

Pakistan Country Handbook

This handbook provides basic reference information on Pakistan, 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 Pakistan.

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

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CONTENTS

KEY FACTS	1
U.S. MISSION	2
U.S. Embassy	2
Travel Advisories	2
Credit Cards and Banking	4
GEOGRAPHY AND CLIMATE	4
Geography	4
Land Statistics	4
Borders	4
Bodies of Water	5
Topography	7
Cross-country Movement	11
Climate	11
Temperatures	11
Precipitation	14
Phenomena	15
Environment	15
INFRASTRUCTURE	16
Transportation	16
Roads	16
Rail	19
Air	20
Maritime	24
Utilities	25
Electrical	25
Water	27
Communication	28
Radio	28
Television	30

Contents (Continued)

Telecommunication	31
Newspapers and Magazines	32
Postal Service	33
Satellites	34
Internet	34
CULTURE	35
Statistics	35
Population Patterns	35
Population Density	36
Society	37
People	39
Ethnic Groups	39
Roles of Men and Women	45
Rites of Passage	46
Education and Literacy	47
Language	48
Religion	49
Recreation	50
Customs and Courtesies	52
Greetings	52
Gestures	53
Cultural Considerations	53
Dress Standards	53
Eating	54
Interpersonal Relations	56
MEDICAL ASSESSMENT	56
Disease Risks to Deployed Personnel	56
Medical Capabilities	59
Key Medical Treatment Facilities	61

Contents (Continued)

HISTORY	64
Early History	64
Recent History	69
Chronology of Key Events	70
GOVERNMENT AND POLITICS	71
Government	71
National Level	71
Local Level	74
Politics	76
Political Parties	76
Foreign Relations	80
International Organizations	83
ECONOMY	84
Economic Statistics	85
Resources	86
Industry	88
Foreign Investment	91
Outlook	91
THREAT	92
Crime	92
Travel Security	93
Terrorist Threat Assessment	97
Drug Trafficking	100
Intelligence Threat	103
ARMED FORCES	103
Capabilities	104
Mission	105
Personnel	105
Uniforms, Ranks, and Insignia	107
Strategy	108

Contents (Continued)

Army	109
Mission	109
Personnel	109
Organization	110
Capability	115
Training	115
Equipment	116
Navy	119
Mission	119
Personnel	120
Organization	120
Capability	122
Training	123
Equipment	124
Marine Corps	126
Mission	126
History	126
Personnel	126
Organization	127
Training	127
Equipment	128
Air Force	129
Mission	129
Personnel	130
Organization	130
Capability	133
Training	133
Women in the PAF	135
Equipment	135

Contents (Continued)

Unmanned Aerial Vehicles	135
Special Forces	138
Paramilitary Force	139
Border Guards	139
Coast Guard	140
Maritime Security Agency	140
Police	141
Weapons of Mass Destruction	143
Nuclear Weapons	143
Biological Weapons	144
Chemical Weapons	144
Ballistic Missiles	145

APPENDICES

Equipment Recognition	A-1
Holidays	B-1
Language	C-1
Dangerous Plants and Animals	D-1

ILLUSTRATIONS

Pakistan	x
National Flag	1
U.S. Embassy	3
Southwest Asia	5
A Meandering River in Balochistan	6
Topography	8
K2, the World's Second Tallest Mountain	9

Contents (Continued)

Naran Valley	10
Islamabad and Karachi Weather	12
Gilgit and Quetta Weather	13
Trucks are Painted in Vivid Colors	16
Transportation	17
Colorful Buses are a Common Sight	18
Lahore Railway Station	19
Jinnah International Airport in Karachi	20
Lahore, Pakistan's Second Largest City	36
Population Density	37
Ethnic Groups	41
Pakistani Children	44
Badshahi Masjid, Mosque in Lahore	50
Polo and Cricket Match	51
Disputed Kashmir Region.	67
Parliament House in Islamabad	73
Pakistan Supreme Court, Islamabad	74
Administrative Districts	75
Land Use	86
World's Largest Land Salt Mine, Khewra	87
Sidewalk Shoe Repairman in Karachi	88
Textile Market	89
Industry	90
Opium Poppy Cultivation	102
Pakistan Army Rank Insignia	108
Army Organization	111
Pakistan Military Bases	113
Pakistan Navy Organization	121
Pakistan Navy Rank Insignia	123

Contents (Continued)

Pakistan Air Force Organization	130
Pakistan Air Force Rank Insignia	134



Pakistan

KEY FACTS

Country Name. Islamic Republic of Pakistan.

Flag. A green flag with a vertical white band (hoist side) symbolizing the role of religious minorities. A large white crescent and star are centered in the green field. The crescent and star (together, a traditional symbol of Islam) symbolize progress, light, and knowledge; the color green signifies the Muslim majority.

Head of State. President Asif Ali Zardari.

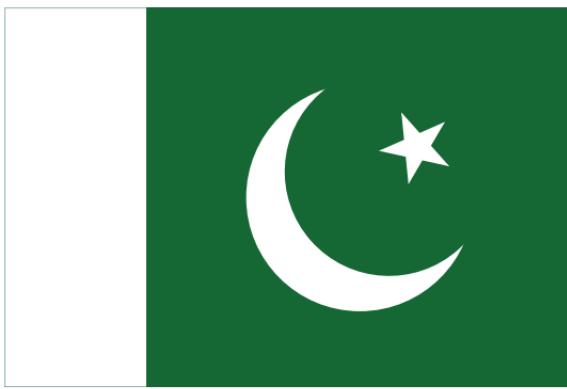
Capital. Islamabad.

Population. 165,803,560 (July 2006 est.).

Languages. There are two official languages, Urdu and English. While Urdu is the most common language, English is often used in government, academia, and business. Other languages include Punjabi, 48 percent; Sindhi, 12 percent; Siraiki (a Punjabi variant), 10 percent; Pashtu, 8 percent; Balochi, 3 percent; Hindko, 2 percent; Brahui, 1 percent; Burushaski and several others, combined, 8 percent.

Currency. Pakistani Rupee (Rs).

Time Zone. UTC (formerly GMT) + 5.5 hours.



National Flag

Calendar. Pakistan follows the lunar-based Islamic calendar for religious purposes; it uses the Gregorian calendar for other official purposes. The fiscal year runs from 1 July to 30 June.

U.S. MISSION

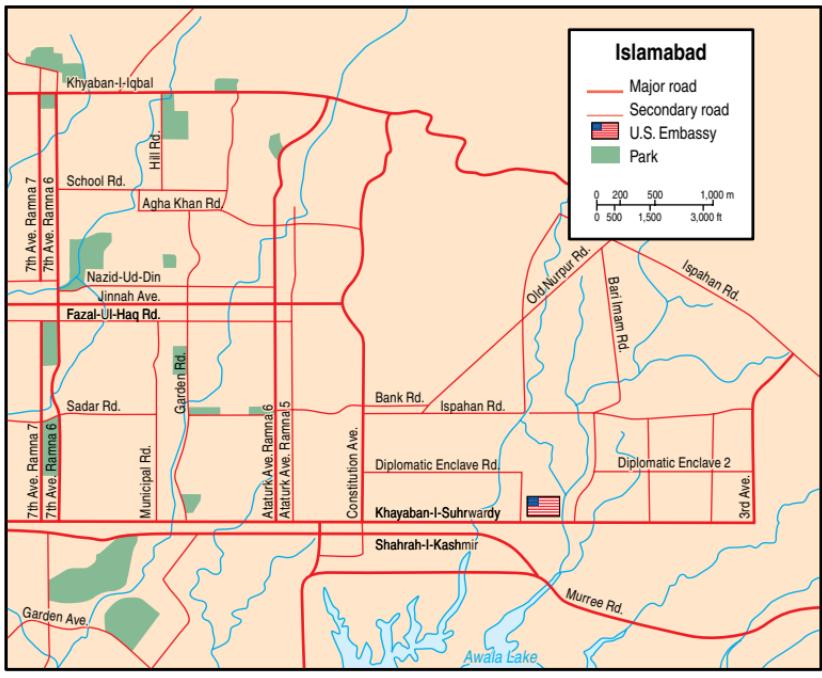
U.S. Embassy

<i>Location</i>	Islamabad
<i>Mailing Address</i>	
<i>From Pakistan</i>	Diplomatic Enclave, Ramna 5, Islamabad
<i>From the United States</i>	PO Box 1048, Unit 62200, APO AE 09812-2200
<i>Telephone</i>	(+92) 51.2080.0000
<i>Fax</i>	(+92) 51.2276427

Travel Advisories

Due to ongoing concerns about terrorists targeting U.S. citizens and interests, the Department of State dissuades non-essential travel for U.S. citizens to Pakistan. The U.S. Embassy and the consulates in Karachi, Lahore, and Peshawar currently operate with a reduced staff. Family members of U.S. officials assigned to the embassy and consulates were ordered to leave the country in March 2002; they have not been allowed to return.

Al Qa'ida (AQ) and Taliban cells operate inside Pakistan, particularly along the Afghanistan border. Their presence, and that of indigenous sectarian and militant groups, poses a danger to U.S. citizens. Continuing tensions in the Middle East also increase the possibility of violence against Westerners in Pakistan.



U.S. Embassy

As security has tightened at official U.S. facilities, terrorists have attacked more vulnerable targets, including places where Westerners are known to congregate or visit. Such targets include hotels, clubs and restaurants, places of worship, schools, and outdoor recreation events.

