a 5-kilometer (3-mile) wide strip of fertile land at the northern end of the island with date, almond, fig, and pomegranate trees. The interior contains an escarpment, which rises to 134 meters (440 feet); the highest point is Jebel al Dukhan, in the center of Bahrain south of Awali. Most of the



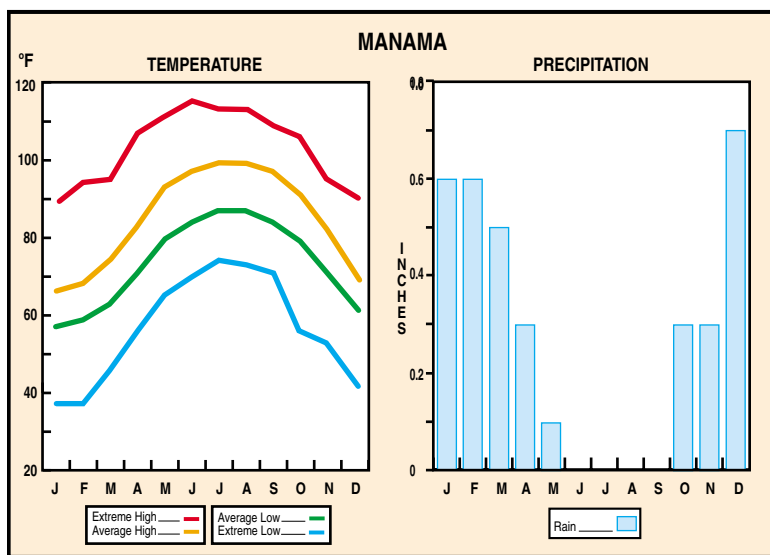
Arabian Gulf

country's oil wells are there. Important islands include Jiddah, Nabi Salah, and the Hawar Islands.

There are no permanent streams or rivers on any of the islands. Flooded wadis are common after winter rains. There are freshwater springs in the north of Bahrain and on several islands. Underground freshwater aquifers extend from Bahrain to Saudi Arabia. Despite salination, freshwater springs provide an important source of drinking water. Desalination plants provide 60 percent of Bahrain's daily water consumption.

Climate

Bahrain has two seasons: a mild winter and an extremely hot summer. The climate is temperate between November and April, with temperatures ranging from 14°C to 27°C (57°F to 80°F). December is the



Manama Weather

wettest month; the annual average rainfall is 83 millimeters (3 inches). The *shamal*, a winter wind, blows damp air from the northeast. The summer is very hot and humid with temperatures rising to 40° C (104° F) in August and September, although the heat can be moderated by the northwesterly Al Barah wind. In the summer, a hot, dry wind known as the *qaws*, blows sand clouds toward Manama from the south.

Environment

Bahrain is experiencing desertification from the degradation of arable land, periods of drought, and dust storms. There is damage to coastlines, coral reefs, and sea vegetation resulting from oil spills and discharges from large tankers, oil refineries, and distribution stations.

TRANSPORTATION AND COMMUNICATION

Transportation

Roads

Causeways run between Bahrain, Al Muharraq, and Sitrah. The oldest causeway, built in 1929, links Bahrain to Al Muharraq (the large island northeast of Manama). In 1986, the Saudi government funded a project for a 25-kilometer (15-mile) causeway, which runs across Immigration Island and links Bahrain to Saudi Arabia. The roads are in good condition, with public transport serving most towns and villages.

Highways and major roads in the northern third of Bahrain are well maintained and four to six lanes wide. Roads in villages and older parts of Manama and Al Muharraq are narrow and twisting. Traffic moves on the right. Traffic circles follow the British system — automobiles within the traffic circle have right of way over those attempting to enter.



Transportation



Immigration Island Between Saudi Arabia and Bahrain

Rail

There is no rail in Bahrain.

Air

Bahrain has four airfields, including one international airport.

Gulf Air is jointly owned by Bahrain, Oman, Qatar, and Abu Dhabi. It flies to London, Frankfurt, Amsterdam, Rome, and Paris. Gulf Air also flies to major cities on the peninsula, and three times a week to Australia. Its fleet includes many large, modern aircraft, including 16 Boeing 767-300s, 10 Boeing 737-200s, 8 Tristar 200s, and 6 Airbus A320s. Other regional airlines also fly into Bahrain and have connections to Europe and North America.

Major Airports

Airport	Geo Coordinates	Runway Length/Width; m/(ft)	Surface	Elevation m (ft)
BAHRAIN INTL	N261615/ E0503801	3,962.7/60 (13,001/197)	Concrete/ Asphalt	1.8 (6)
AWALI	N260218/ E0503121	2,149.4/24.3 (7,052/80)	Asphalt	25.90 (84.95)
AR RIFA AL GHARBI HELIPORT	N260630/ E0503439	569.9/43.5 (1,870/143)	Asphalt	Unknown
SHAIKH ISA	N255506/ E0503526	3,799.9/44.8 (12,467/147)	Asphalt	41.45 (136)

Maritime

There is no passenger ferry service between Bahrain and other countries. However, many motorboats and dhows provide transport between the islands.

Mina Sulman Port. The Mina Sulman container terminal is in an area of 12 hectares (29.6 acres) and has a quay 600 meters- (1,968 feet-) long. The port has an 11 meter- (36 foot-) deep approach channel and 16 berths. There are four static quay cranes, two of 30-ton capacity, with one 30-ton mobile crane, twelve 35-ton straddle carriers, three 35-ton forklifts, 85 tractors, and 120 trailers.

Sitrah. The Bahrain Petroleum Company's (BAPCO) loading terminal is 4.8 kilometers (2.97 miles) from Sitrah Island at the end of the Sitrah Pipeline Causeway. The terminal consists of six main berths and one coastal berth and is used by various companies engaged in producing petrochemical and gas products.

Communication

Radio and Television

Radio Bahrain broadcasts in English 24 hours on 96.5 and 101 FM. Bahrain Broadcasting Service transmits in Arabic on 612 and 801 kHz from 0600 to 2400 daily.

Bahrain has four television channels, of which two broadcast in English and two in Arabic. Channel 55 provides English programs and news from 1700 to 2300 and live CNN coverage from 2300 to 0200 daily. Channel 57 provides the BBC World Service TV broadcast 24 hours. Broadcasts from other Gulf Cooperation Council (GCC) states can also be received, atmospheric conditions permitting.

Telecommunications

Bahrain has an efficient, government-owned telecommunications system, operated by Bahrain Telecommunications Company (BATELCO). The country code for Bahrain is 973. There are no area or city codes. Direct-dial calls to any international location are available. International calls from Bahrain cost BD0.510 (US\$1.25) per minute to most Western countries. Local calls within Bahrain cost 100 fils (US\$.20) for 6 minutes. Pay telephones take coins, though phone-cards are becoming common. There is a minimum charge of 100 fils. Local calls are charged in 50 fil increments.

The main telecommunications center is on Government Avenue, directly across from the Delmon Hotel, and is open daily from 0630 to 2330. Services include local and international telephone calls, telex, fax, and telegraph. International calls may be direct-dialed on either coin or phonecards or booked through an operator.

A smaller telecommunications center on the ground floor of the Yateem Center shopping center on Al Khalifa Avenue is open Saturday through Thursday from 0700 to 2330 and on Fridays from 0700 to 2230.

Fax services are available at most midrange hotels, and at the BATELCO building in Manama.

Cell phones are becoming popular in Bahrain.

Newspapers and Magazines

Bahrain has three daily newspapers. There are two Arabic papers, *Akhabar al Khaleej* and *Al Ayam*, and the English-language *Gulf Daily News*. Many Arabic and English business magazines are published locally. Larger hotels stock international publications to include the *International Herald Tribune*, *Time*, *Newsweek*, and *The Economist*. Foreign publications are usually available 1 to 2 days after publication.

Postal Service

Mail to and from Europe and North America takes 1 week to arrive; from Australia, it takes 10 days. The main post office is in Manama, and smaller post offices are at the international airport and in major residential areas.

Internet

Internet use in the GCC region is more than 15 times higher than in the Arab world as a whole. Bahrain had 37,500 online subscribers in early 2000, representing 6 percent of the population. The only internet service provider is BATELCO. There is an internet center in Manama.

Satellite

Bahrain has access to one Atlantic and one Indian Ocean INTELSAT and one ARABSAT.

CULTURE

Society

Arabs are more culturally homogeneous than Westerners. Arabs share beliefs and values that cross national and social boundaries. Social atti-

tudes are relatively constant because Arab society is conservative and demands conformity from its members. Even non-Muslim Arabs are greatly influenced by Islam.

People

Ethnic groups include Bahraini (63 percent), Asian (19 percent), other Arab (10 percent), and Iranian (8 percent). Most of the population of Bahrain is concentrated in the two principal cities, Manama and Al Muharraq. The indigenous people (66 percent) are from the Arabian Peninsula and Iran. Europeans and south and east Asians are significant minorities.

Bahrain's total population is 57 percent male and 43 percent female. The foreign population is 69 percent male and 31 percent female, and the Bahraini population is 51 percent male and 49 percent female.



Downtown Manama



Population Density

Education and Literacy Rates

The literacy rate is 85.2 percent (male 89.1 percent, female 69 percent). School is tuition-free, and primary and secondary attendance rates are high. Bahrain encourages institutions of higher learning, drawing on expatriate talent and Bahrainis returning from abroad with advanced degrees. Bahrain University has been established for standard undergraduate and graduate study. The College of Health Sciences, operating under the direction of the Ministry of Health, trains physicians, nurses, pharmacists, and paramedics. Seventy-three percent of children attends school.

Religion

Islam is the dominant religion. Although two-thirds of the population is Shi'a, Sunni Islam prevails among those in the government, military, and corporate sectors. Bahrain has Roman Catholic and Protestant churches and a small Jewish community.

Islam

Islam is a system of beliefs and provides the foundation for an entire way of life. The word Islam literally means submission, and a Muslim is one who submits; thus, the religion of Islam is the religion of the submission to the will of God. Muslims believe that God (Allah in Arabic) revealed the Qur'an to the Prophet Mohammed during the seventh century A.D. The Qur'an contains the rules governing society and the proper conduct of its members. In 613 A.D., when Mohammed was approximately 43 years old, he began to preach this message to citizens of Mecca. He denounced the prevalent practice of polytheism and proclaimed that there was only one God and that God was Allah.

Mohammed's message was not well received by the people of Mecca, who were enjoying great prosperity due to the pilgrimage trade associated with Mecca's pagan holy sites. In 622 A.D., Mohammed and his followers fled from Mecca to Medina. The move, or *Hajra*, marks the

beginning of the Islamic era and Islam as a force in history; the Islamic calendar begins in 622 A.D. While in Medina, Mohammed continued to preach and win converts. He eventually conquered Mecca in 630 A.D. and returned to perform the pilgrimage in 632 A.D., shortly before his death.

After Mohammed's death, his closest followers compiled those sayings that Mohammed has indicated as being directly from God into the Qur'an, the Holy Scripture of Islam. Mohammed's personal teachings and sayings were also compiled and are known today as the *hadith*. The compilations of Mohammed's actions are known as the *sunna*, or tradition. Together with the Qur'an, the *hadith* and *sunna* serve as the comprehensive guide to the spiritual, ethical, and social life of orthodox Muslims.

The five pillars (or practices) prescribed by the *Shari'a* are the *shahada* (declaration of faith), *salat* (ritual prayer and ablutions five times a day), *zakat* (almsgiving), *sawm* (fasting during daylight hours during the month of Ramadan), and *haj* (the pilgrimage to Mecca once in a lifetime). These are the acts, which are set forth as necessary to demonstrate and reinforce the faith.

Shahada. By reciting the *shahada*, one professes himself to be a Muslim. In Arabic the *shahada* is: *Ana ashadu ina la illaha illa allah wa ana ashadu ina mohammedan rasul allah.*

Salat. Muslims pray five times daily: at dawn (*fajr*), midday (*dhuhr*), afternoon (*asr*), sunset (*maghrib*), and 1.5 hours after sunset (*'isha*). Muslims may pray inside a mosque or outside. The only stipulation is that they pray toward the *kaaba*, the ancient shrine in the center of Mecca. Prior to praying, Muslims must perform ritual cleansing, usually at a fountain in the courtyard of a mosque. It is not uncommon to see Muslims praying along the sidewalks in busy cities. Proper courtesies apply; one should never walk in front of a Muslim engaged in prayer. As



The Holy Mosque in Mecca

a general rule, non-Muslims should not enter mosques unless invited to do so by a Muslim host.

Zakat. Muslims must give a portion of their incomes to those poorer than themselves. The collection of *zakat* has varied over the centuries. At times it has been considered an individual duty; at other times the state has collected the *zakat* as a form of income tax to be redistributed through mosques. Regardless, beggars asking for alms may on occasion confront visitors in the market. The local populace looks on these people with great kindness and generosity. One is not compelled to give but should always treat these beggars with respect. To do otherwise will have negative repercussions.

Sawm. The month of Ramadan is considered the holiest Islamic month. It marks the annual tradition of *sawm*, or fast. During Ramadan, Muslims do not eat, drink, smoke, or have sexual relations between sunrise and sunset. During Ramadan, most restaurants are closed during the day. Non-Muslims should avoid eating, drinking, or smoking in front of Muslims who are fasting. At best, this type of behavior is inconsiderate; at worst, it is illegal and may lead to a confrontation with police.

Haj. All Muslims who are able try to make the pilgrimage to Mecca at least once during their lifetime. Accomplishment of this task confers upon the Muslim a title of great honor, *Al Haj*. The *haj* must be performed during a specific few days during the month of *Dhu al Hijja*. When addressing an older Muslim of unknown social rank or status, one may be certain that the liberal use of the title *haj* or *haji* will endear the speaker to the audience.

Shari'a or Islamic Law

The *Shari'a* (or Islamic Law) is compiled from the following sources: The Qur'an, or revelations of Allah to the prophet Mohammed; the *hadith*, or sayings of Mohammed; *sunna*, or traditions; consensus among the *Ulema* (Islamic scholars); and *ijtihad*, or analogy. The *Shari'a* contains Islamic doctrines of monotheism, angels, prophets, revelations (books), predestination, and final judgment.

Sunni vs. Shi'a Islam

After the death of Mohammed, the senior leaders of the Muslim community selected Abu Bakr, the Prophet's father-in-law, as the *caliph*, or leader of the Muslim community. Ali ibn Talib, Mohammed's son-in-law, was championed by some, but was deemed too young for the position. The next two caliphs, Umar and Uthman, were selected in a similar manner.

The appointment of Uthman was opposed by the supporters of Ali. Uthman was eventually murdered and Ali came to power. One of Uthman's kinsmen, Muawiyah, the governor of Syria, rebelled against Ali. After Ali's murder, Muawiyah claimed the caliphate from his capital in Damascus. The supporters of Ali (*Shi'at Ali*) refused to recognize Muawiyah's rule or the rule of his descendants. Instead, the Shi'a insisted that the proper line of succession of the caliphate was the descendant of Mohammed through his son-in-law, Ali.

Ali is considered to be the first Shi'a Imam, or spiritual leader. Ali's descendants continued the line of the Imams until the twelfth Imam,



The Prophet's Mosque in Medina, Burial Place of the Prophet

who disappeared in 880 A.D. The Shi'a have awaited his return ever since, and until he does, the Shi'a sect is ruled by an appointed Ayatollah. Despite an Ayatollah's position, he is still looked at as only half legitimate by the Shi'a population.

Most of the world's Muslims belong to the Sunni sect of Islam. Among the Arabian Gulf states, Shi'as are a majority only in Bahrain. Kuwait and the UAE also have sizable Shi'a minorities.

Customs and Courtesies

Greetings

Failure to shake hands when meeting someone or saying goodbye is considered rude. When a Western man is introduced to an Arab woman it is the woman's choice whether to shake hands or not; she should be allowed to make the first move. To kiss the forehead, nose, or the right hand of a person who is being greeted shows extreme respect.

Gestures

Arabs make liberal use of gestures when they talk, especially if they are enthusiastic about the subject. Hand and facial gestures are thus an important part of Arab communication. It is not recommended that a visitor use these gestures, but learn to recognize them.

- Several gestures indicate “No,” to include moving the head slightly back and raising the eyebrows, moving the head back and chin forward, and moving the chin back slightly and making a clicking sound with the tongue.
- After shaking hands, placing the right hand over the heart indicates respect and sincerity.
- Holding the right hand out, palm downward, and moving it as if scooping something away indicates, “Go away.”
- “That’s enough, thank you,” may be indicated by patting the heart a few times.
- To beckon another person, fingers wave with the palm facing down.
- Holding the right hand out, palm upward, and touching the thumb to all of the fingertips and then moving the hand up and down slightly indicates, “Have patience, slow down, listen.”

Basic Arab Religious Attitudes

- Everyone believes in God, acknowledges His power, and has a religious affiliation.
- Humans cannot control all; some things depend on God.
- Piety is one of the most admirable characteristics in a person.
- Religious tenets should not be subjected to liberal interpretations or modifications, which can threaten established beliefs and practices.