Non-Pakistanis are restricted from many areas of Pakistan, such as the Federally Administered Tribal Areas (FATA) along the Afghanistan border and the area adjacent to the Line of Control in Kashmir. Travel to any restricted region requires official permission from Pakistan. Failure to obtain permission can result in arrest and detention by Pakistani authorities.

Credit Cards and Banking

Pakistan's central bank is the State Bank of Pakistan. Domestic commercial banks include Allied Bank, Habib Bank, National Bank of Pakistan, United Bank, and Cooperative Banks. There are also 15 principal foreign banks in Pakistan, including ANZ Grindlays, Abn Amro, Emirates Bank International, American Express, and City Bank.

Banks are open from 0900 to 1700 except for a 1-hour break on Monday through Thursday and a 2-hour break on Friday. They are open from 0900 to 1330 on Saturday and closed on Sunday. ATMs are found in large population centers—Islamabad, Lahore, Quetta, and Karachi—and increasingly at smaller centers.

Traveler's checks and major credit cards such as American Express, Visa, and Master Card are widely accepted and can be used for most transactions. Currency can be exchanged at all international airports and banks. The U.S. dollar is the most widely accepted currency; it is followed by the UK pound and the euro.

GEOGRAPHY AND CLIMATE

Geography

Land Statistics

Total Area: 803,940 square kilometers (310,403 square miles)

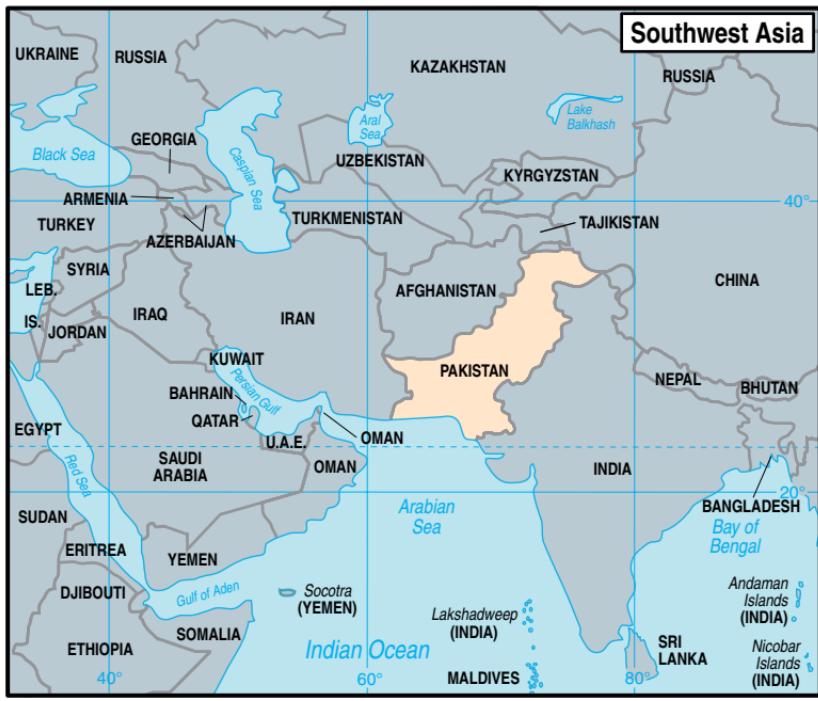
Water Area: 25,220 square kilometers (9,737 square miles)

Coastline: 1,046 kilometers (650 miles)

Comparative: Slightly less than twice the size of California

Borders

Direction	Country	Length km (mi)
Southwest	Iran	909 kilometers (565 miles)
West and north	Afghanistan	2,430 kilometers (1,510 miles)



Southwest Asia

Northeast	China	523 kilometers (325 miles)
East	India	2,912 kilometers (1,809 miles)
South	(Arabian Sea)	1,046 kilometers (650 miles)
<i>Total</i>		7,820 kilometers (4,859 miles)

Bodies of Water

Pakistan has a 1,046-km (650-mile) coastline along the Arabian Sea. The country claims, in accordance with the 1982 UN Convention on the Law of the Sea, a 200-nm exclusive economic zone, a 12-nm territorial sea, and a 4-nm contiguous zone for security, customs, immigration, and other matters.



A Meandering River in Balochistan (*Photo by Nasir Khan*)

Pakistan's main river, the Indus, originates in Tibet's Himalayan Mountains. It flows west, through the Kashmir region, before taking a southwest course along Pakistan (2,749 km/1,708 miles) to the Arabian Sea. The upper Indus River is too turbulent for navigation. The lower Indus, while navigable by small boats, is rarely used because Pakistan's railroad system is more efficient. The Indus River is chiefly used for Indus Valley crop irrigation and generating hydroelectric power.

In eastern Pakistan, the Indus River is fed by five main tributaries, commonly called the "five rivers of the Punjab" in reference to Pakistan's Punjab Province. These rivers are the Chenab, 729 km (453 miles); Ravi, 679 km (422 miles); Jhelum, 610 km (379 miles); Sutlej, 529 km (329 miles); and Beas, 402 km (250 miles). Only small, unconnected portions of these rivers are navigable due to substantial irrigation structures and seasonal changes in water flow.

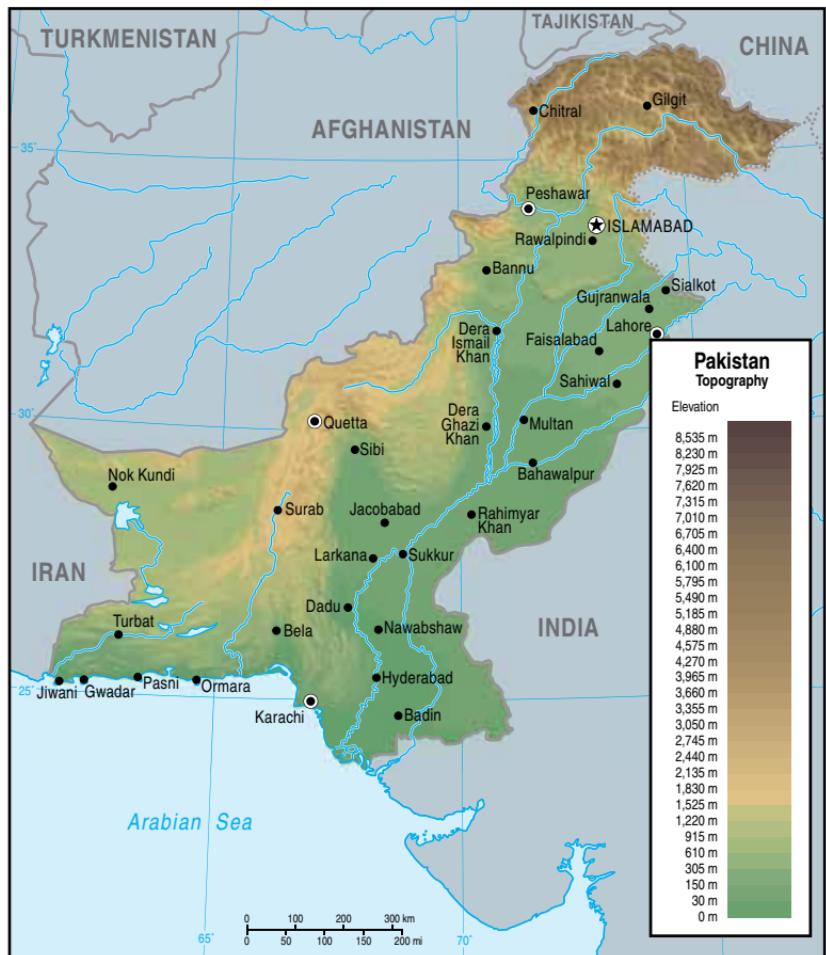
Topography

Pakistan's terrain is divided into three major topographic areas: the Northern Highlands, the Indus River Plain in the east, and the Balochistan Plateau in the west.

The Northern Highlands includes the area north of Islamabad, parts of the Hindu Kush Mountains, the Karakoram Range, and the Himalayas. This area includes such famous peaks as K2, the world's second highest peak at 8,611 meters (28,251 feet), and Nanga Parbat, the world's 12th highest peak at 8,126 meters (26,660 feet). More than half of the summits are higher than 4,500 meters (14,764 feet) and more than 50 peaks exceed 6,500 meters (21,325 feet). Traveling to the highlands is treacherous despite government efforts to improve infrastructure to increase tourism. The

Northern Highlands and the Himalayas make moving from the north into Pakistan difficult.

The Balochistan Plateau is south of the Northern Highlands and west of the Indus River. It is generally arid, except in the north-



Topography



K2, the World's Second Tallest Mountain

east where the conditions are wetter. The area contains many low mountain ranges. The Safid Koh Range runs along Afghanistan's border; the Sulaiman and the Kirthar ranges, reaching almost to the Pakistan's southern coast, define the western extent of the Sindh Province. Smaller mountains in the southwestern part of the province form ranges that generally run southwest and then to the west as they approach Iran. The terrain in Balochistan and Sindh restricts eastern migration.

One large pass cuts through the mountains along the Balochistan-Afghanistan border. The Khojak Pass is 80 kilometers (50 miles) northwest of Quetta. With the exception of the Chagai Hills, desert terrain dominates Balochistan's borders with Afghanistan's Nimruz, Helmand, and southern Kandahar provinces.

Pakistan's third major geographic area is the Indus River plain, east of the Indus River from Islamabad to the southern coast.



Naran Valley (*Photo by Umayr Sahlan Masud*)

Included in this region is the Indus River basin in the Punjab and northern Sindh provinces, which contains fertile soil that has benefited from the presence of the “five rivers of the Punjab.” The region has been inhabited by agricultural civilizations for at least 5,000 years.

In eastern Pakistan, the Thar (Cholistan) Desert extends from southwest India into parts of the Indus River plain. This area receives less than 10 inches (25 centimeters) of rainfall annually and is characterized by broken rocks, shifting sand dunes, and scrub vegetation. Only some parts of the desert along the northern and western edges are, due to irrigation from the nearby Sutlej and Beas rivers, suitable for agriculture.

Cross-country Movement

Pakistan's varying topography can hamper cross-country movement. Mountainous terrain in Pakistan's Federally Administered Tribal Areas (FATA), Khyber-Pakhtunkhwa Province (KPP), and northern areas makes travel difficult and dangerous. The Indus River Plain is mostly flat and crossed with rivers serving as irrigation sources and is much more suited to travel.

In far eastern and southern Pakistan, the Thar (Cholistan) Desert, measuring 518,000 square kilometers (200,000 square miles), is the world's seventh largest desert. This region has varied terrain including large stretches of dunes. Area locals still employ camels as one of several means of transportation to facilitate movement in these areas. Balochistan, located in the southwest, is known for its severe terrain and dry, arid climate. It is composed of open desert terrain, with long, narrow valleys bounded by rugged mountains.

Climate

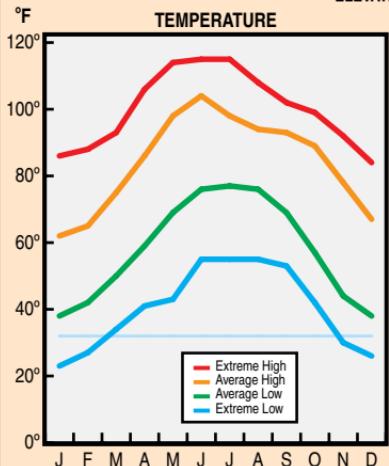
Temperatures

Pakistan is in a temperate zone and generally has a dry climate with hot summers and cool or cold winters. Pakistan has four distinct seasons:

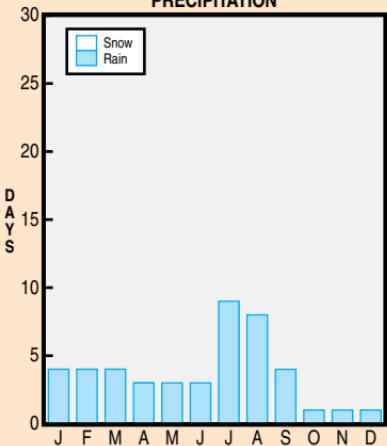
- Winter: December through February
- Spring: March through May
- Southwest monsoon period (summer rainy season): June through September
- Retreating monsoon period: October through November

The average annual temperature is 27°C (81°F) but climate varies by elevation. Temperatures during the coldest months in the

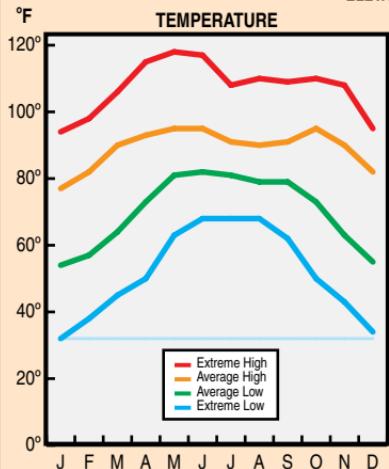
ISLAMABAD
ELEVATION: 1,667 FT



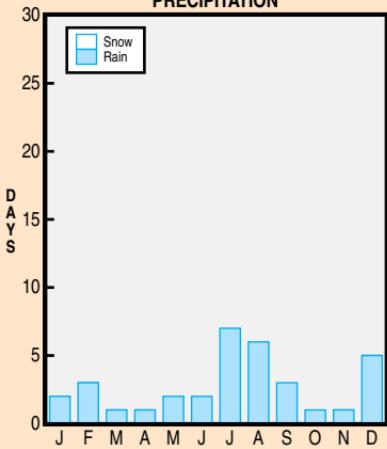
PRECIPITATION



KARACHI
ELEVATION: 72 FT

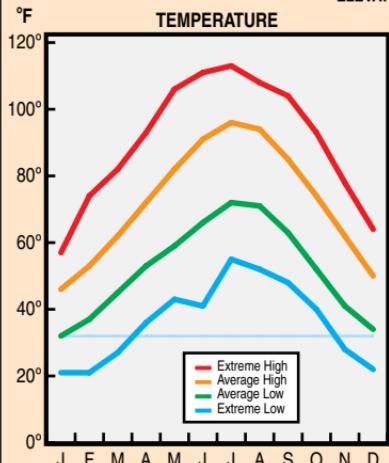


PRECIPITATION

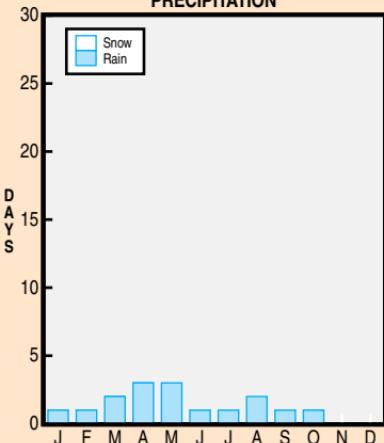


Islamabad and Karachi Weather

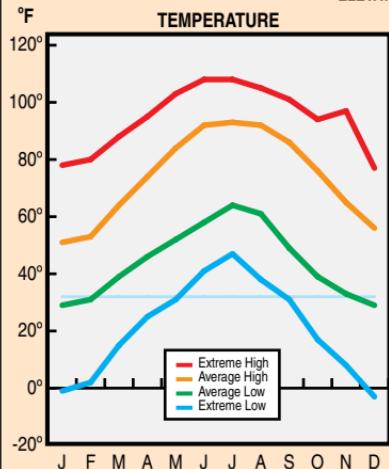
GILGIT
ELEVATION: 4,769 FT



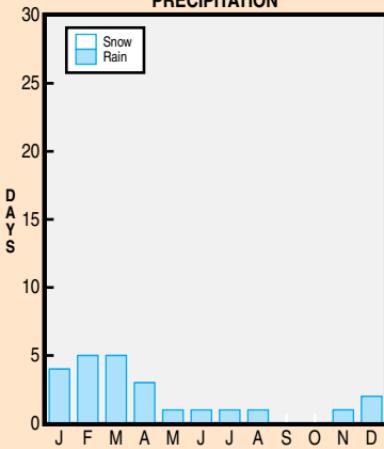
PRECIPITATION



QUETTA
ELEVATION: 5,214 FT



PRECIPITATION



Gilgit and Quetta Weather

mountainous and northern areas of Kashmir range from -30°C to -10°C (-22°F to 14°F); the warmest months in parts of Punjab, Sindh, and the Balochistan Plateau reach up to 50°C (122°F).

Most areas in Punjab have moderately cool winters, often accompanied by rain. The temperature rises mid-February and spring-like weather continues until mid-April. June and July are oppressively hot and, although official estimates rarely place the temperature above 46°C (115°F), some newspapers claim it reaches 51°C (124°F). The highest reported temperature was 54°C (129°F), recorded in the city of Multan in June 1993. The heat gives way to the rainy season, referred to as *barsat*, which arrives in August. Though barsat ends the warmest part of the summer, cool weather does not arrive until late October.

The temperature in Karachi is more moderate, ranging from an average daily low of 13°C (55°F) during winter evenings to an average daily high of 34°C (93°F) on summer days; humidity, however, is high.

Precipitation

The southwest monsoon period (the rainy season) lasts from late June to early September for most of Pakistan. Although temperatures are slightly lower, the humidity is high. The central and eastern plains receive the full effect of the monsoon. The desert region in the south and southeast receive only a sparse amount of rain and it remains hot and sunny. Karachi receives very little rain but its climate remains humid; it is cooler than inland areas. The northwest mountainous regions receive less precipitation during the southwest monsoon period than they do during the winter season.

Phenomena

Earthquakes

Earthquakes are a major concern in Pakistan. The country is subject to frequent disturbances, particularly in the Kashmir region where the Indian and Eurasian tectonic plates collide. The region surrounding Quetta in Balochistan Province is also prone to earthquakes. Severe quakes in 1931 and 1935 almost completely destroyed the city, heavily damaging the adjacent military quarters and killing at least 20,000 people.

In October 2005, a magnitude 7.6 earthquake occurred in the KPP and Kashmir. It killed at least 86,000 Pakistanis and injured more than 69,000; some 3.3 million were left without homes.

Environment

A primary source of water pollution and waterborne disease in Pakistan is sewage. In Karachi, water and sewer lines were laid side by side through most of the city, which contributes to contamination. Only slightly more than half of urban residents have access to adequate sanitation; consequently, waste is commonly deposited along roadsides and into waterways. Low-lying land is generally used for solid waste disposal without the use of sanitary landfill methods. Concerns have also been raised about industrial toxic waste being dumped—without any record of location, quantity, or toxic composition—in municipal disposal areas.

Pakistan's heavy reliance on firewood, among other factors, has resulted in the world's second highest rate of deforestation: 0.4 percent, annually. Deforestation directly contributes to the severity of flooding in watershed regions of the Northern Highlands.

Air pollution is a major problem in most cities. Pakistan has no controls on vehicular emissions, which account for 90 percent of pollutants. The average vehicle in Pakistan emits 25 times as much carbon monoxide, 20 times as many hydrocarbons, and more than 3.5 times as much nitrous oxide in grams per kilometer as the average vehicle in the United States. Air pollution in some cities, such as Islamabad, Lahore, and Rawalpindi, has exceeded levels deemed safe by the World Health Organization.