Basic Arab Self-Perceptions

- Arabs are generous, humanitarian, polite, and loyal. Several studies have demonstrated that Arabs see these traits as characteristic of themselves and as distinguishing them from other groups.

- Arabs have a rich cultural heritage. This is illustrated by their contributions to religion, philosophy, literature, medicine, architecture, art, mathematics, and the natural sciences.
- Although there are many differences among the Arab countries, the Arabs are a clearly defined cultural group, members of the Arab Nation (Al Umma Al Arabbiya).
- Arabs see themselves as victimized and exploited by the West. For them, the experience of the Palestinian people represents the most painful and obvious example.
- Indiscriminate imitation of Western culture will corrupt Arab society by weakening traditional family ties and social and religious values.

Rules of Etiquette

- Slouching, draping legs over the arm of a chair, or otherwise sitting carelessly when talking with someone communicates a lack of respect for that person. Legs are never crossed on top of a desk or table.
- Leaning against a wall or keeping the hands in pockets while talking is taken as a lack of respect.
- Sitting in a way that allows the soles of one's to face another person is a serious insult. One should always sit with feet on the floor.
- One who lights a cigarette in a group must be prepared to offer one to everyone.
- Men stand when a woman enters the room; everyone stands when new guests arrive at a social gathering and when an elderly or high-ranking person arrives or departs.
- Men allow women to precede them through doorways and offer their seats to them if no others are available.
- If guests admire something small and portable, an Arab may insist that it be taken as a gift. Guests need to be careful about expressing admiration for small, expensive possessions.
- Gifts are given and accepted with both hands and are not opened in the presence of the donor.

- When eating with Arabs, especially when taking food from communal dishes, the left hand is not used because it is considered unclean.
- At a restaurant, Arabs will almost always insist on paying, especially if there are not many people in the party or if it is a business-related occasion. Giving in graciously after a ritual gesture to pay and then returning the favor later is an appropriate response.
- Arabs, especially women, should not be photographed without permission.
- Most Arabs do not like to touch or be in the presence of household animals, especially dogs. Pets should be kept out of sight when Arab guests are present.
- It is impossible, of course, to learn all the rules of a culture. The safest course of action is to imitate.

Dress

In rural areas, men and women wear traditional clothing. This consists of a long light robe for men called a *thobe*. During the summer months, the *thobe* is white. As temperatures get cooler, men wear various colored *thobes*. A light cloth headdress, called a *gutra*, is worn and held in place by a thick cloth ring called an *ocal*. The *gutra* is mainly white but there are also red and white checkered patterned *gutras*. Royalty and the wealthy often add gold trim to their *gutras* and wear an outer robe called a *besht*. Year-round, women wear the traditional full-length black robe called an *abaya*. Beneath the *abaya*, women wear colorful dresses, which are not seen in public. Women also wear a variety of headcoverings, the *hijab* is a scarf used to cover the hair, the *chador* is a large cloth that is worn as a headcovering, veil, and shawl.

In urban areas, traditional clothing is combined with Western dress. Men may wear the *thobe* with a sport coat over it.

Eating

Breakfast is often a traditional meal called *kobouz*, scrambled eggs mixed with thin noodles, lightly covered with sugar and cooked beans. Due to Western influence, cereal is becoming a popular breakfast.

Beryani (rice with meat) and *machbous* (rice, meat, tomatoes, and lentils) are common spicy lunches. Other lunch dishes include *saloneh*, (mixed vegetables) and *harees*, a cooked mixture of wheat and meat topped with butter. For dessert, a starch pudding with crushed cardamom seeds, saffron, sugar, and fat called *halwa* is served followed by a cup of unsweetened coffee (*qahwa*).

Evening meals are boiled beans called *bajella*, *kobouz*, and cheeses, served with sweet tea and milk. Fresh dates, called *rotab*, are served with all meals during the summer, while half-dried dates, called *tamr*, are eaten the rest of the year.

Due to Bahrain's proximity to the Arabian Gulf, fish and other seafood are regularly part of the diet.

Friendship

To an American, a friend is someone whose company is enjoyed, who will do favors, and who will help in time of need without expectation of recompense. To an Arab, a friend is also someone whose company is enjoyed, however, it is considered the duty of a friend to give help and favors to the best of his ability.

Different expectations can lead to misunderstandings. The Westerner may think that he has been set up to do favors and the Arab may conclude that no Westerner can be a true friend.

To an Arab, good manners require that one never openly refuse a request from a friend. This does not mean that the favor must actually be done, but rather that the response must not be stated as a direct no. If an Arab friend asks for a favor, do it if possible to keep the friendship in good standing. If it is unreasonable, illegal, or too difficult, the correct form is to listen carefully and suggest doubt about the outcome but intent to help. Later, regrets can be expressed along with an offer to do something else in the future.

The concept of what constitutes a personal question varies among cultures. Arabs like to discuss money and may ask what was paid for cer-

tain items, or what one's salary is. Arabs may openly ask why someone is unmarried or why married couples have no children. Arabs consider it unusual for an adult to be unmarried, since marriage is arranged for most people by their families and is expected of everyone. Arabs place special significance on children, especially male children, since they enhance prestige and assure care of the parents in old age.

Questions that Arabs consider too personal are those pertaining to women in the family (if asked by a man). It is best to ask about the family, not a person's wife, sister, or grown daughter.

Professional Relationships

Arabs value personal relations more than time constraints, mission requirements, and professional skills. One of the keys to establishing good working relations with an Arab is to establish a good personal relationship. Relationships are maintained through fairly strict and formalized rules of behavior and politeness. Arabs have a strong sense of the formal social occasion and protocol. An initial business meeting may be used to demonstrate the ideal conceptions of Islamic and Arab civilization. It is not necessarily a time for objective analysis, pragmatic application, and problem solving. There is little virtue in a frank exchange. Protocol is usually emphasized through polite conversation and the serving of refreshments. Actual business may occur at a later meeting, or at a more informal setting such as a dinner.

Criticism, even constructive criticism, can threaten or damage an Arab's honor; it may be taken as a personal insult. A Westerner would do well to take a very indirect approach toward Arabs with any corrective remarks and include praise of any good points, as well as assurances of high regard for the individual himself.

Muslims enjoy discussing religion with Westerners because of their curiosity about Western religious beliefs and they want to share information about Islam with friends. They are secure in their belief about the completeness of Islam, since it is accepted as the final refinement of

the two religions, Judaism and Christianity. They like to teach Islam, and eventually will ask, "Why don't you consider conversion?" A Westerner may feel uncomfortable and wonder how to give a gracious refusal. The simplest, most acceptable response is to state appreciation for the information and respect for Islam as a religion, but that conversion cannot be considered because of family loyalty.

Arabs like to talk politics with Westerners and readily bring up controversial issues like the Palestinian problem and the legacy of colonialism and imperialism. Yet they are not usually prepared for frank statements of disagreement with their positions on these issues. The safest response, if one cannot fully agree, is to confine the conversation to platitudes and wait for the subject to change, expressing concern for the victims of war and hopes for a lasting peace.

Americans prefer a distance of about an arm's length between themselves and others. Arabs prefer much less space, 12 inches or less, in a private conversation. Americans tend to back away when they feel crowded by others; Arabs step forward to maintain what they feel is a comfortable amount of space. If an American continues to back away from an Arab he feels is too close, the Arab will continue to step closer and may wonder if he offended the American.

Arabs are generous to friends and strangers, and value the same traits in others. Generosity to guests is essential for a good reputation. It is an insult to characterize someone as stingy or inhospitable.

Arabs assume the role of host in their office, home, or shop. A guest never stays long without being offered something to drink. It is presumed that the guest will accept at least a small amount as an expression of friendship or esteem. Businesses have employees whose sole duty is to serve beverages to guests. Beverages should be accepted and held with the right hand.

Family

Arab families are often large and play an important role in the life of the individual. They are the basic unit of society and are close knit. The

father is the head of the family. Although the mother's activities may be limited to housework and child care, she may exercise considerable influence in the home. Few women work outside the home, but the number is increasing. All activities revolve around family members and family life and any achievement advances the reputation of the entire family. One's family is a source of reputation and honor, as well as financial and psychological support.

Maintaining family honor is one of the highest values in Arab society. Since misbehavior by women can do more damage to family honor than misbehavior by men, clearly defined patterns of behavior have been developed to protect women and help them avoid situations that may give rise to false impressions or unfounded gossip. Westerners must be aware of the restrictions on contact between men and women, and consider their own appearance in front of others. Arabs quickly gain a negative impression if too much familiarity is shown toward a person of the opposite sex. A Western male should never approach an Arab woman to make her acquaintance or pursue a personal relationship.

The public display of intimacy between men and women is strictly forbidden by the Arab social code, including holding hands or linking arms, or any gesture of affection such as kissing or prolonged touching. Such actions, even between husband and wife, are highly embarrassing to Arab observers.

MEDICAL ASSESSMENT

Disease Risks to Deployed Personnel

Food- or waterborne diseases

Acute and chronic diarrheal diseases caused by bacteria, protozoa, and viruses are the greatest risk to deployed forces. Risk from hepatitis A, which most residents contract as children, is high. Risk of typhoid and paratyphoid fevers is low to intermediate. Hepatitis E is a risk.

Insect-, Tick-, and Miteborne Diseases

Sandfly fever and leishmaniasis, transmitted by sand flies, pose the greatest risk, primarily from April through November. Other insect- and tickborne diseases likely to be a risk include West Nile fever, Sindbis virus disease, and Crimean-Congo hemorrhagic fever. Dengue fever occurs in the region and there are mosquito vectors.

Respiratory Diseases

Acute respiratory infections are a risk, particularly in crowded living conditions. Risk of acute respiratory infections such as colds, pharyngitis, bronchitis, pneumonia, and influenza increases from November through March. Meningococcal meningitis cases occur sporadically, and risk is greatest from November through March. Tuberculosis levels are low, with highest levels in lower socioeconomic groups; and drug resistance likely occurs.

Sexually Transmitted and/or Bloodborne Diseases

Sexually transmitted diseases (STDs), including gonorrhea, syphilis, and cervicitis/urethritis, are a risk. HIV/AIDS is under-reported. Hepatitis B/D and C, caused by exposure to infective body fluids are also risks.

Animal-associated Diseases

Brucellosis occurs in livestock and is commonly spread to humans by consumption of unpasteurized milk products. Leptospirosis, spread primarily by rat urine, anthrax, and rabies are also risks. Bahrain is considered free of rabies and anthrax.

Other Diseases Present

Schistosomiasis, contracted by swimming or wading in infected bodies of water.

Medical Capabilities

The quality of health care in Bahrain is fair to good but still below Western standards. Hospitals are modestly equipped but understaffed. Physi-

cians are fairly well trained. Severe shortages of medical personnel and a dependence on contract medical workers, especially for nursing support, are major problems for the health care system.

Medical treatment facilities are located mainly in Manama, the capital, with limited services available in rural areas. Hospitals are clean and well maintained. The two best civilian hospitals, both of which are used by the U.S. Embassy, are the Salmaniyah Medical Center and the International Hospital of Bahrain.

Bahrain produces some disposable syringes and medical gases. The highest quality medical materiel, especially medical equipment, is imported. Contractors perform most medical equipment maintenance, and medical equipment generally is not well maintained.

The blood supply is not safe because testing for bloodborne pathogens is unreliable and incomplete.

While Arabic is the official language, English is widely spoken, especially among Western-trained medical personnel.

Key Medical Facility

Facility	Salmaniyah Medical Center
<i>Location</i>	Salmaniyah Road, Manama
<i>Type</i>	Government
<i>Bed capacity</i>	760 beds (500-bed extension under construction in 1997)
<i>Capabilities</i>	General medicine, general surgery, neurosurgery, ear/nose/throat (ENT), orthopedic surgery, ophthalmology, dental, obstetrics/gynecology, pediatrics, and psychiatry; ancillary services — 6 operating rooms, 8-bed intensive care unit, 17-bed burn unit, emergency room, 2 operating rooms with resuscitation equipment, laboratory (parasitology, hematology, serology, and microbiology capabilities).

<i>Specialized Equipment</i>	Computerized tomography (CT) scanner, cardiac catheterization, physiotherapy, kidney dialysis, ultrasound, endoscope, radiology, and laboratory equipment.
<i>Comments</i>	Large, marginally equipped emergency room can handle 160 patients in 3 hours. Teaching hospital.

HISTORY

The Al Khalifa family has ruled Bahrain since the 18th century, when Ahmed bin Mohammed Al Khalifa drove out the Persian garrison. As a result of Omani incursions following his death, the Al Khalifa family signed a protection treaty with the British East India Company in 1820.

Sheikh Isa bin Ali Al Khalifa became the undisputed ruler in 1869, reigning for 54 years. In 1902, a British political agent was posted to Bahrain. Eleven years later, a convention was signed by the British and Ottoman governments recognizing Bahrain's independence and its control of all 33 islands in the archipelago. Under this arrangement, the Sheikh and the British political agent shared governing authority.

British protection did not prevent a series of territorial disputes with Persia (Iran), including a renewal of the latter's claim to Bahrain in 1928. The disagreement was not resolved until 1970, when Iran accepted the recommendations of a UN report, which showed that the overwhelming majority of Bahraini citizens preferred independence to union with Iran.

In 1968, Britain announced its withdrawal of all military forces by 1971. Bahrain joined Qatar and the Trucial States (United Arab Emirates), also under British protection, in a Federation of Arab Emirates. However, the federation was short-lived as Bahrain and Qatar, without common interests with the smaller sheikhdoms, left the federation in 1971 to become independent states. Bahrain declared its independence on

14 August 1971. The following day, Bahrain signed a new treaty of friendship with Britain.

Administrative and political reforms were initiated in 1970 with the establishment of the 12-member Council of State. This body became Bahrain's executive authority. Sheikh Khalifa bin Sulman Al Khalifa, the Emir's eldest brother, was appointed council president.

Upon independence in 1971, the Council of State became a cabinet with Sheikh Khalifa as prime minister while Sheikh Isa took title of emir. The following year, a new constitution was written that provided for a national assembly. However, less than 2 years later, the prime minister resigned complaining of assembly obstruction. The emir dissolved the assembly, established the Council of Ministers in its place, and reappointed Sheikh Khalifa as prime minister while promising new elections.

The 1979 Islamic revolution in Iran created internal instability in Bahrain. The majority Shi'a population openly welcomed the rule of Ayatollah Khomeini in Tehran as an example of correct Islamic government. Bahraini security and intelligence forces thwarted a major coup attempt in 1981.



Independence Day 14 August 1971

U.S. commitment to Bahrain increased during the Iran-Iraq war, with the United States selling Bahrain 12 F-16 fighters. Bahrain reciprocated by allowing U.S. ships and facilities in Bahrain. The United States continues to supply Bahrain with cost-free surplus arms and munitions. In 1997, the Bahrain Navy acquired one PERRY Class guided-missile frigate from the United States.

Emir Sheikh Isa died in 1999, and his son, Sheikh Hamad, became emir. In 2001, Emir Sheikh Hamad created a more democratic form of government. For the first time in Bahraini history, women participated in the electoral process, voting in the referendum, which helped pass a national charter by 98 percent. Emir Sheikh Hamad announced that elections were to be held both at the municipal and national levels of government in 2002.



Emir Sheikh Hamad

In compliance with the 2001 referendum, the Bahraini government made the transition from a traditional emirate to a constitutional monarchy on 14 February 2002. In doing so, the State of Bahrain officially became the Kingdom of Bahrain and Emir Sheikh Hamad changed his title to king.

Chronology of Key Events

- 1820 Bahrain establishes protection treaty with British East India Co.
- 1913 Bahrain gains independence from the Ottoman Empire.
- 1928 Persia reasserts claim; Bahrain remains British protectorate.
- 1971 Bahrain gains independence from Britain.
- 1973 Bahrain adopts constitution.
- 1979 Islamic revolution in Iran.

- 1981 Attempted coup in Bahrain (possible Iranian support).
1999 Sheikh Hamad bin Isa Al Khalifa becomes emir.
2001 International Court of Justice rules on Hawar Island dispute.
2002 Bahrain holds national and local election; men and women vote in the elections.

GOVERNMENT AND POLITICS

Government

Bahrain was a traditional emirate until 14 February 2002. Bahrain became a constitutional monarchy when King Sheikh Hamad bin Isa Al Khalifa reinstated the 1973 constitution as the supreme authority of Bahrain.

Key Government Officials

Chief of State	King Sheikh Hamad bin Isa Al Khalifa
Commander in Chief	Crown Prince Sheikh Salman bin Hamad Al Khalifa
Prime Minister	Sheikh Khalifa bin Salman Al Khalifa
Foreign Affairs Minister	Mohammed bin Mubarak Al Khalifa
Minister of the Interior	Sheikh Mohammed bin Khalifa Al Khalifa
Minister of Defense	LtGen Sheikh Khalifa bin Ahmed Al Khalifa

National Level

The constitution guarantees freedom of speech, religion, the press, and equality of all citizens before the law. It allows the formation of trade unions provided they confine activities to legally justified causes. Despite this, there are no labor unions.

Executive and Legislative Branches. The new legislative body, known as the National Assembly, has two chambers: an appointed *shura* (advisory) council and an elected chamber of deputies. Both chambers have

40 members and similar legislative powers. A member of either chamber may propose a new law, and 15 members are needed to propose a constitutional amendment. Bills must be passed by a majority vote in both chambers before being given to the king for ratification. If the king rejects a bill and the National Assembly reapproves the bill by a two-thirds majority vote, the king must ratify the bill within 1 month.

The king may issue a decree that will have the force of law, but the National Assembly must approve it. The king also has the right to call for a national referendum on any issue or law.

Judicial Branch. The legal system is based on Islamic and English common law.

A constitutional court will be established after the October 2002 national elections. This court will have the authority to review and examine the legality of bills and regulations presented by the national assembly. The constitutional court will consist of a president and six members appointed by the king and will have complete autonomy from both the executive and legislative branches of government.

Local Level

Bahrain is divided into 12 municipalities. They are all administered from Manama.

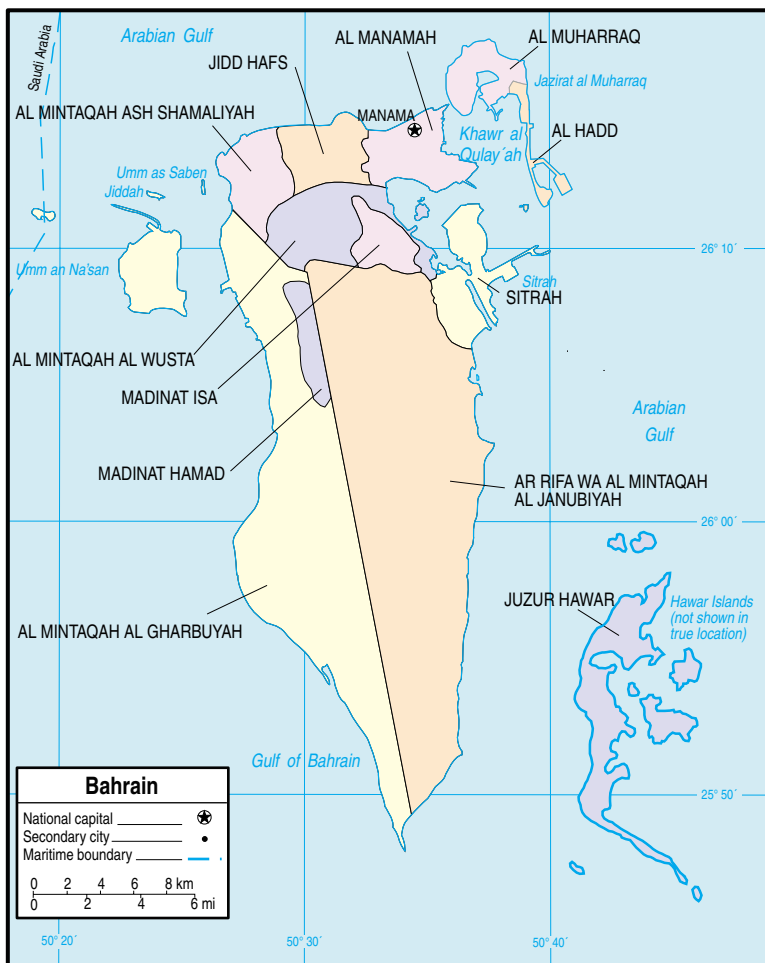
Politics

Elections

National Assembly members serve 4-year terms and they may be re-elected. The term of the National Assembly may not be extended except for necessity in time of war and by a law passed by two-third majority of the members constituting the assembly. Elections for the new assembly take place within 2 months preceding the expiration of the term.

A key amendment to the constitution that was included in the national charter was the suffrage of women. For the first time in Bahrain,

women are permitted to vote and hold office at both the municipal and national levels.



Bahrain Municipalities



Women Voting

Suffrage

Bahrain has universal suffrage for those 21 years of age and older.

Parties and Pressure Groups

Although political parties are banned, there are four known opposition groups operating in Bahrain: the Popular Front for the Liberation of Bahrain, a clandestine coalition of leftist students; the National Front for the Liberation of Bahrain; the Islamic Front for the Liberation of Bahrain, a militant Shi'a group; and the Bahraini Islamic Call Party.

Foreign Relations

Bahrain has a modest, mediating role in regional politics and adheres to the views of the Arab League on Middle East peace and Palestinian rights. Since independence, Bahrain has maintained friendly relations with most of its neighbors and with the world community. It generally

pursues a policy of close consultation with neighboring states and works to narrow areas of disagreement.

Gulf Cooperation Council States. Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates make up the Gulf Cooperation Council (GCC), established 26 May 1981. Relations within GCC states are excellent. In 2000, Qatar and Bahrain came to the International Court of Justice (ICJ) with a dispute over the Hawar islands. The ICJ ruled in favor of Bahrain with respect to the Hawar islands, and granted Qatar control of Zubarah Island. This action began a period of continued cooperation between the two countries.

Iraq. During the Gulf War, Bahrain allowed the deployment of U.S. and British forces. While Bahrain supports United Nations sanctions against Iraq, the government is also pursuing a policy of reconciliation with Iraq. Diplomatic relations have been improving and includes Bahrain assigning an ambassador to Iraq since April 2002.

Iran. Bahraini-Iranian relations have been strained since the Iranian Revolution and the 1981 discovery of a planned Iran-sponsored coup in Bahrain. However, with Saudi Arabia's assistance, Iran and Bahrain re-established relations at the ambassadorial level in 1999. With Iraq's decline as a regional power, Bahrain is taking steps to improve relations with Iran and increase regional harmony. These efforts have included encouraging Bahraini-Iranian trade.

United States. Bahrain's economic ties with the United States have grown steadily since 1932, when Americans began to help develop Bahrain's oil industry. Many U.S. banks and firms use Bahrain as a base for regional operations. In 1986, the United States displaced Japan to become the top exporter to Bahrain.

The U.S. Embassy at Manama opened 21 September 1971, and a resident ambassador was sent in 1974. The Bahraini Embassy in Washington, D.C., opened in 1977. In 1991, Emir Isa bin Sulman Al Khalifa visited Washington and other parts of the United States. In 2001, Emir Hamad bin Isa Al Khalifa made his first visit to the United States.

Since 1948 Bahrain has been the headquarters of U.S. naval activity in the Arabian Gulf. The U.S. Naval Support Activity is the headquarters of the U.S. Navy's Fifth Fleet. Manama is also home port for four U.S. Navy minesweepers. Bahrain provides extensive basing and overflight clearances for U.S. aircraft supporting Operation ENDURING FREEDOM. In addition, after the terrorist attacks on the United States 11 September 2001, the Bahrain Monetary Agency moved quickly to restrict terrorists' ability to transfer funds through Bahrain's financial system. Bahrain has cooperated effectively on criminal investigation issues in support of the campaign on terrorism. In October 2001, President Bush announced his intention to designate Bahrain as a major non-NATO ally.

ECONOMY

Bahrain has a mixed economy, with government control of many basic industries, including oil and aluminum industries. Between 1981 and 1993, Bahrain government expenditures increased 64 percent. During that same time, government revenues continued to depend on the oil industry and increased by 4 percent.

The country has run a deficit in 9 out of the last 10 years. Bahrain has received significant budgetary support and project grants from Saudi Arabia, Kuwait, and the United Arab Emirates.

Bahrain's small economy is strong, despite budget deficits. Utilities, banks, financial services, telecommunications, and other areas will come under the control of the private sector.

The government has used oil revenues to build an advanced infrastructure in transportation and telecommunications. Bahrain is a regional financial and business center. Tourism is a significant source of income. Bahrain benefited from the region's economic boom in the late 1970s and 1980s. During that time, the government emphasized improvements



Economy

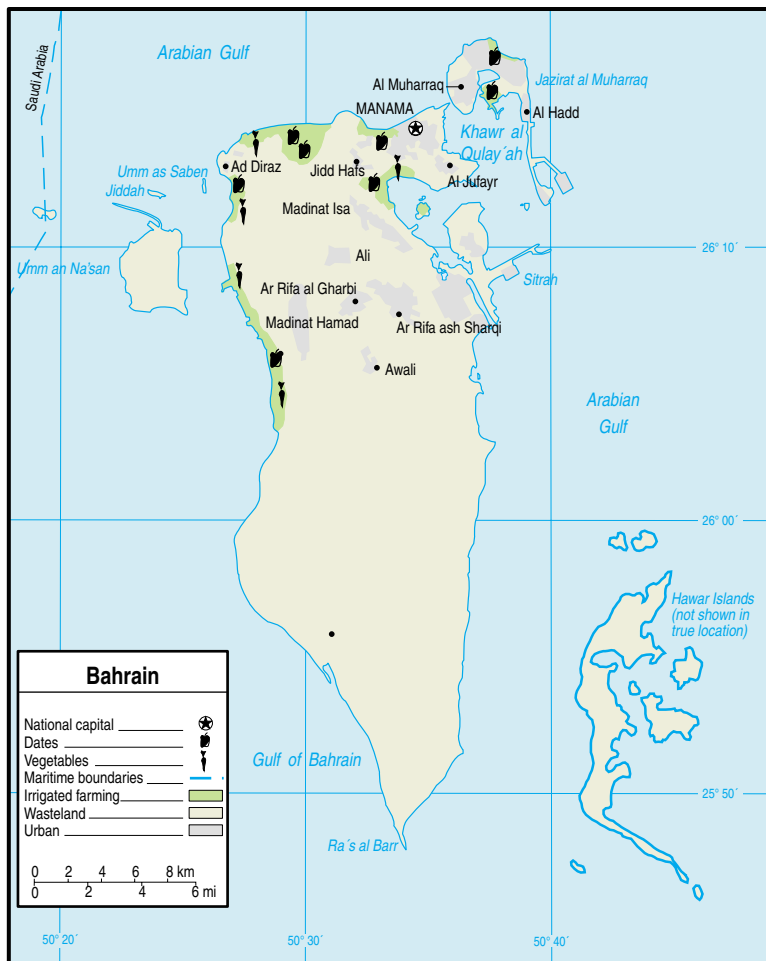
in health care, education, housing, electricity, water, and roads to enhance the standard of living.

Statistics

Gross Domestic Product	US\$8.1 billion (2001)
<i>Real Growth Rate</i>	5 percent
<i>Per Capita Income</i>	\$12,790
Labor Force	330,000 (36 percent indigenous, 44 percent of the 15-64 age group is foreign)
Exports	US\$5.8 billion
<i>Commodities</i>	80 percent petroleum and petroleum products, 7 percent aluminum, fish
<i>Partners</i>	Saudi Arabia, United States, Japan
Imports	US\$4.2 billion
<i>Commodities</i>	Machinery, industrial equipment, motor vehicles, foodstuffs, and clothing
<i>Partners:</i>	United States, United Kingdom, Japan
Natural Resources	Oil, natural gas, pearls
Agriculture	1 percent of GDP Eggs, vegetables, dates
Industry	46 percent of GDP Manufacturing (21 percent), oil (16 percent), aluminum, ship repair, natural gas
Electricity (voltage)	230 volts, 50 hertz

Resources

Bahrain has a more diversified economy than other GCC states. Bahrain produces fewer than 40,000 barrels of oil per day, but refines a large quantity of Saudi Arabian oil that arrives via an undersea pipeline. Bahr-



Land Use

ain is home to the largest aluminum smelter in the Middle East, a large shipbuilding and repair yard, and one of the region's busiest airports.

Oil and Gas Reserves

Country	Oil Reserves (Barrels)	Gas Reserves (Cubic Feet)
Bahrain	150 million	17.1 billion
Kuwait	94 billion	32.5 billion
Qatar	3.7 billion	227 trillion
United Arab Emirates	98 billion	32.8 trillion
Saudi Arabia	259 billion	177 trillion

The Bahraini government lured many bankers to Manama in the late 1970s. The effort was so successful that by the end of the 1980s, Bahrain's large financial services sector also branched out into offshore banking, though it met with stiff competition from Cyprus and Abu Dhabi. Bahrain has more than 100 offshore banking units and representative offices, as well as 65 U.S. firms.

In recent years, the government focused its attention on the high volume of transit traffic at its airport and began a calculated drive to attract tourists to the island.

Bahrain is facing rising unemployment brought on by a population that is growing faster than the economy can produce jobs. Although manual labor and service-related jobs are considered servile, Bahrain is the only GCC state where citizens are commonly found working in these types of occupations.

Bahrain has little rainfall and therefore relies on wells and desalination plants. Though Bahrain is self-sufficient in water, increasing water usage has led to water shortage concerns.

THREAT

Crime

Crime is relatively low in Bahrain. The police are efficient and friendly. It is generally safe to walk the streets. Foreign business visitors are occasionally targeted by thieves. Purses, laptops, and briefcases should be guarded, and valuables should not be stored in cars or on tables in cafes. Cash should be carried in a money belt, and credit cards or traveler's checks should be used for large transactions.

Women are advised to dress modestly when outdoors. Respect for local social customs will help avoid harassment, as violators may be chastised by the locals.

Travel Security

The U.S. Embassy advises Americans to use caution when visiting villages, as they have been the sites of occasional demonstrations and police operations. Although there is no evidence that Americans have been targeted, discretion should be exercised at all times.

Terrorism

The U.S. Department of State is concerned about the possibility of terrorist attacks against U.S. citizens and interests worldwide. The U.S. Embassy recommends that visitors limit activities to tourist attractions and major urban commercial districts. Americans should keep an unpredictable schedule and vary travel routes whenever possible. Americans are also urged to treat mail from unfamiliar sources with suspicion and to avoid contact with any suspicious, unfamiliar objects.

Threat to U.S. Personnel

Bahrain has experienced sporadic acts of politically related vandalism and arson in which explosive devices have been used. Although domes-

tic political tensions have been reduced by recent government initiatives, political developments in either Bahrain or the Middle East region can inflame emotions and anti-American sentiments.

ARMED FORCES

Organization and Personnel

The small size (11,500 personnel) of the Bahrain Defense Force (BDF) allows a simple command structure. The commander in chief is Crown Prince Sheikh Salman bin Hamad Al Khalifa. The commanders of the army, air force, and navy report directly to the chief of staff, who in turn reports directly to the minister of defense.

Mission

The army is deployed in a defensive posture; its primary role is to deter foreign aggression and protect the sovereignty of the state for up to 48 hours until allied forces arrive.

The Bahrain Air Force (BAF) mission is to achieve air superiority, perform air interdiction, and support naval and military units. The BAF is the first line of defense in an invasion attempt. However, it would not be effective against an attack by a larger regional aggressor. The BAF has sufficient forces to defend Bahrain's airspace for less than 36 hours. The BAF also operates with air elements of the paramilitary units of the ministry of interior and with the police helicopters.

The navy's primary role is the maritime defense of the sea lines of communication; it protects the national interests in the adjoining seas and fishery areas. The navy is small and efficient, and provides a credible deterrent to marine aggression. However, it requires assistance from its allies to defend against a determined attack.

The recent arrival of the PERRY Class fast frigate bolsters Bahrain's undersea warfare capabilities, a concern since Iran began acquiring

KILO Class submarines in the 1990s. The *Sabha* (formerly the USS *Jack Williams*) is equipped with the GDC Standard SM-IMR surface-to-air missile system and the Phalanx close-in weapons system.

Bahrain uses a Western-based doctrine; British and U.S. tactical concepts are primarily employed. The Bahrain Air Force tactics and doctrine reflect a Western influence. Both navy and coast guard doctrines are based largely on the tactics and doctrine of the British Royal Navy.

Training

Few training areas exist on Bahrain because of the island's small size. The southern third of the island is generally restricted to military use. Training is also carried out in neighboring countries, especially in Saudi Arabia. Bahraini forces crosstrain with other GCC states, Britain, and the United States. The British Royal Navy has traditionally trained the coast guard and naval forces in coastal defense. The Bahrain Navy has also trained jointly with the Qatar Navy and other GCC state navies to work on cohesiveness as part of the GCC naval defense.

Equipment

Manama's procurement strategy is to preserve Bahrain's sovereignty in the face of a reduced Iraqi threat and an increased Iranian threat. Defense against weapons of mass destruction is also being considered. Priorities have focused on improving the capabilities of the BAF.

As headquarters for the U.S. Fifth Fleet, Bahrain receives U.S. assistance in its modernization efforts. The defense cooperation agreement signed in 1991 allows 3,500 permanent U.S. personnel on Bahrain as well as the U.S. Airpower Expeditionary Force, whose mission is to deter Iraqi aggression.

Though the army has completed much of its re-equipping plans, funding restrictions have postponed plans to buy the Patriot air defense system to defend against ballistic missile attack. Bahrain ordered 57 extended-range multiple-launch rocket system rockets in January 2001.

The Air Force received 10 F-16s in June 2000; each is equipped with the AMRAAM system. Battlefield defense and mobility needs are being assessed; Bahrain's fleet of AH-1 Cobras have been upgraded to improve nighttime and all-weather attack capabilities.

For the navy, antisubmarine warfare is assuming a high priority since three KILO Class submarines were delivered to Iran. A surplus PERRY Class frigate was delivered to Bahrain, and several new corvette projects are being studied to bolster the navy's undersea warfare capability.