INFRASTRUCTURE

Transportation

Roads

Pakistan's transportation system depends on roadways. Road vehicles transport 90 percent of passenger traffic and 95 percent of freight. Pakistan has 259,758 km (160,935 miles) of roads, of which 162,879 km (100,662 miles) are paved, including 711 km (441 miles) of expressways.

As of 2003, a total of 5.2 million motor vehicles were registered in Pakistan, including 2.5 million motorcycles, 1.3 million automobiles, and 178,000 trucks. Buses, taxis, auto rickshaws, and horse-drawn *tongas* meet the demand for public transportation, but these vehicles are unregulated and unsafe. In Pakistan, vehicles drive on the left-hand side of the road.



Trucks are Painted in Vivid Colors (Photo by Nasir Khan)



Transportation

Road construction and traffic increased from 1996 to 2006. In 1991, Pakistan created the National Highway Authority (NHA); it is responsible for planning, developing, operating, repairing, and maintaining national highways and strategic roads throughout the country. The NHA has authority over more than 8,780 kilometers (5,456 miles) of roads, which account for 3 percent of the entire road network and 75 percent of total commercial road traffic in Pakistan.



Colorful Buses are a Common Sight (*Photo by Atif Gulzar*)

More than half of the highway network is in poor condition and at risk for further deterioration. Roads are poorly maintained and littered with potholes, sharp drop-offs, and unmarked barriers. Most roads are also not well lit, and most vehicles do not have proper working lights or dimmers. These hazards prompted the U.S. State Department to warn against driving at night or without local drivers or guides.

Pakistan's road safety record is substandard. Roads are usually crowded; drivers are aggressive, often lacking basic driving skills; and many vehicles, particularly large freight trucks and buses, are not well maintained.

Both passenger and freight traffic have outpaced national economic development. In the early 1990s, Pakistan announced plans to shift passenger and freight traffic from roads to rail but, by 2004,

the declining quality and quantity of rail service continued to prompt increases in private and commercial use of roads.

Rail

Pakistan Railways, the state-owned railway company, is administered by the Ministry of Railways. Pakistan Railways is headquartered in Lahore and oversees the country's 7,791 kilometers (4,841 miles) of railroad routes, 592 locomotives, and 625 railway stations.

Half of Pakistan's railway revenue derives from passenger travel. Pakistan Railways carries 75.7 million passengers annually and operates 228 mail, express, and passenger trains daily. The freight railway system of more than 200 freight stations travels to all Pakistan provinces as well as the ports of Karachi and Mohammad Bin Qasim.



Lahore Railway Station (*Photo by Yasir Hussain*)

Air

Pakistan has 50 airports with paved runways. Five airports handle both international passenger and cargo: Jinnah International Airport (Karachi), Allama Iqbal International (Lahore), Peshawar International, Quetta International, and Islamabad International. Multan and Turbat Airports handle only international cargo flights.

State-owned Pakistan International Airlines (PIA) provides regular flights to 24 domestic destinations and 42 international destinations, including China, Japan, India, Iran, Saudi Arabia, United Arab Emirates, Russia, Italy, the United Kingdom, Canada, and the United States. Three other airlines: Aero Asia International, Airblue, and Shaheen Air International, also offer flights to the Middle East.



Jinnah International Airport in Karachi (Photo by Waqas Usman)

Airport Name Coordinates	Runway Length x Width; meters (feet)	Runway Surface	Elevation meters (feet)
<i>Allama Iqbal Intl. (Lahore Intl.) 3131N 07424E</i>	2,743 x 46 (9,000 x 151)	Asphalt	217 (712)
	3,360 x 46 (11,024 x 151)	Concrete	217 (712)
<i>Bahawalpur 2920N 07143E</i>	2,848 x 30 (9,348 x 30)	Asphalt	119 (392)
<i>Bhagatanwala 3203N 07256E</i>	2,734 x 27 (8,970 x 90)	Asphalt	183 (600)
	1,530 x 46 (5,020 x 150)	Concrete	183 (600)
<i>Chaklala (Islamabad Intl.) 3336N 07305E</i>	3,287 x 46 (10,785 x 150)	Asphalt	508 (1,668)
<i>Chandhar 3204N 07347E</i>	2,743 x 23 (9,000 x 75)	Asphalt	189 (620)
<i>Chitral 3553N 07148E</i>	1,750 x 30 (5,741 x 98)	Asphalt	1,500 (4,920)
<i>Dera Ghazi Khan 2957N 07029E</i>	1,981 x 30 (6,499 x 98)	Asphalt	150 (492)
<i>Dera Ismail Khan 3154N 07053E</i>	1,524 x 23 (5,000 x 75)	Asphalt	181 (594)
<i>Dadu West 2644N 06739E</i>	1,598 x 23 (5,243 x 75)	Asphalt	39 (128)
<i>Dhingar 2955N 06644E</i>	2,469 x 18 (8,100 x 60)	Concrete	1,590 (5,215)
<i>Faisalabad (Lyallpur) 3121N 07259E</i>	2,826 x 46 (9,272 x 151)	Concrete	180 (591)
<i>Gilgit 3555N 07420E</i>	1,646 x 30 (5,400 x 98)	Asphalt	1,462 (4,796)
<i>Jinnah Intl. (Karachi Intl.) 2454N 06709E</i>	3,400 x 46 (11,155 x 151)	Concrete	30 (100)
	3,200 x 46 (10,500 x 151)	Concrete	30 (100)

Airport Name Coordinates	Runway Length x Width; meters (feet)	Runway Surface	Elevation meters (feet)
<i>Jam Nida Northwest</i> <i>2611N 06730E</i>	1,667 x 30 (5,470 x 98)	Asphalt	128 (420)
<i>Mangla</i> <i>3303N 07338E</i>	1,524 x 30 (5,000 x 100)	Asphalt	275 (902)
<i>Masroor</i> <i>2453N 06656E</i>	2,628 x 37 (8,622 x 120)	Asphalt	11 (35)
	2,750 x 61 (9,022 x 200)	Concrete	11 (35)
<i>Mianwali</i> <i>3233N 07134E</i>	3,097 x 48 (10,061 x 156)	Asphalt	210 (690)
	3,154 x 30 (10,348 x 97)	Asphalt	210 (690)
<i>Minhas (Kamra)</i> <i>3352N 07224E</i>	3,033 x 50 (9,950 x 165)	Asphalt	312 (1,023)
<i>Moenjodaro</i> <i>2720N 06808E</i>	1,985 x 30 (6,512 x 98)	Asphalt	47 (154)
<i>Multan Intl.</i> <i>3012N 07125E</i>	2,757 x 30 (9,046 x 98)	Asphalt	123 (403)
<i>Nawabshah</i> <i>2613N 06823E</i>	2,743 x 46 (8,999 x 150)	Concrete	29 (95)
<i>Okara</i> <i>3044N 07321E</i>	3,351 x 24 (10,995 x 80)	Asphalt	173 (568)
<i>Peshawar Intl.</i> <i>3359N 07130E</i>	2,743 x 46 (9,000 x 150)	Asphalt	353 (1,158)
<i>Qasim</i> <i>3333N 07301E</i>	2,040 x 45 (6,693 x 148)	Asphalt	482 (1,581)
<i>Quetta Intl. (Samungli)</i> <i>3015N 06656E</i>	3,658 x 46 (12,000 x 150)	Asphalt	1,605 (5,267)
	3,658 x 34 (12,000 x 110)	Asphalt	1,605 (5,267)
<i>Rahwali</i> <i>3214N 07407E</i>	1,907 x 45 (6,256 x 148)	Asphalt	227 (745)

Airport Name Coordinates	Runway Length x Width; meters (feet)	Runway Surface	Elevation meters (feet)
Rajanpur (Rajanpur NW) 2915N 07011E	3,048 x 46 (10,000 x 150)	Asphalt	122 (401)
Risalpur 3404N 07158E	2,769 x 50 (9,085 x 164)	Asphalt	320 (1,050)
	1,780 x 50 (5,840 x 164)	Asphalt	320 (1,050)
Saidu Sharif 3448N 07221E	1,751 x 46 (5,745 x 46)	Asphalt	970 (3,183)
Shahbaz (Jacobabad) 2817N 06826E	3,060 x 45 (10,040 x 148)	Asphalt	56 (185)
	3,073 x 24 (10,081 x 80)	Asphalt	56 (185)
Sharea Faisal 2452N 06707E	2,457 x 46 (8,060 x 150)	Asphalt	9 (29)
Sheikh Zayed, Rahim Yar Khan 2823N 07016E	3,000 x 45 (9,842 x 148)	Asphalt	83 (271)
Skardu 3520N 07532E	3,641 x 30 (11,944 x 100)	Asphalt	2,230 (7,316)
	1,982 x 31 (6,501 x 101)	Asphalt	2,230 (7,316)
Sui 2838N 06910E	1,829 x 30 (6,000 x 100)	Asphalt	233 (763)
Sukkur 2743N 06847E	2,743 x 30 (9,000 x 98)	Asphalt	60 (196)
Talhar 2450N 06850E	2,733 x 23 (8,968 x 75)	Asphalt	9 (28)
Turbat Intl. 2559N 06301E	1,829 x 30 (6,000 x 100)	Asphalt	152 (498)
Velhari 3005N 07209E	3,134 x 45 (10,283 x 149)	Asphalt	131 (430)
Zhab 3121N 06927E	1,829 x 30 (6,001 x 98)	Asphalt	1,441 (4,728)

Maritime

Port Karachi: Managed by Karachi Port Trust, the Port of Karachi handles about 75 percent of Pakistan's cargo. Karachi is a deep, natural port with an 11-kilometer- (7-mile-) long approach channel for up to 75,000 deadweight tonnage (DWT) tankers, modern container vessels, bulk carriers, and general cargo ships. The port has 30 dry-cargo berths, including two container terminals and three liquid cargo-handling berths. The two container terminals are Karachi International Container Terminal Limited, on Karachi's west wharf, and Pakistan International Container Terminal, on the east wharf.