Key Defense Personnel

Commander in Chief	Crown Prince Sheikh Salman bin Hamad Al Khalifa
Minister of Defense	Lt Gen Sheikh Khalifa bin Ahmed Al Khalifa
Chief of Staff	Maj Gen Abdullah bin Salman Al Khalifa
Land Forces Commander	Maj Gen Sheikh Abdullah bin Salman Al Khalifa
Navy Commander	Col Yousef Ahmad Al Mulalaha
Air Wing Commander	Col Sheikh Hamad bin Abdullah Al Khalifa
Coast Guard Commander	Col Abdul Aziz Attiyatullah Al Khalifa
National Guard Commander	Brig Gen Muhammad bin Isa bin Salman Al Khalifa

Deployment













The main army base is in the Ar Rifa wa al Mintaqah al Janubiyah District; most land forces are in the central north or northwest sections of the island. The air force headquarters is at the new Sheikh Isa Airbase. Naval headquarters and the main naval base are at Mina Sulman. Some forces are deployed to Sitrah.

Army

Organization

The Bahrain army has 8,500 personnel on active duty, and:

- 1 armored brigade, with 2 tank battalions.
- 1 reconnaissance battalion.

Ground Forces Enlisted Rank Insignia	(1) Jundi	 Jundi Awwal		 'Arif	(3)
U.S. Equivalent	Basic Private	Private	Private 1st Class	Corporal	Sergeant
 Raqib		 Raqib Awwal		(2) Wakil	(3)
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
 'Aqid	 'Amid	 Liwa'	(2) Fariq	(2) Mushir	(3)
Colonel	Brigadier General	Major General	Lieutenant General	General	General of the Army
(1) No Insignia (2) Insignia Not Known (3) No Rank					

Enlisted and Office Rank Insignia

- 1 infantry brigade, with 2 mechanized battalions.
- 1 motorized infantry battalion.
- 1 artillery brigade, with 1 heavy battalion.
- 2 medical battalions.
- 1 light battalion.
- 1 MLR battery.
- 1 special forces battalion.
- 1 Amiri Guard battalion.
- 1 air defense battalion, with 2 SAM batteries.
- 1 air defense gun battery.

Equipment

Armor

Type	Role	Quantity
M60A3	Main Battle Tank	110
AML-90	Light Armored Car	22
Panhard M3	APC	110
M113A2	APC	220
YPR-765	IFV	25
AT 105 Saxon	APC	10
FV 701 Ferret	Reconnaissance Vehicle	8
FV 601 Saladin	Reconnaissance Vehicle	8
Shoreland S52	Reconnaissance Vehicle	8

Artillery

Type	Role	Quantity
227-mm MRLS	Artillery Rocket	9
203-mm M110 A2	SP Howitzer	62
155-mm M198	Towed Howitzer	25
105-mm L118	Towed Howitzer	8
120-mm	Mortar	9
81-mm	Mortar	9

Antitank Weapons

Type	Role	Quantity
BGM-71A TOW	Guided Missile	18
106-mm M40A1	Recoilless Rifle	30
120-mm MOBAT	Recoilless Rifle	6

Air Defense Weapons

Type	Role	Quantity
I-Hawk	Low- to Medium-Altitude SAM	8
RBS 70	Low-Altitude SAM	40
Stinger	Man-Portable SAM	18
Crotale	Low-Altitude SAM	7
Bofors L/70 40-mm	AA Gun	12
Oerlikon 35-mm	AA Gun	12

Air Force

Organization

The BAF has 1,500 personnel, organized into three squadrons. The fighter/interceptor squadron flies the F-16C/D, the fighter-bomber squadron flies the F-5E/F, and the helicopter squadron primarily flies the AH-1 Cobra and the AB-212. The BAF also operates the Sikorsky S-70C helicopter of the Bahrain Royal Flight.

Equipment

Fixed-Wing

Type	Role	Quantity
F-5E	Strike Fighter	8
F-16C-40	Interceptor	18
F-5F	Combat Trainer	4
F-16D-40	Combat Trainer	4

Rotary-Wing

Type	Role	Quantity
BO-105C	Scout	4
AB-212	Armed Support	10
AB-212	Support	2
AH-1	Armed Support	24
UH-60L	Transport	1

Navy

Organization

The Bahrain Navy (BAN) has 1,300 personnel, which includes a 260-man coast guard. The coast guard is under control of the ministry of interior except in times of war when it falls under BAN control.

Equipment

Surface Fleet

Type	Role	Quantity
Oliver Hazard Perry-Class	Under Sea Warfare	1
Lurssen FPB 62	Fast Attack	2
Lurssen TNC 45	Fast Attack (Missile)	4
Lurssen FPB 38	Fast Attack (Gun)	2
Lurssen FPB 20	Fast Attack (Gun)	2
Swiftships	Support (LCU)	4

Paramilitary

Police

The Bahrain Police and Public Security Department has 9,000 personnel. In addition to regular police duties, elements are well trained and equipped to deal with major disasters and civil disorder. The force has been critical in containing unrest since the Shi'a civil disturbances began in the early 1990s. Main police stations are at the airport and seaport, and six stations are in the main population areas. The force is equipped

with armored personnel carriers, three Bell 412 helicopters, one AB-205A1 helicopter, and two MD 500 helicopters.

National Guard

A national guard of 900 men was formed in 1997 to bolster domestic security following internal political unrest. The British military helped train national guard personnel. Its main mission is to counter political insurgency and help protect the country from external military threats.

APPENDIX A:

Equipment Recognition

SMALL ARMS

9-mm Sterling



Maximum Effective Range	200 m
Caliber	9-mm x 19 Parabellum
System of Operation	Blowback, selective fire
Overall Length	28 in. (stock extended) 19 in. (stock folded).
Feed Device	34-rd curved box magazine
Weight (Loaded)	6 lbs

Using the Sterling SMG: (1) Pull the operating handle to the rear [the bolt will remain to the rear as the **weapon fires from an open-bolt**]. (2) Engage the safety by moving the change lever [located on the left side of the pistol grip] to the letter **S**. (3) Insert a loaded 34-rd magazine into the magazine well on the left-side of the receiver, ensuring that it locks in place. (4) Move Safety to letter **R** for **SEMI** or **A** for **AUTO**. **STERLING IS READY TO FIRE.**

. 9-mm H&K MP5



Maximum Effective Range

200 m

Caliber

9-mm x 19 Parabellum

System of Operation

Delayed Blowback, selective fire

Overall Length

26 in.

Feed Device

30-rd straight or curved box magazine

Weight (Loaded)

6 lbs

7.62-mm G3



Maximum Effective Range	400 m
Caliber	7.63 x 51-mm
System of Operation	delayed blowback, selective fire
Overall Length	40.2 in.
Magazine Capacity	20-rd detachable, staggered-row box magazine
Weight (Loaded)	9.9 lbs

Using the G3: (1) Put selector switch, located on the left side of pistol grip, to the Top position: **SAFE**. (2) Pull operating handle to the rear. (3) Insert loaded 20-rd magazine into magazine well at bottom of receiver. (4) Allow bolt to go home chambering a round. **G3 IS READY TO FIRE.** (5) Put selector switch to Middle Position: **SEMI** or Bottom Position: **AUTO**.

7.62-mm BM59



Maximum Effective Range	400 m
Caliber	7.62 x 51-mm
System of Operation	gas, selective fire
Overall Length	1,0095 mm.
Magazine Capacity	20-rd detachable, staggered-row box magazine
Weight (Loaded)	4.6 kg.

7.62-mm FN FAL



Maximum Effective Range

800 m

Caliber

7.62-mm

System of Operation

Gas

Overall Length

1,020 mm

Magazine Capacity

20-rd detachable box magazine

Weight (Loaded)

9.06 lbs

7.62-mm FN MAG



Maximum Effective Range	1,500 m
Caliber	7.62-mm x 51 NATO
System of Operation	Gas, automatic
Overall Length	1.26 m
Feed Device	Belt
Weight (Loaded)	13.92 kg (with butt stock and bipod)

.50 cal. Browning M2 HB



Maximum Effective Range	1,500 m
Caliber	.50 caliber Browning (12.7-mm x 99)
System of Operation	Short recoil
Overall Length	1.651 m
Feed Device	100-rd disintegrating link belt
Weight (Loaded)	38 kg

NOTE: In service with French and Djibouti armed forces.

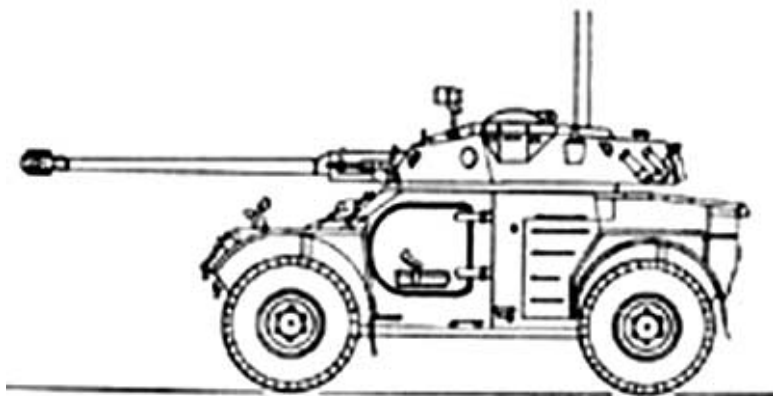
ARMOR

M60A3



Crew	4.
Armament	1 x 105-mm M68 rifled gun w/63 rds. 1 x 7.62-mm MG w/6,000 rds (coaxial). 1 x 12.7-mm MG w/900 rds (AA).
Night Vision	yes.
NBC Capable	yes.
Maximum Range	500 km.
Maximum Speed	48.28 km/h.
Fuel Capacity	1,420 liters.
Combat Weight	52,617 kg.
Height	3.27 m.
Length	9.436 m (gun forward).
Width	3.631 m.
Fording	1.219 m.
Gradient	60%.

AML-90



Crew	3
Configuration	Wheeled (4 x 4)
Armament	(Main) 1 x 90-mm gun w/20 rds (Coaxial) 1 x 7.62-mm MG w/2,000 rds (Smoke) 2 smoke grenade launchers on either side of turret with 16 grenades
Night Vision	Optional
NBC Capable	Optional
Maximum Range	(Road) 600 km
Maximum Speed	90 km/h
Fuel Capacity	156 liters
Combat Weight	5,500 kg
Height	2.07 m
Length	(Gun forward) 5.11 m
Width	1.97 m
Fording	1.1 m (Amphibious w/kit)
Gradient	60%
Vertical Obstacle	0.3 m
Trench	0.8 m

Saladin



Crew	2.
Armament	1 x 76-mm gun w/42 rds. 1 x 7.62-mm MG w/2,750 rds.
Night Vision	No.
NBC Capable	No.
Maximum Road Range	400 km.
Maximum Road Speed	72 km/h.
Fuel Capacity	241 liters.
Combat Weight	1,159 kg.
Height	2.19 m (turret roof).
Width	2.54 m.
Length	4.93 m.
Fording	1.07 m.
Gradient	46%.

Ferret MK II



Crew	2
Type	4 x 4
Armament	1 x 7.62-mm MG
Maximum Speed	93 km/h
Maximum Range	306 km
Fuel Capacity	96 liters
Combat Weight	4,210 kg
Length	3.835 m
Width	1.905 m
Height	1.448 m
Night Vision	no
NBC	no
Fording	0.914 m
Gradient	46%%
Vertical Obstacle	0.406 m
Trench	1.22 m

M113A1



Crew/Passengers	2 + 11
Type	Tracked
Armament	1 x 12.7-mm AA MG
Maximum Speed	58 km/h
Maximum Range	480 km
Fuel Capacity	360 liters
Combat Weight	12,094 kg
Length	4.92 m
Width	3.11 m
Height	2.52 m
Night Vision	yes
NBC	yes
Fording	amphibious
Gradient	60%
Vertical Obstacle	0.61 m
Trench	1.68 m

RECOGNITION: Five road wheels, no track -return rollers; front glacis inclined to rear; box-like appearance .

Panhard M3



Crew/Passengers	2 + 10
Configuration	4 x 4
Armament	12.7-mm MG; 7.62-mm MG
Armor	8 to 12-mm
Night Vision	Optional
NBC Capable	No
Maximum Road Range	600 km
Maximum Speed	90 km/h
Fuel Capacity	165 liters
Fording	Amphibious
Gradient	60%
Vertical Obstacle	0.3 m
Trench	0.8 m
Combat Weight	6,100 kg
Height	2 m (hull top)
Length	4.45 m
Width	2.4 m

Saxon APC



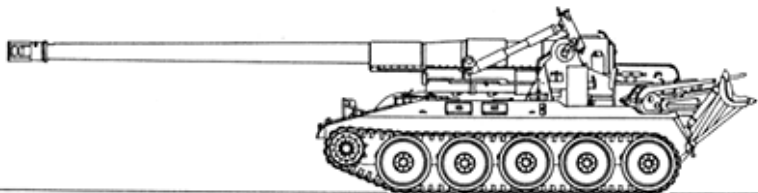
Crew/Passengers	2 + 8-10.
Configuration	4 x 4.
Armament	1 x 7.62-mm or 12.7-mm MG.
Maximum Road Range	480 km.
Maximum Speed	96 km/h.
Fuel Capacity	153 liters.
Fording	1.12 m.
Gradient	60%.
Vertical Obstacle	0.41 m.
Combat Weight	11,660 kg.
Height	2.628 (commander's cupola).
Length	5.169 m.
Width	2.489 m.

Shorland Armored Car



Crew/Passengers	3.
Configuration	4 x 4.
Armament	1 x 7.62-mm MG w/1,600 rds.
Maximum Road Range	630 km.
Maximum Speed	120 km/h.
Fuel Capacity	136 liters.
Fording	0.50 m.
Vertical Obstacle	0.23 m.
Combat Weight	3,600 kg.
Height	1.8 m (roof).
Length	4.49 m.
Width	1.8 m.

M110A2 175-mm SPG



Crew	5
Armament	1 x 175-mm M113 gun w/2 ready rounds. Maximum Range: 22,900 m. Rate of Fire: 1 rd/2 min.
Maximum Speed	56 km/h
Maximum Range	725 km
Combat Weight	28,168 kg
Fording	1.066 m
Gradient	60%

M198 155-mm Howitzer



Crew	11
Caliber	155-mm
Maximum Range	18,150 m (M107 projectile), 22,000 m (M483A1 projectile), 30,000 m (RAP)
Rate of Fire	4 rds/min
Prime Mover	6 x 6 truck
Maximum Towing Speed	72 km/h (roads), 8 km/h (cross-country)
Length	12.34 m (traveling), 11 m (firing)
Weight	7,163 kg

L118 105-mm Howitzer



Maximum Range

17,200 m.

Rate of Fire

12 rds/min for 1 minute.

6 rds/min for 3 minutes.

3 rds/min sustained.

Length

7.01 m (firing position with gun at 0 degrees).

Width

1.778 m.

Height

2.63 m (travelling with tube forward).

Prime Mover

6 x 6 truck.

227-mm MRLS



Crew	3.
Armament	12 x 227-mm rockets.
Maximum Speed	64 km/h.
Maximum Range	483 km.
Fuel Capacity	617 liters.
Combat Weight (loaded)	25,191 kg.
Length	6.972 m (travelling).
Width	2.972 m (travelling).
Height	2.617 m (travelling).

TOW Ground Tripod Launcher



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

M40A1 106-mm Recoilless Rifle



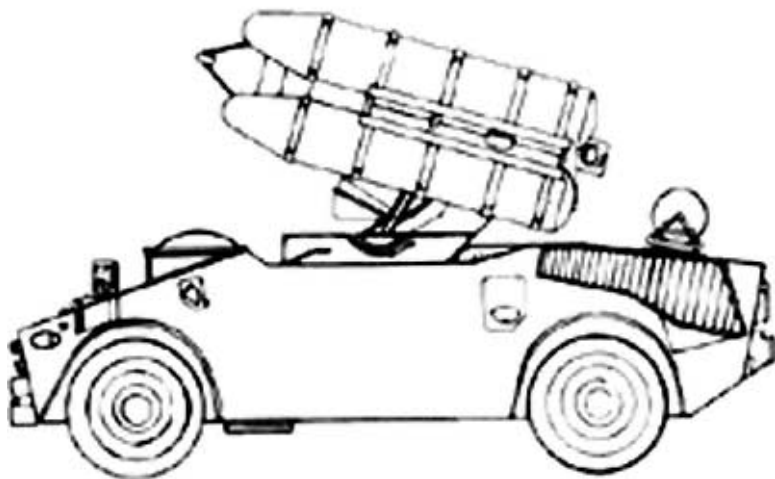
Caliber	106-mm
Max Range	6.9 km
Max Rate of Fire	5 rds/min
Elevation	+22 to -17 degrees
Traverse	360 degrees
Weight	113.9 kg (combat order)

I HAWK



Type	Single-stage, low-to-medium altitude
Warhead	54 kg HE fragmentation
Maximum Effective Range	40,000 m
Minimum Effective Range	2,000 m
Guidance	Semi-active radar honing with proportional navigation
Length	5.08 m
Weight	584 kg
Launcher	Mobile, triple-round, trainable, trailer mounted.

Crotale



Crew	2
Armament	4 x R440 AA missiles
Max Range:	9,500 m
Maximum Speed	70 km
Maximum Range	600 km
Combat Weight	12,620 kg
Length	6.22 m
Width	2.72 m
Height	3.41 m

RBS-70



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

FIM-92A Stinger



Crew	1
Maximum Range	8,000 m
Combat Weight	15.7 kg
Length	1.52 m

Swiss GDF 35-mm Twin



Crew	3
Maximum Range	8,500 m (vertical) 11,200 m (horizontal)
Rate of Fire (Per Barrel)	550 rd/min
Combat Weight	6,300 - 6,400 kg

Bofors 40-mm L/70



Crew	3 - 6
Maximum Range	6,700 m (vertical) 9,900 m (horizontal)
Rate of Fire (Per Barrel)	120 rds/min
Combat Weight	2,676 kg

HELICOPTERS

AH-1



System Name: AH1

Manufacturer: Bell Helicopter

Main Rotor Diam.: 44' 0" (13.41m)

No. of Blades: 2

Tail Rotor Diam.: 8' 6" (2.59m)

No. of Blades: 2

Fuselage Length: 44' 7" (13.59 m)

Width: 7' 0" (2.13 m)

Height: 13' 8" (4.15 m)

Roles/Mission: Ground Attack,
Close Air Support, Armed Escort

Max. Weight: 10,000 lb (5435 kg)

Crew: 2

Max. Troops: n/a

Max. Speed: 180 kts (333 km/h)

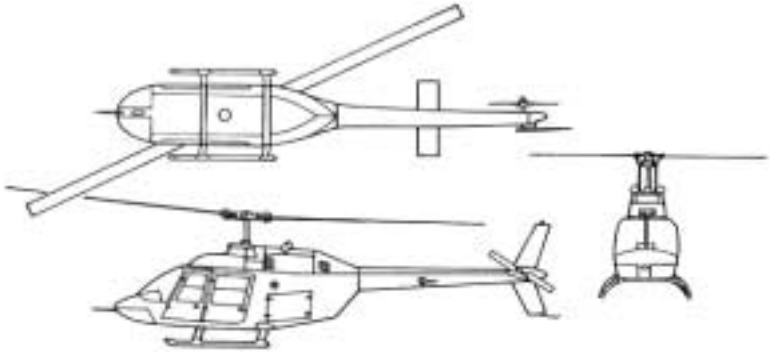
Max. Range: 311 nm (577 km)

Engines: TWIN TURBOSHAFT

Armament: Chin-mounted, three-barrel, 750 round, 20mm electric cannon; four external wing-store hard-points for 7.62mm mini-gun pods and/or seven-tube or 19-tube, 2.75" folding-fin rockets.

Remarks: Non-retractable, tubular, skid-type landing gear; tail rotor mounted on port side of tail boom

AB-205



System Name: AB 206 A/B
Jetranger, Jetranger II

Manufacturer: US, ITALY

Main Rotor Diam.: 33' 4" (10.16 m)

No. of Blades: 2

Tail Rotor Diam.: 5' 2" (1.6 m)

No. of Blades: 2

Fuselage Length: 31' 1" (9.4 m)

Width: 6' 3 1/2" (1.92 m)

Height: 9' 6 1/2" (2.91 m)

General Mission: Observation

Max. Weight: 3000 lb (1360 kg)

Max. Payload Weight: 700 kg

Crew: 1

Max. Troops: 3

Max. Speed: 130 kts (241 km/h)

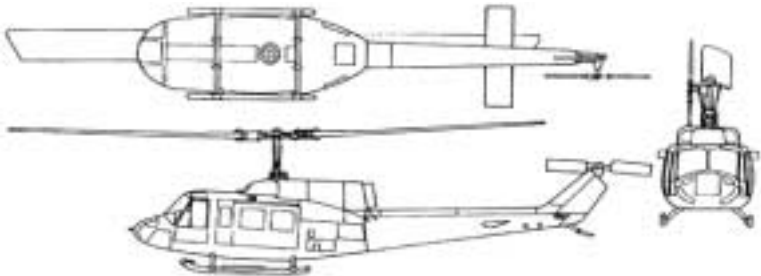
Max. Range: 304 nm (564 km)

Engines: Single Turboshaft

Armament: 7.62mm Lt. Machineguns

Remarks: General liaison, observation, or utility helicopter. Non-retractable, skid-type, tubular landing gear; optional external cargo sling capable of 1200 lb (545 kg) lift capacity; baggage compartment with 250 lb (113 kg) capacity aft of cabin with hinged, forward-opening access door on port side of fuselage.

AB-214



System Name: Bell 214ST Supertransport

Manufacturer: US

Main Rotor Diam.: 52' 0" (15.85 m)

No. of Blades: 2

Tail Rotor Diam.: 9' 8" (2.95 m)

No. of Blades: 2

Fuselage Length: 49' 31/2" (15.02 m)

Width: 9' 61/2" (2.91 m)

Height: 15' 10" (4.84 m)

General Mission: Utility

Max. Weight: 10,000 lb (4535 kg)

Max. Payload Weight: 4000 lb (1814kg)

Crew: 1-3

Max. Troops: 18

Max. Speed: 140 kts (259 km/h)

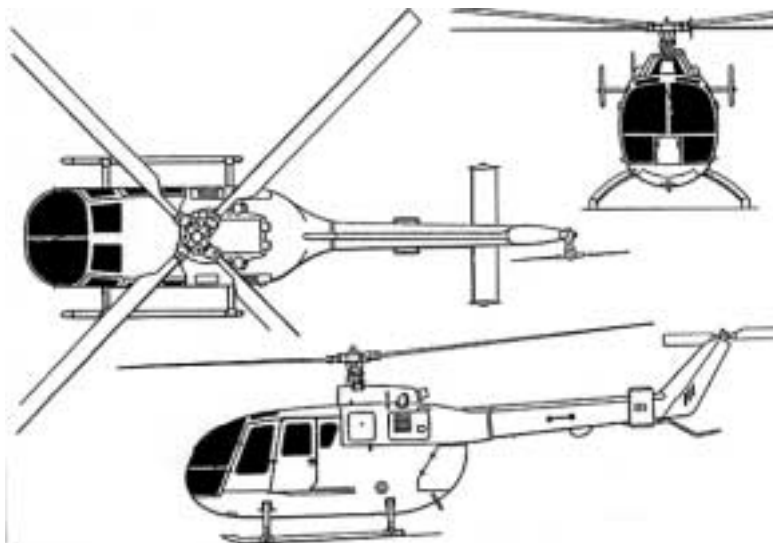
Max. Range: 439 nm (813 km)

Engines: Twin Turboshaft

Armament: Unknown

Remarks: Tricycle-type, wheeled landing gear (standard) or non-retractable, skid-type, tubular landing gear (optional); prominent radome protruding from nose of fuselage below cockpit; pair of doors on each side of cabin section of fuselage; large cargo door slides aft, small cargo door opens forward; external load cargo hook can be mounted under bottom of fuselage beneath cargo/cabin area; tail rotor mounted on starboard side of tail boom.

BO 105



Crew

2.

Armament

Assorted rocket, missile and MG configurations.

Maximum Cruising Speed

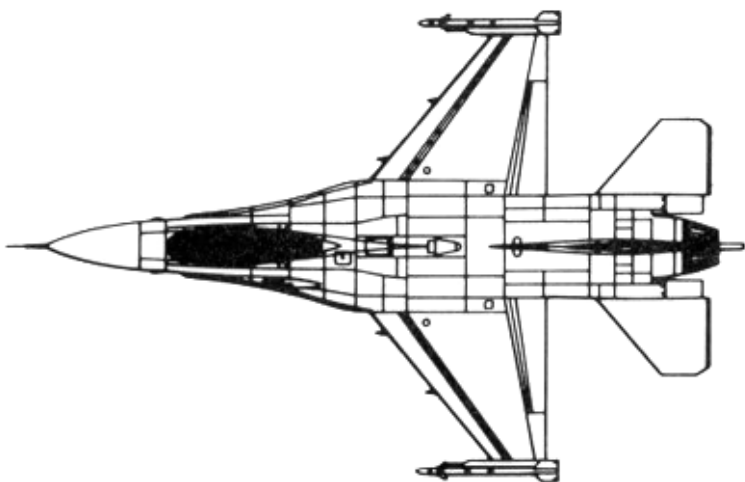
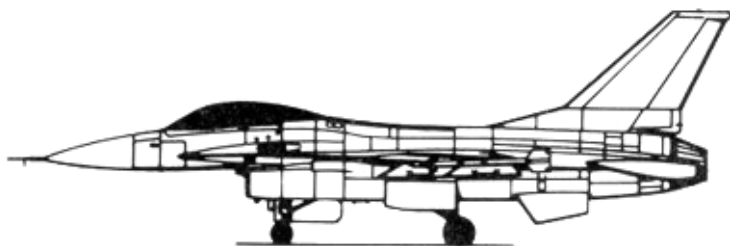
131 kts.

Maximum Range

310 nm.

AIRCRAFT

F-16



Crew	1
Armament	1 x 20-mm Vulcan Assorted Rockets, Missiles, and/or Bombs
Maximum Speed	M2.0+
Maximum Range	1,252 km
Wingspan	9.75 m
Height	5.09 m
Length	15.03 m

F-5E



Mission	Light tactical fighter and reconnaissance aircraft
Armament	2 x M39A2 20-mm guns w/280 rds/gun in forward fuselage
Maximum Range	2,483 km
Maximum Speed	Mach 1.64
Weight	4,410 kg
Height	4.07 m
Length	14.45 m
Wingspan	8.13 m

Comments: The F-5E is a lightweight supersonic aircraft developed as an inexpensive, easily maintained fighter capable of operating from unimproved airfields. Up to 3,175 kg of mixed ordnance can be carried on it's one fuselage and four underwing stations.

SURFACE SHIPS

OLIVER HAZARD PERRY-Class FFG



Complement	223 (13 officers).
Armament	8 x Harpoon SSM. 1 x OTO Melara 3-inch gun. 1 x Bazan 20-mm/120 12-barrelled Meroka Mod 2A/B. 6 x US Mk 46 Mod 5 AS torpedoes. 32 x GDC Pomona Standard SM-1 SAM.
Maximum Speed (kts)	29.
Maximum Range, Miles	4,500 @ 20 kt.
Displacement (t)	3,969 fl.
LOA/Beam/Draft m(f)	137.7 x 14.3 x 7.5 (451.2 x 46.9 x 24.6).

LURRSEN TNC 45-Class



Complement	33 (5 officers).
Armament	4 x MM 40 Exocet SSM. 1 x 76-mm gun. 1 x 40-mm gun.
Maximum Speed (kts)	40
Maximum Range, Miles	1,500.
Displacement (t)	259 fl.
LOA/Beam/Draft m(f)	44.9 x 7 x 2.3 (147.3 x 23 x 7.5).

AI Manama (MGB 42-Class)



Complement	43 (7 officers).
Armament	4 x MM 40 Exocet SSM (2 x twin launchers). 1 x OTO Melara 3-inch gun. 2 x Breda 40-mm/70 (twin mount). 2 x 2 x Oerlikon GAM-BO1 20-mm/93.
Maximum Speed (kts)	32.
Maximum Range, Miles	4,000 @ 20 kt.
Displacement (t)	632 fl.
LOA/Beam/Draft m(f)	63 x 9.3 x 2.9 (206.7 x 30.5 x 9.5).

FPB 38-Class



Armament	2 x 40-mm/70 guns (twin mount). Assorted mines
Maximum Speed (kts)	34.
Displacement (t)	205 fl.
LOA/Beam/Draft m (f)	.38.5 x 7 x 2.2 (126.3 x 23 x 7.3).

FPB 62-Class



Complement	50 (17 officers).
Armament	4 x MM 40 Exocet SSM 1 x 40-mm gun. 2 x 12.7-mm MGs.
Maximum Speed (kts)	34.7.
Displacement (t)	632.
LOA/Beam/Draft m (f)	63 x 9.3 x 2.6 (206.5 x 30.5 x 8.6).

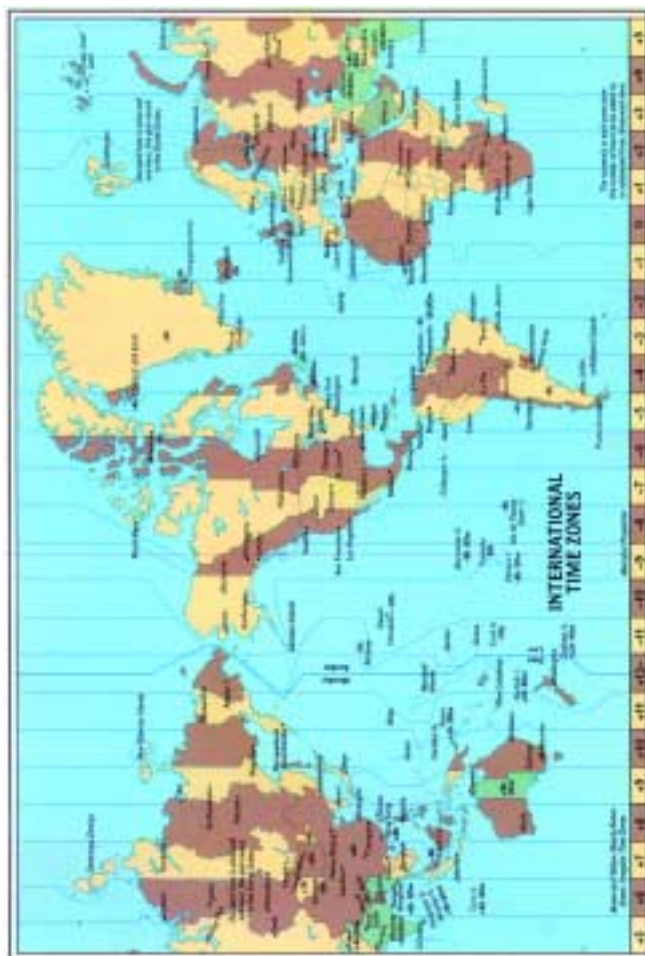
FAIREY MARINE TRACKER



Complement	11.
Armament	1 x 12.7-mm MG..
Maximum Speed (kts)	24.
Displacement (t)	34.5 fl.
LOA/Beam/Draft m (f)	20 x 5.2 x 1.5 (65.6 x 17 x 4.8).

APPENDIX B:

International Time Zones



APPENDIX C:

Conversion Charts

When You Know

Units of Length	Multiply by	To find
Millimeters	0.04	Inches
Centimeters	0.39	Inches
Meters	3.28	Feet
Meters	1.09	Yards
Kilometers	0.62	Miles
Inches	25.40	Millimeters
Inches	2.54	Centimeters
Feet	30.48	Centimeters
Yards	0.91	Meters
Miles	1.61	Kilometers

Units of Area

Sq. Centimeters	0.16	Sq. Inches
Sq. Meters	1.20	Sq. Yards
Sq. Kilometers	0.39	Sq. Miles
Hectares	2.47	Acres
Sq. Inches	6.45	Sq. Centimeters
Sq. Feet	0.09	Sq. Meters
Sq. Yards	0.84	Sq. Meters
Sq. Miles	2.60	Sq. Kilometers
Acres	0.40	Hectares

Units of Mass and Weight

Grams	0.035	Ounces
Kilograms	2.21	Pounds
Tons (100kg)	1.10	Short Tons
Ounces	28.35	Grams
Pounds	0.45	Kilograms
Short Tons	2.12	Tons

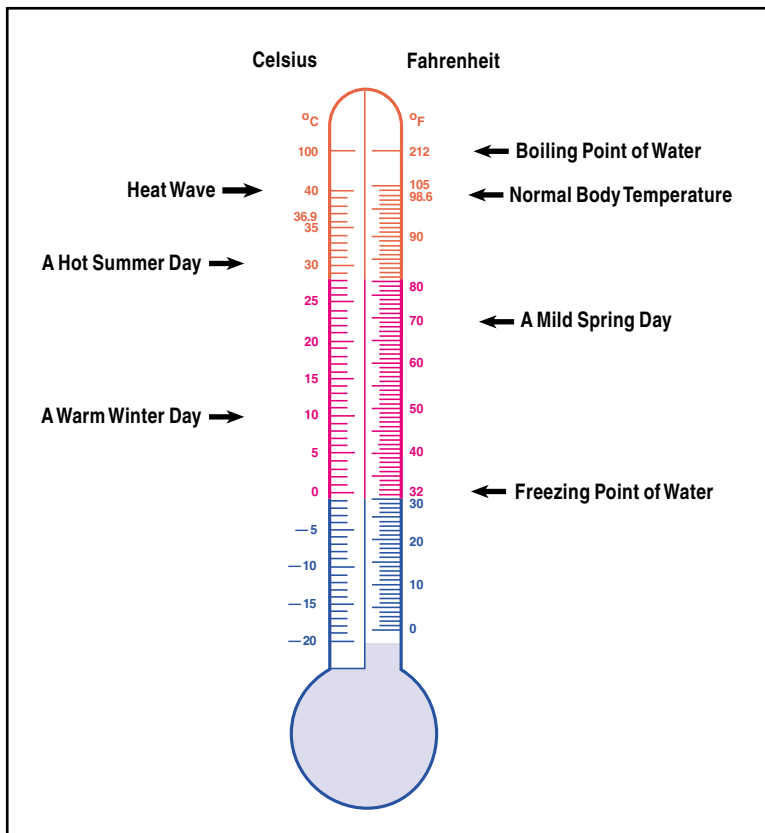
Units of Volume	Multiply by	To find
Milliliters	0.20	Teaspoons
Milliliters	0.06	Tablespoons
Milliliters	0.03	Fluid Ounces
Liters	4.23	Cups
Liters	2.12	Pints
Liters	1.06	Quarts
Liters	0.26	Gallons
Cubic Meters	35.32	Cubic Feet
Cubic Meters	1.35	Cubic Yards
Teaspoons	4.93	Milliliters
Tablespoons	14.78	Milliliters
Fluid Ounces	29.57	Milliliters
Cups	0.24	Liters
Pints	0.47	Liters
Quarts	0.95	Liters
Gallons	3.79	Liters
Cubic Feet	0.03	Cubic Meters
Cubic Yards	0.76	Cubic Meters

Units of Speed

Miles per Hour	1.61	Kilometers per Hour
Kilometers per Hour	0.62	Miles per Hour

Temperature

To convert Celsius into degrees Fahrenheit, multiply Celsius by 1.8 and add 32. To convert degrees Fahrenheit to Celsius, subtract 32 and divide by 1.8.