Port Muhammad Bin Qasim: Named after General Muhammad Bin Qasim, Port Qasim is Pakistan's first industrial and multi-purpose deep-sea port. Located in the Indus River Delta region 50 kilometers (31 miles) southeast of Karachi, the port has a 45-kilometer (28-mile) long navigation channel that accommodates vessels up to 85,000 DWT. The port is also connected to all parts of Pakistan by roads and railroads. Port Qasim has a 14-kilometer (9-mile) railway link to the National Railway network and an access road to the National Highway.

Gwadar Port: With substantial help from the Chinese government, the deep-sea Port of Gwadar opened in 2008. Situated on Pakistan's southern coast in Balochistan Province, the port is a primary source of controversy. Ethnic Balochs claim that the Punjabi-dominated government hired foreign and Punjabi workers at the expense of Balochs. Numerous terrorist attacks, attributed to Baloch nationalists, occurred against Chinese engineers during construction.

Port of Pasni: A smaller port, primarily a fishing marina, which also serves as a one of Pakistan's navy bases.

Port Name Coordinates	Berthing	Anchor Depth	Pier Depth
Port Karachi 2447N 06659E	Vessels longer than 152 meters (500 ft)	9.4-10.7 m 31-35 ft	9.4-10.7 m 31-35 ft
Port Muhammad Bin Qasim 2446N 06720E	Vessels longer than 152 meters (500 ft)	11.0-12.2 m 36-40 ft	9.4-10.7 m 31-35 ft
Gwadar Port 2506N 6220E	N/A	N/A	N/A
Port of Pasni 2517N 6328E	N/A	N/A	N/A

Utilities

Electrical

Since 1996, Pakistan's electricity consumption has increased 64 percent. The increase is due to rapid urbanization and a government program intending to bring electricity to all Pakistan villages by 2007. Even with the government program, less than half of the population and many rural areas have no electricity; urban areas still have brownouts.

Pakistan has four public-sector organizations responsible for supplying, transmitting, and distributing electricity: the Water and Power Development Authority (WAPDA), the Karachi Electric Supply Corporation (KESC), the Karachi Nuclear Power Plant, and the Chashma Nuclear Power Plant. Some independent power projects (IPPs) also generate power. The total electricity production in 2003 was nearly 80 billion kilowatt-hours and consumption totaled almost 72 billion kilowatt-hours. The electricity was produced from fossil fuels (68.8 percent), hydropower (28.2 percent), and nuclear reaction (3 percent).

WAPDA has two large complexes for generating thermal power: Guddu (1,015 megawatts) and Jamshoro (880 megawatts). A third thermal unit, Kot Addu (1,638 megawatts), has been partially privatized. WAPDA, the sole operator of hydropower projects in Pakistan, also has four large hydropower complexes—Tarbela (3,478 megawatts), Chashma (138 megawatts), Mangla (1,000 megawatts), and Warsak (240 megawatts)—and several smaller projects. WAPDA has plans for a large project on the Indus River, and five more hydroelectric power plants are scheduled to go online in the KPP and Azad Kashmir. However, the 2005 earthquake damaged secondary transmission and distribution systems in Kashmir and a number of small hydroelectric power stations and the project remains incomplete.

KESC supplies electricity to Karachi, its suburbs, and the adjacent parts of Balochistan. Its generating power comes primarily from the Bin Qasim Power Station (1,756 megawatts). Since the company does not produce sufficient electricity to meet its required output, it also purchases power from IPPs, WAPDA, Pakistan Steel Mills, and the Karachi Nuclear Power Plant. KESC was recently privatized by investors who hope to improve efficiency and service.

Pakistan has a few nuclear power plants. The Karachi Nuclear Power Plant (137 megawatts) was built in the early 1970s. In the Punjab Province, the first unit of the Chashma Nuclear Power Plant Project (325 megawatts) was commissioned in 2000. Construction of the second unit at Chashma is under way.

Pakistan wants to increase electricity to residential, commercial, and industrial sectors. Because of favorable hydrographic resources, Pakistan has great potential for generating more hydroelectric power and the government's Vision-2025 Programme promotes

using hydroelectric power. Pakistan also established several projects to develop renewable energy.

Water

Most of Pakistan's population lives in the Indus River basin region, which is fed by two main tributaries, the Kabul and the Panjnad. The Panjnad, in turn, is a confluence of five main rivers, three from the west and two from the east. The Mashkel and Marjen rivers are the main sources of water in the Karan Desert, they run into Hamun-i-Mashkel Lake. The Makran Coast along the Arabian Sea has four principal rivers. Pakistan depends on the western rivers for water, which are highly erratic. Water usage from the eastern rivers is governed by the Indus Water Sharing treaty with India.

With regards to water management, Pakistan has the largest contiguous irrigation network in the world. However, Pakistan's water storage capacity is only 9 percent of its total water resources; surplus water cannot be sufficiently stored. As a result, when drought hits, Pakistan does not have enough water to get the population through the dry spell. The Pakistan government has stated that its water level will drop to alarmingly low levels by 2010. As such, Pakistan is protective of its water resources, particularly when resources must be shared with India due to one river flowing through both countries. In fact, in recent years, water tensions have brought about renewed acrimony toward India.

The amount of water available for public consumption is inadequate. Although in the past Pakistan has been able to supply ample potable water, between the 1990s and 2000s, high population growth, poor water infrastructure, and a drier climate reduced per capita water availability from 53,000 cubic meters (14 million

gallons) to 1,200 cubic meters (317,006 gallons). Most rural and urban areas use groundwater, and over half the villages use hand pumps in private households. Irrigation canals provide water to areas where the groundwater is saline. Waterborne diseases continue to be a problem in Pakistan, where an estimated 250,000 children die per year because of diarrhea and disease. High lead levels have been found in the water in Islamabad and Rawalpindi. Water levels in the Indus have diminished due to increased consumption and a drier climate, has inundated the coastal areas with salt water.

Pakistan has only three major sewage treatment plants, two of which operate only occasionally. Much of the untreated sewage goes either into irrigation systems, where the wastewater is reused, or into streams and rivers. Crops grown from such wastewater have serious bacterial contamination. Crop and water contamination cause gastroenteritis, the leading cause of death in Pakistan.

Communication

Radio

As of 2002, there were an estimated 10.2 million radios in Pakistan. The Pakistan Broadcasting Corporation (PBC), which controls 39 stations nationwide, operates state-owned Radio Pakistan. Radio Pakistan is broadcast over 80 percent of Pakistan on 31 AM stations and 8 FM stations using frequency FM 101; it reaches 97 percent of the total population. Forty-eight percent of its programming focuses on news and current affairs; 27 percent on religion, education, and socio-economic programming; and 25 percent focuses on entertainment such as music and sports. Radio Pakistan is broadcast in 21 languages throughout Pakistan and transmitted in 15 languages for external broadcasts.

Major Stations	Programming*
<i>Awaz 105, Gujrat, 105.0FM</i>	I, Ed, M
<i>Apna FM, Layyah, 88.0FM</i>	M, T, N
<i>Apna FM, Muzaffarabad, 88.0FM</i>	
<i>Apna Karachi 107, Karachi, 107.0FM</i>	N, En
<i>Azad Kashmir Radio, Mirpur, 101.0FM</i>	SR
<i>Campus Radio (International Islamic University), Islamabad, 90.6FM</i>	
<i>Campus Radio (Punjab University), Lahore, 104.6FM</i>	Ed, R, En
<i>Campus Radio (University of Peshawar), Peshawar, 107.0FM</i>	Ed, En
<i>City FM 89, Faisalabad, 89.0FM</i>	M
<i>City FM 89, Islamabad, 89.0FM</i>	M
<i>City FM 89, Karachi, 89.0FM</i>	M
<i>City FM 89, Lahore, 89.0FM</i>	M
<i>FM100 Pakistan, Islamabad, 100.0FM</i>	N
<i>FM100 Pakistan, Karachi, 100.0FM</i>	N
<i>FM100 Pakistan, Lahore, 100.0FM</i>	N
<i>Jeevay Pakistan, Lodhran, 98.0FM</i>	
<i>Lakki FM, Lakki Marwat, 88.0FM</i>	
<i>Mast 103 FM, Faisalabad, 103.0FM</i>	M
<i>Mast 103 FM, Lahore, 103.0FM</i>	M
<i>Mast 103 FM, Multan, 103.0FM</i>	M
<i>Mast FM, Islamabad, 103.0FM</i>	M
<i>Mast FM, Karachi, 103.0FM</i>	M
<i>Power 99 FM, Vehari, 99.0FM</i>	N
<i>Radioactive96, Karachi, 96.0FM</i>	En
<i>Radio Buraq, Peshawar, 104.0FM</i>	N
<i>Radio Pakistan, Faisalabad, 101.0FM</i>	I, Ed, En
<i>Radio Pakistan, Islamabad, 585AM, 101.0FM, 104.0FM</i>	I, Ed, En
<i>Radio Pakistan, Rawalpindi, 1152AM, 1260AM, 98.0AM, 102.0AM</i>	I, Ed, En
<i>Radio Pakistan, Lahore, 630AM, 1080AM, 101.0FM</i>	I, Ed, En