Temperature Chart

APPENDIX D:

Holidays and Calendars

The Islamic Calendar

The Islamic Calendar is computed from the Hijra (or the flight of Mohammed from Mecca to Medina) and often designated with the letters A.H. (for *Anno Hijra*). The calendar is lunar and has 354 days. Leap years occur every 2 to 3 years. The following western dates indicate the beginning of contemporary Islamic years:

Islamic	1421	1422	1423	1424
Western	6 Apr 2000	26 Mar 2001	15 Mar. 2002	4 Mar. 2003

Calendar months begin with the first crescent of the new moon and alternately contain 30 or 29 days and are named *Muharram*, *Safar*, *Rabi I*, *Rabi II*, *Jumada I*, *Jumada II*, *Rajab*, *Shaban*, *Ramadan*, *Shawawal*, *Dhu al Qadfa*, and *Dhu al Hijjah*.

The Islamic calendar has 7 days per week, each week beginning with Al Juma'a, which is the day of gathering. It is the equivalent to the Jewish Sabbath or Christian Sunday. The Islamic week begins with Sunday: *Yowm al Ahed*, which means the first day. *Yowm al Sabt* means the seventh day. *Yowm al Juma'a* is the day Muslims gather for the larger prayer sessions. The name came through Arabic tradition when Fridays were days that people would bring their goods to the local market and gathered to catch up on local gossip and politics. The work week is from Saturday through Wednesday. Thursday and Friday are the weekend. The Islamic day is from sundown to sundown although Muslims are active during all hours during certain months of the year.

The days of the week, beginning with Friday, are *Yowm al Juma'a*, *Yowm as Sabt*, *Yowm al Ahed*, *Yowm al Ithnayn*, *Yowm al Thulaatha*, *Yowm al Arba'a*, and *Yowm al Khamiys*.

Holidays

Several religious holidays are celebrated throughout the Islamic world. They are based on the lunar calendar, so the day of celebration may vary.

Muharram. The first of this month marks the Islamic New Year. It is the anniversary of Mohammed's *Hijra* from Mecca to Medina.

Yom 'Ashoora. The tenth of *Muharram* originally began a fast that lasted 24 hours. Called '*ashoora*, meaning tenth, this holy day at the beginning of the Prophet's mission coincided with *Yom Kippur*, the Day of Atonement in Judaism. For Shi'as, '*ashoora* is much more significant. It is the anniversary of the martyrdom of Hussein, son of Ali and Mohammed's grandson. This major Shi'a holiday is commemorated by plays reenacting Hussein's betrayal and murder, as well as by processions of Shi'a men engaging in self-flagellation as atonement for sin. These festivities are viewed with suspicion by the ruling Sunni families in the Gulf; however, they are permitted in Bahrain, Kuwait, and the UAE. While not necessarily dangerous, non-Muslims should avoid Shi'a '*ashoora* celebrations.

Leilat al Meiraj. This day in the month of *Rajab* commemorates the Ascension of the Prophet Mohammed to heaven and his return to Medina.

Eid al Fitr. This feast occurs at the end of the fast of *Ramadan* or the first day of the month of *Shawwal* and lasts 3 days. This holiday is also known as *Eid al Sagheer* (the small eid).

Eid al Adha. Also known as *Eid al Kabeer* (the big eid) or the Day of Sacrifice, this feast begins on the 10th of *Dhu al Hijja* and lasts 3 days. It commemorates Abraham's attempt to sacrifice his son.

Mouloud. This day celebrates the birth of the Prophet Mohammed on the 12th of *Rabi I*. The year of his birth is disputed, but was about 50 years before the *Hijra*, approximately 570 A.D. The birth of Mohammed's grandson, Hussein, is also celebrated, during the month of *Rabi II*.

In addition to the religious holidays, Bahrain also celebrates New Year's Day, and National Day (16 December).

APPENDIX E:

Language

Arabic

Arabic is considered by Muslims to be the language of Allah. The Qur'an is written in Arabic and is spoken by over 197 million persons worldwide.

Arabic belongs to the Semitic branch of Afro-Asiatic languages. All Arabs have as their mother tongue some local variety of Arabic. These vernaculars differ markedly. The local vernacular is used in everyday commerce, but rarely written. Contrasting to the local vernaculars is standard, or formal Arabic, which is used for writing and formal speech. Because the standard Arabic must be learned at school, large sectors of the Arab people do not command it sufficiently to use it themselves, although radio and other media are gradually spreading its comprehension. Standard Arabic has remained remarkably stable.

In grammar and basic vocabulary the Arabic literature produced from the 8th century to the present is strikingly homogeneous; the works of the medieval writers differ from modern standard Arabic hardly more than Shakespeare's language differs from modern English. Standard literary Arabic is capable of expressing the finest shades of meaning. The vernaculars in their present form cannot perform the same task. If they were adapted, such a development would fatally split the unity of the Arab world. Today, tensions exist between the standard language and the vernaculars, particularly in imaginative literature. In drama, the demand for realism favors the vernacular, and many poets are tending toward their mother tongue. In the novel and short story, the trend is toward having the characters speak in the vernacular while the author uses formal language. However, some of the most celebrated living novelists and poets write exclusively in the standard language.

Alphabet

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, the middle, the 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

English

Can you help me
Do you speak English
Excuse me
Good morning
Good night
Goodbye
Hello
How
How are you
How much/many
Hurry
I don't understand
I'm hungry
I'm lost
I'm thirsty
I'm tired
No

Arabic

momkin tisa'idini
haal taataakaalaam Englizi
asfaa
sobah alKher
laylaa saaidaa
maa al saalamaa
marhaba
kayf
keef halaak
kaam
bisor'aa
aana laa aafhaam
aana gaa'anaa
aana toht
aana aatshan
aana taa'aabanaa
laa

English

No smoking
 Please
 Thank you
 Welcome
 What
 What does this mean
 What is this
 When
 Where
 Which
 Who
 Why
 With the grace of God
 Yes

Arabic

maamnoo' al taadkheen
 min faadlaak
 shokran
 aahlaan wa saahlaan
 ma
 ma maa'ni haaza
 ma esm haaza
 maati
 aayn
 ay
 maan
 limaza
 al hamdu allah
 aywaa

Vocabulary**English**

American Embassy
 Arm (body)
 Bandage
 Beach
 Big
 Blanket
 Book
 Boots
 Bridge
 Building
 Coat
 Cold
 Early
 Exit
 Entrance

Arabic

sifaara amrikiya
 zaara
 aasaabe
 al shati
 kaabir
 Baataniye
 ketab
 boot
 al koobri
 al maabni
 mi'taf
 Barid
 mobaakir
 khorooj
 Dokhool

English

Far
Fast
First Aid Kit
Flashlight
Gloves
Gulf
Harbor
Hat
Head
Heavy
Highway
Hospital
Hot
Insect Repellent
Knife
Late
Leg
Light
Map
Market
Matches
Medicine
Mosque
Near
New
Old
Open
Police
Radio
Right
River
Soap

Arabic

baa'id
saari'
ilbah is'aafaat aawaalliyaa
baatariyaa
jowanti
khaaliy
al mina
kobaa'aa
raa'aas
taagil
taarig
mostaashfi
sakhen
tarid lilhaasharat
saakin
mit'akher
sag
khaafif
khaarita
Sook
ood sagab
Daava'
al jami'
Kaarib
Jaadid
gaadim
maaftuh
bolis
radyo
sahh
al naahr
saboon

English

Small
Sea
Seacoast
Shoes
Shut
Slow
Taxi
Toilet
Tower
Watch
Wrong

Arabic

saagir
al baahr
shati al Baahr
hiza
maa'ful
bati
taaksi
al twaaleet
al borj
sa'aah
gaalaat

Military Vocabulary**English**

Aircraft
Aircraft Carrier
Air Defense
Airfield
Ammunition
Amphibious
Antiair artillery
Antilanding defense
Antitank artillery
Army
Artillery
Aviation
Battalion
Battleship
Bomb
Camouflage
Cruiser (ship)
Chemical Weapon

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

English

Coastal Defense

Corps

Destroyer (ship)

Division

Engineer

Garrison

Gun

Handgrenade

Headquarters

Helicopter

Howitzer

Infantry

Latitude

Longitude

Machinegun

Map

Military

Mine

Minefield

Mortar

Nuclear Weapon

Platoon

Radar

Reconnaissance

Rifle

Submachinegun

Tank

Tactics

Torpedo

Topography

Weapon

Weather

Arabic

defa' saheli

filg

maadmor

faaraageh

mohandes

hamieh

maadfa

gaanbeleh baadwiyeh

giadeh

helicoopter

hawetzer

mosha'e

khat al-aarad

khat al-tool

reshash

khaariteh

aaskaaria

al-laagam

haagl al-laagam

haven

saalah noovi

faasileh

radar

'estaatla'

bandgiyeh

reshash gaasir

daababeh

taktiki

toorpid

toboografia

saalah

al-taages

thah ث	teh ت	beh ب	alif ا
dal د	kha خ	ha ح	jeem ج
seen س	zain ز	ra ر	thai ذ
tah ط	dhad ض	sad ص	sheen ش
feh ف	ghain غ	ain ع	zah ظ
meem م	lam ل	kaf ك	qaf ق
yeh ي	waw و	heh ه	noon ن

٩ ٨ ٧ ٦ ٥ ٤ ٣ ٢ ١ ٠

9 8 7 6 5 4 3 2 1 0

Arabic Alphabet

APPENDIX F:

International Road Signs



Arab Road Signs



No U turn



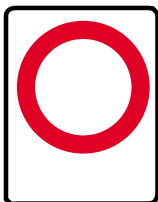
No left turn



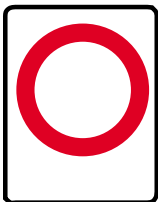
No entry



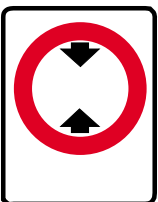
No right turn



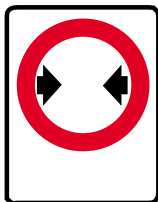
Maximum
load 10 tons



Maximum
speed 60 kph.



Maximum
height 4 m.



Maximum
width 2 m.



No stopping



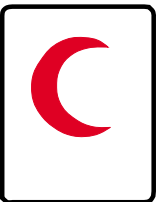
Road closed



Parking



No parking



Hospital



No honking



Animal-drawn
vehicles prohibited



Handcarts
prohibited



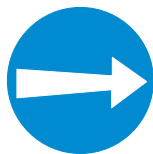
First-aid post



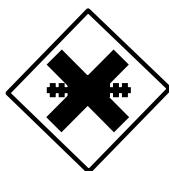
Petrol



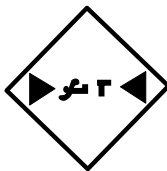
Garage



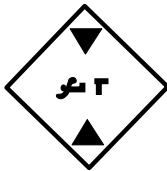
One way



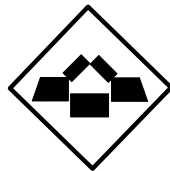
level (railroad) crossing
without barrier



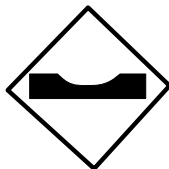
Maximum
width 3 m.



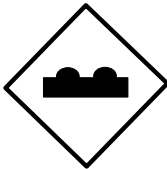
Maximum
height 4 m.



Opening or
swing bridge



Dip



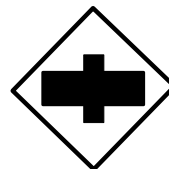
Uneven road



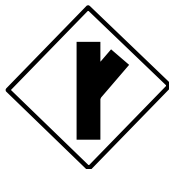
Winding road



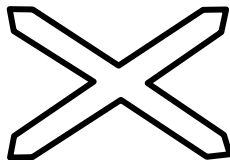
Steep hill



Stop at major
road ahead



Side road



Location of level
(railroad) crossing without
gate or barrier

APPENDIX G:

Individual Protective Measures

Security Threats

Individual protective measures are the conscious actions which people take to guard themselves against physical harm. These measures can involve simple acts such as locking your car and avoiding areas where crime is rampant. When physical protection measures are combined they form a personal security program, the object of which is to make yourself a harder target. The following checklists contain basic individual protective measures that, if understood and followed, may significantly reduce your vulnerability to the security threats overseas (foreign intelligence, security services, and terrorist organizations). If you are detained or taken hostage, following the measures listed in these checklists may influence or improve your treatment.

Foreign Intelligence and Security Services

- Avoid any actions or activities that are illegal, improper, or indiscreet.
- Guard your conversation and keep sensitive papers in your custody at all times.
- Take it for granted that you are under surveillance by both technical and physical means, including:
 - ❑ Communications monitoring (telephone, telex, mail, and radio)
 - ❑ Photography
 - ❑ Search
 - ❑ Eavesdropping in hotels, offices, and apartments
- Do not discuss sensitive matters:
 - ❑ On the telephone
 - ❑ In your room
 - ❑ In a car, particularly in front of an assigned driver

- Do not leave sensitive personal or business papers:
 - ❑ In your room
 - ❑ In the hotel safe
 - ❑ In a locked suitcase or briefcase
 - ❑ In unattended cars, offices, trains, or planes
 - ❑ Open to photography from the ceiling
 - ❑ In wastebaskets as drafts or doodles
- Do not try to defeat surveillance by trying to slip away from followers or by trying to locate “bugs” in your room. These actions will only generate more interest in you. If you feel you are under surveillance, act as naturally as possible, go to a safe location (your office, hotel, U.S. Embassy), and contact your superior.
- Avoid offers of sexual companionship. They may lead to a room raid, photography, and blackmail. Prostitutes in many countries report to the police, work for a criminal organization, or are sympathetic to insurgent or terrorist organizations; in other words, are anti-U.S. Others may be employed by an intelligence service.
- Be suspicious of casual acquaintances and quick friendships with local citizens in intelligence/terrorist threat countries. In many countries, people tend to stay away from foreigners and do not readily or easily make contact. Many who actively seek out friendships with Americans may do so as a result of government orders or for personal gain.

In your personal contacts, follow these guidelines:

- Do not attempt to keep up with your hosts in social drinking.
- Do not engage in black market activity for money or goods.
- Do not sell your possessions.
- Do not bring in or purchase illegal drugs.
- Do not bring in pornography.

- Do not bring in religious literature for distribution. (You may bring one Bible, Koran, or other religious material for your own personal use.)
- Do not seek out religious or political dissidents.
- Do not take ashtrays, towels, menus, glasses, or other mementos from hotels or restaurants.
- Do not accept packages, letters, etc., from local citizens for delivery to the U.S.
- Do not make political comments or engage in political activity.
- Do not be lured into clandestine meetings with would-be informants or defectors.
- Be careful about taking pictures. In some countries it is unwise to take photographs of scenes that could be used to make unfavorable comparisons between U.S. and local standards of living or other cultural differences. Avoid taking any photographs from moving buses, trains, or aircraft.