Major Stations	Programming*
Radio Pakistan, Multan, 1035AM	I, Ed, En
Radio Pakistan, Bahawalpur, 1341AM	I, Ed, En
Radio Pakistan, Faisalabad, 1476AM	I, Ed, En
Radio Pakistan, Peshawar, 540AM, 729AM, 101.0FM	I, Ed, En
Radio Pakistan, D.I. Khan, 1404AM	I, Ed, En
Radio Pakistan, Abbottabad, 1602AM	I, Ed, En
Radio Pakistan, Chitral, 1584AM	I, Ed, En
Radio Pakistan, Karachi, 612AM, 629AM, 828AM, 101.0FM	I, Ed, En
Radio Pakistan, Hyderabad, 1008AM, 1098AM, 101.0FM	I, Ed, En
Radio Pakistan, Khairpur, 927AM	I, Ed, En
Radio Pakistan, Larkana, 1305AM, 101.0FM	I, Ed, En
Radio Pakistan, Quetta, 756AM, 855AM, 101.0FM	I, Ed, En
Radio Pakistan, Sibbi, 1584AM	I, Ed, En
Radio Pakistan, Khuzdar, 567AM	I, Ed, En
Radio Pakistan, Turbat, 1584AM	I, Ed, En
Radio Pakistan, Gilgit, 1512AM	I, Ed, En
Radio Pakistan, Skardu, 1557AM	I, Ed, En
Radio Pakistan, Muzaffarabad, 792AM	I, Ed, En
Radio Pakistan, Mirpur, 936AM	I, Ed, En
Radio Pakistan, Sialkot, 101.0FM, 104.0FM	I, Ed, En
Sachal FM, Hyderabad, 105.0FM	M, En
Soundwave (Aap ka Humsafar), Khairpur, 92.0FM	N
Soundwave (Aap ka Humsafar), Nooriabad, 91.0FM	N
Sunrise FM, Hassanabdal, 97.0FM	M, En, N

*NOTE: education (Ed), entertainment (En), information (I), music (M), news (N), religion (R), state-run (SR), talk (T)

Television

Forty-six percent of Pakistani households have a television. State-run Pakistan Television Corporation Limited (PTV) operates five

satellite-broadcast channels: PTV 1, PTV National, PTV Global, PTV Bolan, and PTV World. There are also approximately 50 private TV channels available in Pakistan. Many Pakistanis watch international programs from satellite broadcasts.

Primary Television Stations	Satellite Transponder
<i>Geo News</i>	PAS 10
<i>GEO UK</i>	Eurobird 1
<i>Indus Music</i>	AsiaSat 3S
<i>Indus News</i>	AsiaSat 3S
<i>Indus Plus</i>	AsiaSat 3S
<i>Indus Vision</i>	AsiaSat 3S
<i>PTV 1</i>	AsiaSat 3S
<i>PTV Bolan</i>	Paksat 1
<i>PTV Global</i>	AsiaSat 3S
<i>PTV National</i>	AsiaSat 3S
<i>PTV World</i>	AsiaSat 3S

Telecommunication

Telecommunication infrastructure in Pakistan has undergone continued, marked improvement in recent years due, in part, to foreign investments in landline and mobile networks. The number of cell-phone users increased dramatically from 300,000 in 2000 to 88 million in 2008. Pakistan's deregulation of the telecom sector began in 2003 and attributed to this growth.

Several companies provide general telecommunication services including Pakistan Telecommunications Company Limited (PTCL), National Telecommunication Corporation, and Special Communications Organization. PTCL is the largest telecom company in Pakistan and is 88 percent state-owned. It provides basic telephone services including local, long-distance, international,

and leased line services through the use of domestic access lines, nationwide fiber-optics, submarine cable, and satellite links.

Pakistan Telecommunication Statistics

<i>Total landline telephone subscribers</i>	18 million (2008 estimate)
<i>Landline telephone subscribers per 100 inhabitants</i>	11.7
<i>Main telephone lines</i>	4.5 million
<i>Main telephone lines per 100 inhabitants</i>	3.4
<i>Mobile users</i>	88 million

Newspapers and Magazines

The number of daily, monthly, and other print publications in Pakistan increased from 3,242 in 1994 to 4,455 in 1997; it dropped to 945 by 2003 with the Punjab Province accounting for most of the decline. Although the total number of publications declined, the circulation of print publications increased from 1994 to 2003. The largest circulation increase was in daily publications, rising from 3 million to 6.2 million.

Print media is published in 11 languages, including English; most publications are in Urdu and Sindhi.

The Pakistan constitution guarantees freedom of speech and press while also allowing for government restrictions in various cases, including offenses against Islam, public morality, and national security. The government can fine and imprison those who broadcast material considered inconsistent with “national and social values.” The press generally publishes content without interference from outside censorship laws. This lack of intrusion is partially explained by the fact that journalists self-censor in order to avoid arrests and government intimidation. Even with

this restriction, the press has been active in attempting to influence national elections.

While most print media in Pakistan is privately owned, the government controls the National Press Trust and the Associated Press of Pakistan, one of two major news agencies. The other major news agency in Pakistan is the privately-owned Pakistan Press International.

Publications	Language	Frequency	Web Address
<i>Daily Jang</i>	Urdu/ English	Daily	http://jang.com.pk
<i>The Dawn</i>	English	Daily	http://www.dawn.com
<i>The Nation</i>	English	Daily	http://www.nation.com.pk
<i>The Frontier Post</i>	English	Daily	http://frontierpost.com.pk
<i>Daily Ausaf</i>	Urdu	Daily	http://www.dailyausaf.com
<i>Pakistan and Gulf Economist</i>		Weekly	http://www.pakistaneconomist.com
<i>The Friday Times</i>	English	Weekly	http://www.thefridaytimes.com

Postal Service

Pakistan Post, the national postal service, has more than 13,000 post offices, delivers more than 500 million articles and parcels annually, and serves 7 million customers daily. Domestic mail rates begin at 4 rupees (US\$0.07) for a letter not exceeding 20 grams (0.7 ounces) and 20 rupees (US\$0.33) for a package weighing up to 1 kilogram (2.2 pounds). The maximum weight limit for domestic parcels is 50 kilograms (110 pounds).

International mail rates begin at 33 rupees (US\$0.58) for a letter not exceeding 20 grams (0.7 ounces). Rates vary by delivery method and by destination. Pakistan Post offers three shipping options for international parcel. Delivery times vary according to the type of service.

Service	Delivery Time
<i>Surface air lifted (designed mainly for small businesses)</i>	8 to 15 days
<i>Regular air parcel</i>	12 to 20 days
<i>Surface parcel</i>	12 to 16 weeks

Parcel Rates to the United States

Service	First Kilogram	Each add. Kilogram
<i>Surface air lifted</i>	870 rupees (US\$14.38)	420 rupees (US\$6.94)
<i>Regular air parcel</i>	1,040 rupees (US\$17.18)	595 rupees (US\$9.83)
<i>Surface parcel</i>	635 rupees (US\$10.49)	175 rupees (US\$2.89)

Pakistan Post also offers express mail services to domestic and international destinations. The International Speed Post provides quick mail delivery all over the world. Shipping rates vary by destination country. A computerized parcel tracking system is being implemented in 11 cities; there are plans to expand to 204 cities.

Satellites

Pakistan has three Intelsat communication satellite earth stations: one in the Atlantic Ocean and two in the Indian Ocean. The country also has three international gateway exchanges: one based at Karachi and two at Islamabad.

Internet

Pakistan has more than 70 Internet service providers and an estimated 5 million users in more than 1,400 cities and towns. Internet access remains inexpensive. Cyber cafes are popular because they allow inexpensive Internet access; some offer rates as low as 20 rupees (US\$0.33) per hour. Internet cafes can be found in large cities; in addition, the Pakistan postal service has access points in 27 major post offices.

Pakistan Internet Statistics

<i>Total Internet hosts</i>	25,096 (2005 statistics)
<i>Hosts per 10,000 inhabitants</i>	1.7
<i>Users</i>	5 million
<i>Users per 100 inhabitants</i>	6.8

CULTURE

Statistics

Population Patterns

Total Population	166 million (2006)
<i>14 or younger</i>	39 percent
<i>Between 15 and 64</i>	56.9 percent
<i>65 or older</i>	4.1 percent
Population Growth Rate	2.1 percent

Pakistan's population rate has decreased by more than 3 percent per year since the 1980s. A further decrease, through family planning campaigns, is a government priority. The average Pakistani woman has four children. Although the overall population density is 186 people per square kilometer (482 per square mile), this statistic masks regional differences. Sixty-six percent of the population lives in rural areas; 34 percent is in urban settings. A population shift from rural to urban areas places pressure on the government to encourage job creation and economic growth in cities.

Nearly 80 percent of the country's population lives in either Punjab or Sindh; more than half live in Punjab. Eight major cities in Pakistan have a population of 1 million or more. The largest, estimated at 13 million, is Karachi. Second is Lahore, followed by Faisalabad, Rawalpindi, Multan, Hyderabad, Gujranwala, and



Lahore, Pakistan's Second Largest City

Peshawar in descending order. Peshawar, in the KPP, is the only large city outside of Punjab and Sindh provinces.

Population Density

Punjabis, Sindhis, Pashtuns, Muhajirs, and Balochs make up Pakistan's five basic ethnic groups. The proportions are Punjabis, 55 percent; Sindhis, 20 percent; Pashtuns and Mujahirs, approximately 10 percent, each; and Balochs, about 5 percent.