The following picture subjects are clearly prohibited in most countries where an intelligence or terrorist/insurgent threat is evident:

- ☐ Police or military installations and personnel
- ☐ Bridges
- ☐ Fortifications
- ☐ Railroad facilities
- ☐ Tunnels
- ☐ Elevated trains
- ☐ Border areas
- ☐ Industrial complexes
- ☐ Port complexes
- ☐ Airports

Detention

Most intelligence and security services in threat countries detain persons for a wide range of real or imagined wrongs. The best advice, of course, is to do nothing that would give a foreign service the least reason to pick you up. If you are arrested or detained by host nation intelligence or security, however, remember the following:

- Always ask to contact the U.S. Embassy. You are entitled to do so under international diplomatic and consular agreements, to which most countries are signatories.
- Phrase your request appropriately. In Third World countries, making demands could lead to physical abuse.
- Do not admit to wrongdoing or sign anything. Part of the detention ritual in some threat countries is a written report you will be asked or told to sign. Decline to do so, and continue demanding to contact the Embassy or consulate.
- Do not agree to help your detainer. The foreign intelligence or security service may offer you the opportunity to help them in return for releasing you, foregoing prosecution, or not informing your employer or spouse of your indiscretion. If they will not take a simple no, delay a firm commitment by saying that you have to think it over.
- Report to your supervisor immediately. Once your supervisor is informed, the Embassy or consulate security officer needs to be informed. Depending on the circumstances and your status, the Embassy or consulate may have to provide you assistance in departing the country expeditiously.
- Report to your unit's security officer and your service's criminal investigative branch upon returning to the U.S. This is especially important if you were unable to report to the Embassy or consulate in country. Remember, you will not be able to outwit a foreign intelligence organization. Do not compound your error by betraying your country.

Foreign Terrorist Threat

Terrorism may seem like mindless violence committed without logic or purpose, but it is not. Terrorists attack soft and undefended targets, both people and facilities, to gain political objectives they see as out of reach by less violent means. Many of today's terrorists view no one as innocent. Thus, injury and loss of life are justified as acceptable means to gain the notoriety generated by a violent act in order to support their cause.

Because of their distinctive dress, speech patterns, and outgoing personalities, Americans are often highly visible and easily recognized when they are abroad. The obvious association of U.S. military personnel with their government enhances their potential media and political worth as casualties or hostages. Other U.S. citizens are also at risk, including political figures, police, intelligence personnel, and VIPs (such as businessmen and celebrities).

Therefore, you must develop a comprehensive personal security program to safeguard yourself while traveling abroad. An awareness of the threat and the practice of security procedures like those advocated in crime prevention programs are adequate precautions for the majority of people. While total protection is impossible, basic common sense precautions such as an awareness of any local threat, elimination of predictable travel and lifestyle routines, and security consciousness at your quarters or work locations significantly reduce the probability of success of terrorist attacks.

To realistically evaluate your individual security program, you must understand how terrorists select and identify their victims. Terrorists generally classify targets in terms of accessibility, vulnerability, and political worth (symbolic nature). These perceptions may not be based on the person's actual position, but rather the image of wealth or importance they represent to the public. For each potential target, a risk versus gain assessment is conducted to determine if a terrorist can victimize a target without ramifications to the terrorist organization. It is during this

phase that the terrorist determines if a target is “hard or soft.” A hard target is someone who is aware of the threat of terrorism and adjusts his personal habits accordingly. Soft targets are oblivious to the threat and their surroundings, making easy targets.

Identification by name is another targeting method gathered from aircraft manifests, unit/duty rosters, public documents (Who’s Who or the Social Register), personnel files, discarded mail, or personal papers in trash. Many targets are selected based upon their easily identifiable symbols or trademarks, such as uniforms, luggage (seabags or duffle bags), blatant national symbols (currency, tattoos, and clothing), and decals and bumper stickers.

Travel Security

Travel on temporary duty (TAD/TDY) abroad may require you to stay in commercial hotels. Being away from your home duty station requires increasing your security planning and awareness; this is especially important when choosing and checking into a hotel and during your residence there.

The recent experiences with airport bombings and airplane hijacking suggest some simple precautions:

- You should not travel on commercial aircraft outside the continental U.S. in uniform.
- Prior to traveling by commercial aircraft, you should screen your wallet and other personal items, removing any documents (that is, credit cards, club membership cards, etc.) which would reveal your military affiliation.

NOTE: Current USMC policy requires service members to wear two I.D. tags with metal necklaces when on official business. Also, the current I.D. card must be in possession at all times. These requirements include travel to or through terrorist areas. In view of these requirements, the service member must be prepared to remove and

conceal these and any other items which would identify them as military personnel in the event of a skyjacking.

- You should stay alert to any suspicious activity when traveling. Keep in mind that the less time spent in waiting areas and lobbies, the better. This means adjusting your schedule to reduce your wait at these locations.
- You should not discuss your military affiliation with anyone during your travels because it increases your chances of being singled out as a symbolic victim.
- In case of an incident, you should not confront a terrorist or present a threatening image. The lower profile you present, the less likely you will become a victim or bargaining chip for the terrorists, and your survivability increases.

Hostage Situation

The probability of anyone becoming a hostage is very remote. However, as a member of the Armed Forces, you should always consider yourself a potential hostage or terrorist victim and reflect this in planning your affairs, both personal and professional. You should have an up-to-date will, provide next of kin with an appropriate power-of-attorney, and take measures to ensure your dependents' financial security if necessary. Experience has shown that concern for the welfare of family members is a source of great stress to kidnap victims.

Do not be depressed if negotiation efforts appear to be taking a long time. Remember, chance of survival actually increases with time. The physical and psychological stress experienced while a hostage, could seem overpowering, but the key to your well-being is to approach captivity as a mission. Maintaining emotional control, alertness, and introducing order into each day of captivity will ensure your success and survival with honor.

During interaction with captors, maintaining self respect and dignity can be keys to retaining status as a human being in the captor's eyes. Com-

plying with instructions, avoiding provocative conversations (political, religious, etc.), and establishing a positive relationship will increase survivability. Being polite and freely discussing insignificant and nonessential matters can reinforce this relationship. Under no circumstance should classified information be divulged. If forced to present terrorist demands to the media, make it clear that the demands are those of the captor and that the plea is not made on your behalf. You must remember that you are an American service member; conduct yourself with dignity and honor while maintaining your bearing.

Hostages sometimes are killed during rescue attempts; consequently, you should take measures to protect yourself during such an action. Drop to the floor immediately, remain still and avoid any sudden movement; select a safe corner if it offers more security than the floor. Do not attempt to assist the rescuing forces but wait for instructions. After the rescue, do not make any comment to the media until you have been debriefed by appropriate U.S. authorities.

APPENDIX H:

Deployed Personnel's Guide to Health Maintenance

DoD-prescribed immunizations and medications, including birth control pills, should be brought in sufficient quantity for deployment's duration.

Only food, water, and ice from approved U.S. military sources should be consumed. Consuming food or water from unapproved sources may cause illness. Food should be thoroughly cooked and served hot.

Thorough hand-washing before eating and after using the latrine is highly recommended, as is regular bathing. Feet should be kept dry and treated with antifungal powder. Socks and underwear should be changed daily; underwear should fit loosely and be made of cotton fiber.

Excessive heat and sunlight exposure should be minimized. Maintaining hydration is important, as are following work-rest cycles and wearing uniforms properly. Sunglasses, sunscreen (SPF 15 or higher), and lip balm are recommended. Drinking alcohol should be avoided. Personnel with previous heat injuries should be closely monitored.

Uniforms should be worn properly (blouse boots). DEET should be applied to exposed skin and uniforms treated with permethrin; permethrin is not intended for use on skin. Proper treatment and wear of uniform, plus application of DEET to exposed skin, decreases the risk of diseases transmitted by biting insects.

Overcrowded living areas should be avoided. Ventilated living areas and avoiding coughing or sneezing toward others will reduce colds and other respiratory infections. Cots or sleeping bags should be arranged "head to toe" to avoid the face-to-face contact that spreads germs.

Contact with animals is not recommended. Animals should not be kept as mascots. Cats, dogs, and other animals can transmit disease. Food should not be kept in living areas as it attracts rodents and insects, and trash should be disposed of properly.

Hazardous snakes, plants, spiders, and other insects and arthropods such as scorpions, centipedes, ants, bees, wasps, and flies should be avoided. Those bitten or stung should contact U.S. medical personnel.

All sexual contact should be avoided. Properly used condoms offer some protection from sexually transmitted diseases but not full protection.

Stress and fatigue can be minimized by maintaining physical fitness, staying informed, and sleeping when the mission and safety permits. Alcohol should be avoided as it causes dehydration, contributes to jet lag, can lead to depression, and decreases physical and mental readiness. Separation anxiety, continuous operations, changing conditions, and the observation of human suffering will intensify stress. Assistance from medical personnel or chaplains is available.

Additional Information

Water

If unapproved water, as found in many lakes, rivers, streams, and city water supplies must be used in an emergency, the water may be disinfected by:

- Adding calcium hypochlorite at 5.0 ppm for 30 minutes;
- Adding Chlor-Floc or iodine tablets according to label instructions;
- Heating water to a rolling boil for 5 to 10 minutes; or
- Adding 2 to 4 drops of ordinary chlorine bleach per quart of water and waiting 30 minutes before using it.

Either U.S. military preventive medicine or veterinary personnel should inspect bottled water supplies. Bottled water does not guarantee purity; direct sunlight on bottled water supplies may promote bacterial growth.

Water in canals, lakes, rivers, and streams is likely contaminated; unnecessary bathing, swimming, and wading should be avoided. If the tactical situation requires entering bodies of water, all exposed skin should be covered to protect from parasites. Following exposure, it is important to dry vigorously and change clothing.

Rodents

Rodents should not be tolerated in the unit area; they can spread serious illness. Diseases may be contracted through rodent bites or scratches, transmitted by insects carried on rodents (such as fleas, ticks, or mites), or by contamination of food from rodent nesting or feeding. Personnel can minimize the risk of disease caused by rodents by:

- Maintaining a high state of sanitation throughout the unit area;
- Sealing openings 1/4 inch or greater to prevent rodents from entering unit areas;
- Avoiding inhalation of dust when cleaning previously unoccupied areas (mist these areas with water prior to sweeping; when possible, disinfect area using 3 ounces of liquid bleach per 1 gallon of water).
- Promptly removing dead rodents. Personnel should use disposable gloves or plastic bags over the hands when handling any dead animal and place the dead rodent/animal into a plastic bag prior to disposal.
- Seeking immediate attention if bitten or scratched by a rodent or if experiencing difficulty breathing or flu-like symptoms.

Insects

Exposure to harmful insects, ticks, and other pests is a year-round, worldwide risk. The following protective measures reduce the risk of insect and tick bites:

- Use DoD-approved insect repellents properly;
- Apply DEET on all exposed skin;
- Apply permethrin on clothing and bed nets;
- Tuck bed net under bedding; use bed net pole;
- Avoid exposure to living or dead animals;
- Regularly check for ticks;
- Discourage pests by disposing of trash properly; eliminate food storage in living areas; and

- Cover exposed skin by keeping sleeves rolled down when possible, especially during peak periods of mosquito biting (dusk and dawn); keep undershirts tucked into pants; tuck pant legs into boots.

Uniforms correctly treated with permethrin, using either the aerosol spray-can method (reapply after sixth laundering) or with the Individual Dynamic Absorption (IDA) impregnation kit (good for 6 months or the life of the uniform) will help minimize risks posed by insects. The date of treatment should be labeled on the uniform.

Bed nets should be treated with permethrin for protection against biting insects using either the single aerosol spray can method (treating two bed nets) or the unit's 2-gallon sprayer. All personnel should sleep under mosquito nets, regardless of time of day, ensure netting is tucked under bedding, and use poles to prevent bed nets from draping on the skin.

DoD-approved insect repellents are:

IDA KIT: NSN 6840-01-345-0237

Permethrin Aerosol Spray: NSN 6840-01-278-1336

DEET Insect Repellent: NSN 6840-01-284-3982

Hot Weather

If heat is a threat in the area, personnel should:

- Stay hydrated by drinking water frequently;
- Follow work-rest cycles;
- Monitor others who may have heat-related problems;
- Wear uniforms properly;
- Use a sun block (SPF 15 or higher), sunglasses, and lip balm;
- During hot weather, wear natural fiber clothing (such as cotton) next to the skin for increased ventilation;
- Seek immediate medical attention for heat injuries such as cramps, exhaustion, or stroke. Heat injuries can also occur in cold weather;
- Avoid standing in direct sunlight for long periods; be prepared for sudden drops in temperature at night, and construct wind screens if necessary to avoid blowing dust or sand.

Sunscreens:

Sunscreen lotion: NSN 6505-01-121-2336

Non-alcohol lotion base sunscreen: NSN 6505-01-267-1486

Work/Rest Table

Heat Cat	WBGT Index (° F)	EASY WORK		MODERATE WORK		HARD WORK	
		Work / Rest	Water Intake (Qt/Hr)	Work / Rest	Water Intake (Qt/Hr)	Work / Rest	Water Intake (Qt/Hr)
1	78 – 81.9	NL	1/2	NL	3/4	40/20 min	3/4
2	82 – 84.9	NL	1/2	50/10 min	3/4	30/30 min	1
3	85 – 87.9	NL	3/4	40/20 min	3/4	30/30 min	1
4	88 – 89.9	NL	3/4	30/30 min	3/4	20/40 min	1
5	> 90	50/10 min	1	20/40 min	1	10/50 min	1

The work/rest times and fluid replacement volumes will sustain performance and hydration for at least 4 hours of work in the specific heat category. Individual water needs will vary +/- (plus/minus) 1/4 qt/hr.

NL = no limit to work time per hour. Rest means minimal physical activity (sitting or standing) and should be accomplished in shade if possible.

Caution: Hourly fluid intake should not exceed 1 ½ quarts. Daily fluid intake should not exceed 12 quarts. Note: MOPP gear adds 10° to WBGT Index.

Food

High risk food items such as fresh eggs, unpasteurized dairy products, lettuce or other uncooked vegetables, and raw or undercooked meats should be avoided unless they are from U.S. military approved sources. Those who must consume unapproved foods should choose low risk foods such as bread and other baked goods, fruits that have thick peels (washed with safe water), and boiled foods such as rice and vegetables.

Human Waste

Military-approved latrines should be used when possible. If no latrines are available, personnel should bury all human waste in pits or trenches.

Cold Weather

If cold weather injuries are a threat in the area, personnel should:

- Drink plenty of fluids, preferably water or other decaffeinated beverages;
- Closely monitor others who have had previous cold injuries;
- Use well-ventilated warming tents and hot liquids for relief from the cold. Watch for shivering and increase rations to the equivalent of four MREs per day;
- Not rest or sleep in tents or vehicles unless well ventilated; temperatures can drop drastically at night;
- Dress in layers, wear polypropylene long underwear, and use sunglasses, scarf, unscented lip balm, sunscreen, and skin moisturizers;
- Insulate themselves from the ground with tree boughs or sleeping mats and construct windscreens to avoid unnecessary heat loss; and
- Remember that loss of sensitivity in any body part requires immediate medical attention.

WIND SPEED		COOLING POWER OF WIND EXPRESSED AS "EQUIVALENT CHILL TEMPERATURE"																					
KNOTS	MPH	TEMPERATURE (°F)																					
CALM	CALM	48	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45	-50	-55	-60	
		EQUIVALENT CHILL TEMPERATURE																					
3 - 6	5	36	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45	-50	-55	-60	-65	
7 - 10	10	30	20	15	10	5	0	-10	-15	-20	-25	-30	-35	-40	-45	-50	-55	-60	-65	-70	-75	-80	
11 - 15	15	25	15	10	5	0	-5	-10	-20	-25	-30	-35	-40	-45	-50	-55	-60	-65	-70	-80	-85	-90	
16 - 19	20	20	10	5	0	-10	-15	-20	-30	-35	-40	-45	-50	-55	-60	-65	-70	-75	-80	-85	-90	-95	
20 - 23	25	15	10	0	-5	-10	-20	-30	-35	-40	-45	-50	-55	-60	-65	-70	-75	-80	-85	-90	-95	-100	
24 - 28	30	10	5	0	-10	-20	-25	-30	-40	-45	-50	-55	-60	-65	-70	-75	-80	-85	-90	-95	-100	-105	
29 - 32	35	10	5	-5	-10	-20	-30	-35	-40	-50	-55	-60	-65	-70	-75	-80	-85	-90	-95	-100	-105	-110	
33 - 36	40	10	0	-5	-10	-20	-30	-35	-45	-50	-60	-65	-70	-75	-80	-85	-90	-95	-100	-105	-110	-115	
Winds Above 40 MPH (rare, Little Additional Effect)		LITTLE DANGER					INCREASING DANGER Flesh may freeze within 1 minute					GREAT DANGER Flesh may freeze within 30 seconds											

First Aid

Basic Lifesaving

Those caring for injured persons should immediately:

- Establish an open airway,
- Ensure the victim is breathing,
- Stop bleeding to support circulation,
- Prevent further disability,
- Place dressing over open wounds,
- Immobilize neck injuries,
- Splint obvious limb deformities, and
- Minimize further exposure to adverse weather.

Injuries and Care

Shock

Symptoms:

- Confusion
- Cold, clammy skin
- Sweating
- Shallow, labored, and rapid breathing
- Rapid pulse

Treatment:

- An open airway should be maintained.
- Unconscious victims should be placed on their side.
- Victims should be kept calm, warm, and comfortable.
- Lower extremities should be elevated.
- Medical attention should be sought as soon as possible.

Abdominal Wound

Treatment:

- Exposed organs should be covered with moist, clean dressing.
- Wound should be secured with bandages.
- Organs that have been displaced should never be reintroduced to the body.

Bleeding

Treatment:

- Direct pressure with hand should be applied; a dressing should be used if available.
- Injured extremity should be elevated if no fractures are suspected.
- Pressure points may be used to control bleeding.
- Dressings should not be removed; additional dressings may be applied over old dressings.