Subgroups exist within each of these ethnicities. Castes are occupational groupings within an ethnic group. Punjabi castes include Arains, Rajputs, and Jats; each group considers itself to be ethnically distinct. Sindhis are likewise fragmented into castes.

In Balochistan, the Balochs are divided into eastern and western tribes. Other ethnolinguistic groups in Pakistan include Punjab's



Population Density

Siraikis, Sindh's Urdu-speaking Muhajirs, and Balochistan's ethnic Brahuis.

Society

Family is the center of social life and support, and family honor is imperative. The family's presiding male has significant influence over family members, and the elderly are highly respected. Social structure and individual identity in Pakistan are largely based on

the extended family. The family is more private than in many cultures and family loyalty is primary. Traditionally, large extended families provided their members with socialization, sustenance, protection, and regulation. Even today, a family member living apart from relatives is uncommon. Men who have migrated to cities for jobs generally live with a relative or a relative's friend. Children live with their parents until marriage. Except in very congested urban areas, sons (with their wives and children) tend to live with their parents.

Living conditions range from inadequate to opulent. Wealthy landowners or industrialists tend to live in large, comfortable villas with an array of modern conveniences. People in rural villages build homes out of mud or unbaked bricks. Many villages have no electricity. Villagers get water from wells and rivers, cook on small kerosene stoves, and wash clothes on river banks. The traditional economic and political hold that landlords enjoy in rural areas, particularly in Punjab and Sindh, ensures continued limited opportunities and mobility for agricultural workers. This limitation is an incentive for workers to migrate.

Pakistan's poorest slums are in Karachi, particularly in the working-class neighborhoods of Orangi and Korangi. Forty percent of Karachi's population lives in *katchi abadis* (temporary settlements) or shantytowns. Many are often forcibly relocated either to combat the slum's unsanitary conditions or to make way for city development. Karachi is also ravaged by violence and considered by some the most dangerous city in South Asia. Ethnic groups compete for local power and control, Sunni and Shi'a extremists battle each other, and crime and corruption is widespread.

Drug use is the most common social problem in Pakistan. Opium smuggling and heroin production became major issues after the

Soviet invasion of Afghanistan in 1979. When the war interrupted the opium pipeline from Afghanistan to the West, Pakistan became an alternate route. Pakistan also became a major center for heroin production and a shipment point for the international market. Heroin use expanded significantly and, subsequently, drug addiction is a major problem.

People

Most Pakistanis are devout Muslims and believe that the will of Allah is evident in all things. The saying *Inshallah* (God willing) expresses hope for success on a project, for a family's protection and prosperity, and for a positive outcome to a planned event. Pashtuns and Balochs are more conservative and traditional than the other major groups; rural populations are more conservative than urban.

Pakistanis, in general, are friendly, hospitable, and treat visitors with great respect. In traditional homes, however, there are strict customs governing the reception of guests. Men, for example, do not socialize with women they are not related to. In addition, homes have a front room for receiving guests and a separate, back-room, reserved only for close family members. Even the head of the household's lifelong friends may never set foot into this room.

Ethnic Groups

Punjabi

Punjab is the most populated province. Punjabis are heavily represented in the military and bureaucracy, which, leads to resentment and fear of the Punjabi majority in the smaller provinces, particularly Sindh. Two of the three most prominent national politicians in the 1980s and 1990s were Punjabis: President Mohammad

Zia-ul-Haq and Prime Minister Mohammed Nawaz Sharif. Even Pakistan's capital was moved in the 1960s from Karachi, in southern Sindh, to Islamabad, in northern Punjab.

Though they come from very diverse origins, Punjabis are united in an ethnic community of farmers. Tribal affiliation, based on descent and occupation, merges into an identity Punjabis call *qaam* (kinship). *Qaam* is an essential distinction and significant social marker in Punjab, particularly in rural areas. Many tribes have traditionally pursued a single occupation, which gave the group both its name and position in the social hierarchy.

Kinship obligations are central to a Punjabi's identity and concerns. Each person has free access to a kinsman's income, political influence, and personal connections, and there is social pressure for an individual to share and pool these resources.

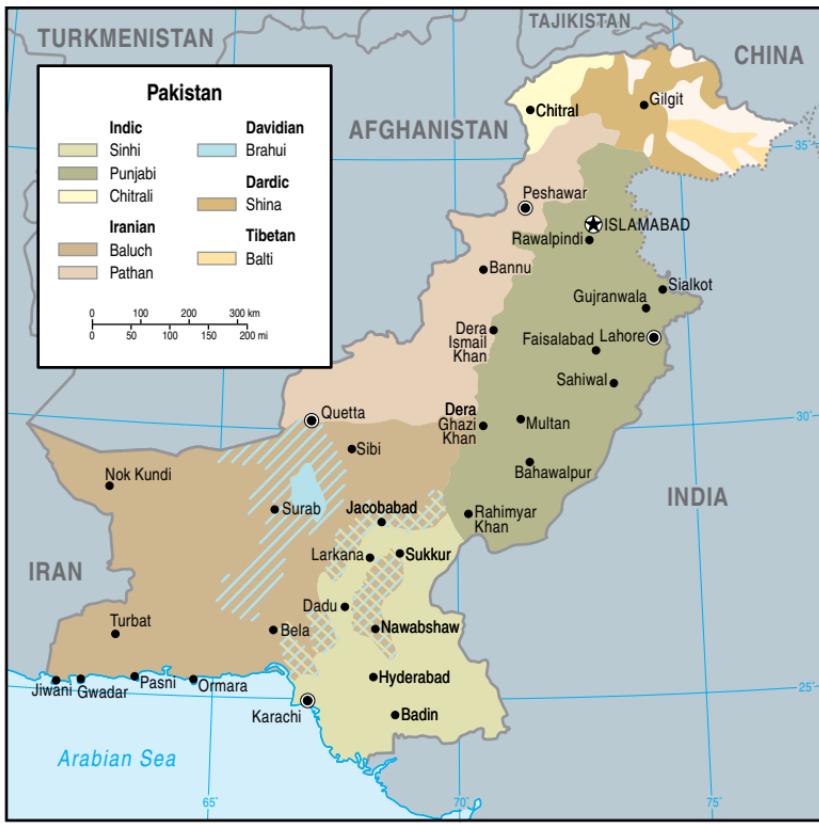
Sindhi

Ties among the Sindhi have traditionally revolved around a few large, dominant *waderas* (landholding families). The remaining people are tenant farmers who, as a result of contractual terms between themselves and the landowners, live in permanent poverty.

Muhajir

After Pakistan gained its independence in 1947, millions of Hindus and Sikhs left for India; they were replaced by roughly 7 million people who were called Muhajirs (Muslims who fled from India) and many settled in Karachi. The Muhajirs were generally better educated than native Sindhis and filled a void in the province's commercial life.

Over time, the Muhajirs provided the political basis for the Refugee People's Movement, and Karachi became known as a Muhajir City.



Ethnic Groups

Other cities in Sindh, such as Hyderabad and Larkana, became the headquarters for Sindhi resistance. In the 1980s and 1990s, Sindh was a battlefield for ethnic strife between Muhajirs and Sindhis. Kidnappings were common by both sides; fear of *dacoits* (bandits) inhibited road and rail travel.

Today, as a result of their higher educational status, Muhajirs are statistically overrepresented in public positions.

Pashtun

Pashtuns are one of the largest tribal groups in the world. They are the majority group in southern Afghanistan and the dominant ethnic group in Pakistan's KPP and FATA. The West has long been fascinated by the Pashtuns, whose fierce independence and fighting spirit made them one of the few peoples to withstand British colonialism. More is written about Pashtun norms, values, and social organization than any other ethnic group in Pakistan.

Pashtun speakers in the FATA and KPP belong to different tribes and have no central governing authority. Officially, Pashtuns in the FATA are administratively governed by the executive branch (president of Pakistan) through the governor of the KPP in Peshawar. In reality, the federal troops and law enforcement entities do not have a significant influence in most of the FATA, particularly in the Waziristans.

Traditionally, Pashtuns have only acknowledged the authority their own *maliks* (tribal leaders). Gradually, however, this attitude has been changing. Since the 1979 Soviet invasion of Afghanistan, which ushered in a new era of Saudi-backed mullahs (Islamic religious leader), increasing numbers of Pashtuns have begun viewing mullahs as legitimate leaders.

The Pashtun code of conduct, *Pashtunwali*, is central to their identity. *Nang*, the notion of honor, delineates right and wrong; a life without honor is not worth living. In order to maintain or increase *Nang*, a man needs to protect his lands, wealth, and family (particularly female relatives). Males are encouraged by peers to adhere to *Badal* and *Melmastia*; *Badal* requires revenge to defend one's honor. Vendettas and feuds are, therefore, considered a basic part of social relations. *Melmastia* emphasizes hospitality is of utmost importance.

A complex etiquette surrounds the guest/host relationship. Because hospitality, particularly to strangers, is tied to one's honor, it is insulting if a guest refuses what the host is offering. Men are also held responsible for ensuring female household members remain chaste until marriage. Accordingly, in much of the province, women are restricted to private family compounds. One consequence of the male-female dynamic among Pashtuns is that an accurate count of the population is not possible: census takers are not permitted to ask about women in another man's home and the number of men in a household is often overstated because male family members are considered a source of strength.

Baloch

Balochs form a relatively small group but, like the Pashtuns, inhabit an area that extends beyond national borders. Seventy percent of Balochs live in Pakistan; the rest live in Iran and Afghanistan.