Tourniquet:

- **NOTE: Tourniquets should only be used when an injury is life threatening.**
- A 1-inch band should be tied between the injury and the heart, 2 to 4 inches from the injury, to stop severe bleeding; wire or shoe strings should not be used.
- Band should be tight enough to stop bleeding and no tighter.
- Once the tourniquet is tied, it should not be loosened.
- The tourniquet should be left exposed for quick visual reference.
- The time that the tourniquet is tied and the letter “T” should be written on the casualty’s forehead.

Eye Injury

Treatment:

- Embedded objects should not be removed; dressings should secure objects to prohibit movement.

- Bandages should be applied lightly to both eyes.
- Patients should be continuously attended.

Chest Wound

Symptoms:

- Sucking noise from chest
- Frothy red blood from wound

Treatment:

- Entry and exit wounds should be identified; wounds should be covered (aluminum foil, ID card).
- Three sides of the material covering the wound should be taped, leaving the bottom untaped.
- Victim should be positioned to facilitate easiest breathing.

Fractures

Symptoms:

- Deformity, bruising
- Tenderness
- Swelling and discoloration

Treatment:

- Fractured limb should not be straightened.
- Injury should be splinted with minimal movement of injured person.
- Joints above and below the injury should be splinted.
- If not in a chemical environment, clothing should be removed from injured area.
- Rings should be removed from fingers.
- Pulse should be checked below injury to determine blood flow restrictions.

Spinal, Neck, Head Injury

Symptom:

- Lack of feeling and/or control below neck

Treatment:

- Conscious victims should be cautioned to remain still.
- Airway should be checked without moving injured person's head.
- Victims who must be moved should be placed, without bending or rotating victim's head and neck, on a hard surface that would act as a litter (door, cut lumber).
- Head and neck should be immobilized.

Heat Injuries

Heat Cramps

Symptoms:

- Spasms, usually in muscles or arms
- Results from strenuous work or exercise
- Loss of salt in the body
- Normal body temperature

Heat Exhaustion

Symptoms:

- Cramps in abdomen or limbs
- Pale skin
- Dizziness, faintness, weakness
- Nausea or vomiting
- Profuse sweating or moist, cool skin
- Weak pulse
- Normal body temperature

Heat Stroke

Symptoms:

- Headache
- Dizziness
- Red face/skin
- Hot, dry skin (no sweating)
- Strong, rapid pulse
- High body temperature (hot to touch)

Treatment:

- Victim should be treated for shock.
- Victim should be laid in a cool area with clothing loosened.
- Victim can be cooled by sprinkling with cool water or fanning (though not to the point of shivering).
- If conscious, victim may drink cool water (2 teaspoons of salt to one canteen may be added).
- Medical attention should be sought immediately; heat stroke can result in death.

Burns

Burns may be caused by heat (thermal), electricity, chemicals, or radiation. Treatment is based on depth, size, and severity (termed degree of burn). All burn victims should be treated for shock and seen by medical personnel.

Thermal/First Degree

Symptoms:

- Skin reddens
- Painful

Treatment:

- Source of burn should be removed.

- Cool water should be applied to the affected area.

Thermal/Second Degree

Symptoms:

- Skin reddens and blisters
- Very painful

Treatment:

- Source of burn should be removed.
- Cool water should be applied to the affected area.
- Blisters should not be broken.
- A dry dressing should cover the affected area.

Thermal/Third Degree

Symptoms:

- Charred or whitish looking skin
- May burn to the bone
- Burned area not painful; surrounding area very painful

Treatment:

- Source of burn should be removed.
- Clothing that adheres to burned area should not be removed.
- A dry dressing should cover the affected area.

Electrical Burns

Treatment:

- Power source must be off.
- Entry and exit wounds should be identified.
- Burned area should be treated in accordance with its severity.

Chemical Burns

Treatment:

- Skin should be flushed with a large amount of water; eyes should be flushed for at least 20 minutes.
- Visible contaminants should be removed.
- Phosphorus burns should be covered with a wet dressing (prevents air from activating the phosphorous)

Cold Injuries

Hypothermia

Symptoms:

- Body is cold under clothing
- Victim may appear confused or dead

Treatment:

- Victim should be moved to a warm place.
- Wet clothing should be removed; victim should be dressed in warm clothing or wrapped in a dry blanket.
- Body parts should not be rubbed.
- Victims must not consume alcoholic beverages.

Frostbite

Symptoms:

- Skin appears white or waxy
- Skin is hard to the touch

Treatment:

- Victim should be moved to a warm place.
- Affected area should be warmed in 104 to 108° F (40° C) water for 15 to 30 minutes (NOT hot water).
- Affected area should be covered with several layers of clothing.

- Affected area must not be rubbed.
- Victim must seek medical attention.

Emergency Life-Saving Equipment

Equipment may be improvised when necessary. Following is a list of possible uses for commonly found items.

Shirts = Dressings/Bandages
Belts, Ties = Tourniquets, Bandages
Towels, Sheets = Dressings/Bandages
Socks, Panty Hose, Flight cap = Dressings/Bandages
Sticks or Tree Limbs = Splints
Blankets = Litters, Splints
Field Jackets = Litters
BDU Shirts = Litters/Splints
Ponchos = Litters/Bandages
Rifle Sling = Bandages
M-16 Heat Guards = Splints

APPENDIX I:

Dangerous Animals and Plants

Horned Desert Viper

Description:

Adult length 0.6 meter, maximum 0.9 meter. Background generally yellow, yellow-brown, pale gray, pinkish, or pale brown, with rows of dark spots along back. Belly whitish. May have long spine-like horn above eyes.



Habitat:

Found in deserts where there are rock outcroppings and fine sand, often in very arid places; however, may be found near oases.

Activity and behavioral patterns:

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

Venom's effects:

Venom is primarily hemotoxic. Local symptoms include edema, redness, internal hemorrhage, and areas of gangrene. Venom has coagulant properties at low concentrations, anticoagulant properties at high concentrations. Fatalities are rare.

Arthropods

Scorpions

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

Spiders

Although there are several spider species in the region that are capable of inflicting a painful bite, none are considered 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 two weeks. The substance is extremely irritating if it gets into the eyes; temporary blindness has been reported.

Centipedes

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

Millipedes

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



Plants

Croton

Other names:

Ciega-vista,
purging croton.

Mechanisms of toxicity:

Long lasting vesicular dermatitis results from contact with the resin. The cathartic and purgative properties of the toxins (croton oil, a "phorbol," in leaves, stems, and seeds) cause severe gastroenteritis, even death; 20 drops potentially lethal (the oil applied externally will blister the skin). Many are covered with hundreds of sticky hairs that cling to the skin on contact. Contact with the eyes can be serious.



Comments:

Croton is a wooly-haired annual herb, evergreen bush, or small tree with smooth ash-colored bark, yellow-green leaves, small flowers, and fruit.

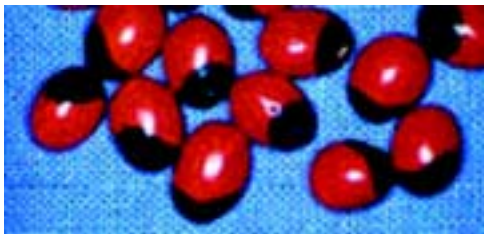
Rosary Pea

Other names:

Precatory bean, coral pea, crab's eyes, lucky beans, Paternoster beans.

Mechanisms of toxicity:

Contains several indole alkaloids such as abrine and abrin (a toxalbumin), which can kill. The unchewed seeds are impervious and will pass through the GI tract without harm. Seeds are attractive and



frequently used to make rosaries, necklaces, etc. Poison can be absorbed through breaks in the skin if integrity of the hull is compromised; for example, while stringing beads for a necklace. Onset of toxicity is usually seen in 1-3 days. Rosary pea is documented to have a quickly fatal potential (neurotoxin and hemocoagulant), having killed a child who thoroughly chewed one seed. Dermatitis may also occur from wearing a necklace of stringed beads.

Comments:

The genus includes 17 species of slender, twining vines with a woody base supported by other plants or a fence. Fruit is a dehiscent pod; inside the pod are three to five glossy, red and black seeds (used by many as ornaments). Note: Rosary pea seeds are black at the site of attachment (hilum) and are easily confused with the much less toxic Mexican Rhynchosia (piule). The colors are reversed in piule seeds. Symptoms of toxicity include nausea and vomiting with abdominal pains, bloody diarrhea, fever, shock, coma. Used in South America and Africa in folk medicine.

Jimsonweed

Other names:

Thorn-apple, stinkweed,
Devil's trumpet.

Mechanisms of toxicity:

The entire plant is toxic because of tropane alkaloids. Fragrance from the flowers may cause respiratory irritation, and the sap can cause contact dermatitis. People have been poisoned through consumption of crushed seeds accidentally included in flour; also through attempting to experience the hallucinogenic "high." Jimsonweed can kill quickly.



Comments:

Originally called Jamestown weed after the mass poisoning of soldiers sent to quell Bacon's Rebellion in 1666 who ate the seeds during a severe food shortage. Often confused with Angel's Trumpet.

Yellow Heads

No Photograph Available

Other names:

Woolly-headed gnidia

Mechanisms of toxicity:

Shrubs or small trees with extremely irritating resin. The root and flower of many species are strongly purgative — is the source of the drug radjo. Some species have been shown to contain mezereine (irritant resin) and daphnine (an alkaloid).

Comments:

Approximately 140 species found in tropical and southern Africa to the Arabian peninsula, and from Madagascar to western India and Sri Lanka.

Mole Plant

Other names:

Caper spurge, Mexican fire plant, milkweed, cat's milk, red spurge, poison/cypress spurge, candela-bra cactus, wartwort, sun spurge, mala mujer, Indian spurge tree, milkwood, pencil tree, pencil cactus, rubber euphorbia.



Mechanisms of toxicity:

Herbs, often with colored or milky sap, containing complex terpenes; irritate the eyes, mouth, and gastrointestinal tract, and many cause dermatitis by direct contact. In some cases rain water dripping from the plant will contain enough toxic principle to produce dermatitis and keratoconjunctivitis; can blind. Some contain urticating hairs (skin contact breaks off ends and toxic chemicals are injected). The caper spurge has killed those who mistook the fruit for capers. The Mexican fire plant was known for having medicinal properties in the first century and has killed children. Red spurge causes dermatitis. The pencil cactus has an abundant, white, acrid sap extremely irritating to the skin; has caused temporary blindness when accidentally splashed in the eyes, and has killed as a result of severe gastroenteritis after ingestion.

Comments:

Approximately 2,000 species of extremely variable form; may appear as herbs, shrubs or trees — many are cactus-like. Fruit is usually a capsule opening in three parts, each one seeded; sometimes a drupe.

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:

Genus includes many species, widely naturalized.

Gomboge Tree

No Photo 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.



Poison Ivy

Other names:

Manzanillo, poison oak, poison sumac, Chinese/Japanese lacquer tree, Japanese tallow or wax tree, scarlet rhus, sumac

Mechanisms of toxicity:

All contain allergenic nonvolatile oils known as urushiols in the resin canals; these oils are highly sensitizing (delayed, type IV sensitivity) for some individuals.



Comments:

All are deciduous, and the leaves turn red before being shed. Poison ivy is a climbing or trailing vine with trifoliate leaves, smooth above and hairy beneath. Poison oak is never a climbing shrub, alternately three-leafed, smooth above and hairy beneath, found in disturbed areas and along trails in North America and is a common source of dermatitis. Poison sumac is a shrub or small tree with 7 to 13 alternate leaflets found in swampy areas of North America. Dermatitis caused by this species is rare because it inhabits isolated areas to which few people are exposed. Some individuals suffer intense, debilitating reactions from contact with its chemicals.

Black Bryony

No Photograph Available

Mechanism of toxicity:

Primary injurious agents are calcium oxalate crystals, which cause severe irritation of oral mucosa, nausea, and diarrhea if ingested and are irritating to the skin. The attractive bright red berries often eaten by children. Fresh rootstock contains histamine-like substance; has caused severe burning of the skin with erythema, painful swellings, and sometimes allergic reactions. Alkaloids, saponins and photosensitizing phenan-

threne derivatives are also present in the leaves and tubers, but only in trace amounts; therefore, there is little or no effect on plant toxicity.

Comments:

Perennial herb with a twining stem found at edges of woods and hedgerows, and in thickets on rich calcareous soils. Young shoots lack calcium oxalate crystals, and are eaten in Dalmatia as a vegetable. Also used to treat rheumatic conditions in Hungary by rubbing the freshly cut, sticky, shiny surface of roots on the skin.

Bushman's Poison

Other name:

Wintersweet

Mechanisms of toxicity:

Seeds have a high concentration of toxin (cardiac glycosides); fruit pulp contains only traces. Wood extract is easily absorbed 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.

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).

Panama Tree

Other names:

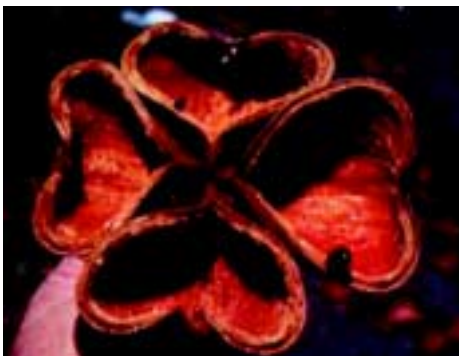
Castano, tartarum.

Mechanisms of toxicity:

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

Comments:

200 tropical species.



Bitter Apple, Bitter Gourd

No Photograph Available

Mechanisms of toxicity:

Dried pulp is a drastic purgative that has caused bloody diarrhea, even toxic colitis and death; chemical nature unclear.

Comments:

Has a thick tap-root and numerous coarse, sprawling stems up to 18 feet long. Leaves are longer than they are wide and have stiff hairs on both surfaces. Abundant in dry inland areas. Botanical literature frequently confused as to identification; often mistaken for harmless plants.

Castor Oil Plant**Other Name:**

Castorbean

Mechanisms of toxicity:

Used to make a feed supplement; serious poisonings have been caused by its lecithin (highly toxic chemical), and some low-molecular weight glycoproteins with allergenic activity. Factors making this a high-risk plant threat are its attractive nuts with a hazelnut-like taste; the highly toxic ricin present in high concentration (2-6 seeds can



be fatal); and stability of ricin in the presence of gastric enzymes. The seeds are used to make necklaces, requiring boring a hole through the seed and breaking the otherwise impermeable coat, allowing the possibility of toxin to reach the skin and enter the body through minor abrasions. Poisoning becomes evident after several hours.

Comments:

Seeds of this ancient plant have been found in Egyptian graves dating to 4,000 B.C. Cultivated worldwide for 6,000 years for castor oil.

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 seed is deadly. An hour after ingestion, nausea, dizziness, and abdominal pain begin, followed by reddening lips, dilated pupils, shallow breathing, and coma. Then the pulse slows, blood pressure drops, and death occurs by respiratory paralysis. No proven treatment exists. Emptying the stomach can be helpful as leaves may be slow to pass through the GI tract. Various clinical measures (circulatory stimulants, artificial respiration) 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.”



Desert Rose

Other names:

Monkey poison, mock azalea, impala lily.

Mechanisms of toxicity:

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

Comments:

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



APPENDIX J:

International Telephone Codes

International Telephone Codes			
Algeria	213	Malta	356
Australia	61	Mexico	52
Austria	43	Morocco	212
Bahrain	973	Netherlands	31
Belgium	32	Nigeria	234
Brazil	55	New Zealand	64
Canada	1	Norway	47
China	86	Oman	968
Cyprus	357	Philippines	63
Denmark	45	Portugal	351
Djibouti	253	Qatar	974
Egypt	20	Republic of Korea	82
Ethiopia	251	Saudi Arabia	966
Finland	358	Senegal	221
France	33	Seychelles	248
Gabon	241	Singapore	65
Germany	49	Somalia	252
Greece	30	South Africa	27
Hawaii	1	Spain	34
Hong Kong	852	Sweden	46
Indonesia	62	Switzerland	41
Iran	98	Syria	963
Iraq	964	Taiwan	886
Ireland	353	Tanzania	255
Israel	972	Thailand	66
Ivory Coast	225	Tunisia	216
Japan	81	Turkey	90
Jordan	962	UAE	971
Kenya	254	United Kingdom	44
Kuwait	965	United States	1
Libya	218	Yemen	967
Madagascar	261	Zambia	260
Malaysia	60	Zimbabwe	263
AT&T (public phones)	0072-911 or 0030-911	On-base	550-HOME or 550-2USA

Notes

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper has a slight shadow on the right side, suggesting it's resting on a surface. There is no handwriting or other markings on the paper.

Notes

[illegible]

Notes

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper has a slight shadow on the right side, suggesting it's resting on a surface. There is no handwriting or other markings on the paper.

Notes

[illegible]

Notes

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper has a slight shadow on the right side, suggesting it's resting on a surface. There is no handwriting or other markings on the paper.

Notes

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper has a slight shadow on the right side, suggesting it's resting on a surface. There is no handwriting or other markings on the paper.

Notes

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Notes

[illegible]