Weather and topography in Balochistan make the region exceedingly inhospitable. Geologists have often compared its landscape to that of Mars. Baloch livelihoods rely on nomadic pastoralism, dryland and irrigated agriculture, and fishing. Sheep and goats are the main herd animals, providing dairy products, meat, and wool. Herders organize themselves around water sources; wells are the property of camps. In addition to pastoralism and animal husbandry, many Balochs support themselves by transporting goods and people across the borders.

As with other ethnic groups in Pakistan, inheriting property and the family name is patriarchal; however lineage plays a minimal role to most Balochs. They are flexible in arrangements with family and friends. In families, the father or eldest male exerts absolute authority. Although young people may adopt Western clothing

styles and other habits, they continue to obey and respect their fathers and elders. Arranged marriages are the norm; in many cases the bride and groom meet for the first time on their wedding day. Marriage is viewed as the union of two families as well as the union of two people. Divorce is rare.

Social life revolves around relatives. Families tend to be large because children are considered gifts from *Allah*. The family provides identity and protection; it is rare for an individual to live apart from his relatives. Children live with their parents until marriage. Except in very congested urban areas, sons live with their parents after marrying and having children of their own. Upon their father's death, sons establish separate households.



Pakistani Children (Photo by Atif Gulzar)

Roles of Men and Women

Pakistan's society is male-dominated. Norms and traditions are established by men, and decisions about a woman's involvement in society (e.g., education, marriage, work, and travel) are made by male family members. Because the activities of women directly affect family honor, restrictions are placed on their mobility, behavior, and activities. Women do not socialize with men to whom they are not related. The tradition of *purdah* (strict seclusion and veiling of women) is relaxing somewhat as Pakistani women become more educated and enter public life. In small towns and rural areas, however, some women still wear *burqas* (head-to-toe coverings) over their clothing when leaving home. The most extreme restraints are found in the KPP and Balochistan, where women almost never meet unrelated men or leave their homes, except to marry.

Most Pakistani women are homemakers; men are the breadwinners. Only a small percentage of women work outside the home, mostly as nurses or teachers. A few women also work in government, serving as ministers in parliament and as ambassadors. The first female prime minister, Benazir Bhutto, served from 1988 to 1990.

Women face serious social and legal discrimination. Domestic violence is occasionally tolerated, and the few laws that protect women are rarely enforced. Men do not discuss female relatives in public. Gender equality or women's rights is seen as a Western effort to undermine Pakistani society. In legal cases dealing with financial matters, two women must testify for testimony to be introduced as evidence. In serious cases, women are not allowed to testify at all. If a woman files a charge of rape, she is required to produce four pious male witnesses; otherwise, she will be charged with adultery, an offense carrying a death sentence by stoning. In

some areas of Pakistan, it is socially acceptable for a man to kill his wife if he thinks she dishonored him with words or actions. Despite the government's prohibition, such "honor killings" (*karo kari*) resulted in the deaths of more than 4,000 women between 1998 and 2003.

Rites of Passage

Most Pakistani marriages are arranged. It is believed that close family alliances have a greater chance of success than Western-style couplings. A match between cousins is preferred. The day before a couple marries the bride attends a *mehndi* (henna) ceremony in which her hands and feet are painted in intricate patterns to the accompaniment of raucous songs and dances. *Mehndi* leaves and tea water are mixed to form the paste. It is believed that the darker the *mehndi* the more a husband will love his wife. When a couple weds the *quazi* (religious leader) oversees the couple signing the *nikah* (marriage contract).

Muslims view a new baby as a great blessing; consequently, there are many ceremonies at birth and throughout infancy. It is the paternal grandfather's privilege to name a baby; one of the grandfather's old shirts is even used to make the infant's first garment. When a male is born, he is circumcised according to religious rites. Birth is celebrated by distributing sweets and sacrificing an animal, one goat for a girl and two for a boy; the meat is distributed among friends, relatives, and the poor. The family holds an *aqeeqa* (family feast) for a son when he is 7 days old. The boy's hair is shaved off to ensure thick growth throughout life. The hair is then weighed and balanced against silver, which is given to the poor. When the baby is 6 or 7 months old, relatives use a silver spoon to place rice pudding and a drop

of chicken broth into the child's mouth; afterwards there is an elaborate dinner for the adults.

A turning point for a Muslim youth is the first fast, called *Roza Kushai* in Urdu. It is followed by a celebration, during which family members bring gifts and money. Muslim children are required to begin fasting at the age of 12; many, however, are eager to enter adulthood at an earlier age.

Education and Literacy

Pakistan's literacy rate is lower than that of many other developing nations. Less than half of all adults are literate; only about one-third of women can read. The educational system is based on the British colonial education system, which was used to educate a small portion of the population to run the government.

Madrassas (conservative Islamic schools) are publicly supported and provide free religious education, boarding, and lodging. More than 1.5 million children attend *madrassas*, where they memorize the Qur'an and learn Islamic law, and in some philosophy, math, and geography. Supporters claim that these schools play a key role in countries where millions of Muslims live in poverty and state educational infrastructure is in decay. In 2005, 15 percent of schools had no buildings, 52 percent were without a boundary wall, 40 percent without water, and 71 percent without electricity; teachers were frequently absent.

In 2005, Pakistan's government pledged to reform and integrate *madrassas* into the formal education sector. It increased annual education budget, spending a total of US\$1.3 billion on education between July 2004 and March 2005. However, the division between the Western-type private schools and the Islamic public

schools has caused significant social tensions and has motivated the better educated emigrate to the West.

Higher education is available at vocational schools, technical schools, and colleges. The oldest university in Pakistan is the University of Punjab, established in 1882. The largest universities are Allama Iqbal Open University (in Islamabad), the University of Peshawar, and the University of Karachi. University classes are taught in Urdu and English.

Language

Language is a significant indicator of ethnic identity in Pakistan. Urdu, the national language, is spoken by only 8 percent of the population as a native tongue. It was chosen as Pakistan's unifying language at the time of independence because it symbolized a shared identity for South Asian Muslims. Many people speak Urdu in addition to their own language. Urdu is a combination of the languages of early invaders and settlers, including Hindi, Arabic, Persian, and Turkish. Urdu's spoken form is the same as Hindi; the written form uses a different script. English is also an official language; perceived by Pakistanis as providing access to the world community, it is the common language in scholarly, business, and government settings. Urdu and English are used in school instruction.

About half the population speaks Punjabi, which is an old, literary language; early folk tales and romances were written in Punjabi. Punjabi has numerous dialects and Muslims have a history of speaking in a mix of Punjabi and Urdu, particularly in urban areas. Sindhi is the second most common native language. More than 20 other languages spoken in Pakistan belong to the Indo-

Aryan branch of the Indo-European language family. The remaining languages are related to early Dravidian.

Islam has influenced the spoken language. It is common for Pakistanis to mention *Allah* in everyday conversation. *Bismallah* (I begin in the name of *Allah*) is a common phrase used before beginning an activity and *inshaallah* (if it is the will of *Allah*) is a common affirmative response to an invitation.

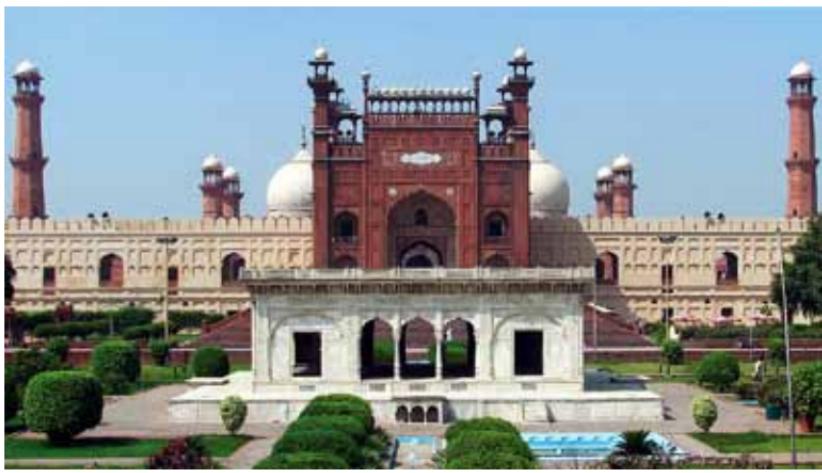
Religion

Pakistan was created as a homeland for Muslims. Islam is the state religion and 97 percent of the population is Muslim. Sunni Muslims make up 77 percent of the total population and Shi'a, 20 percent. Muslims adhere to the following five foundational tenets, called the five pillars of Islam:

- *Shahadah*, the belief in the oneness of *Allah* and the belief in the Prophet Muhammad
- *Salat*, the five daily prayers
- *Zakat*, the giving of alms to the needy
- *Sawm*, fasting during the month of Ramadan
- *Hajj*, the pilgrimage to Mecca

The remaining 3 percent of the population are Hindus, Christians, Ahmadis, Zikris, Parsis, Sikhs, Buddhists, and Baha'is. The leaders of the non-Muslim faiths claim that they actually make up 10 percent of the population.

The constitution requires that laws be consistent with Islam, and that, “subject to law, public order, and morality, every citizen shall have the right to profess, practice, and propagate his religion.” In practice, the government limits freedom of religion. The government severely restricts, in law and in practice, public worship by



Badshahi Masjid, Mosque in Lahore (Photo by Ali Imran)

minority Ahmadis. The constitution declares Ahmadis to be non-Muslims because they do not accept Muhammad as the last prophet of Islam. Ahmadis, however, consider themselves to be Muslims and observe Islamic practices. Society discriminates against and is sometimes violent toward religious minorities.

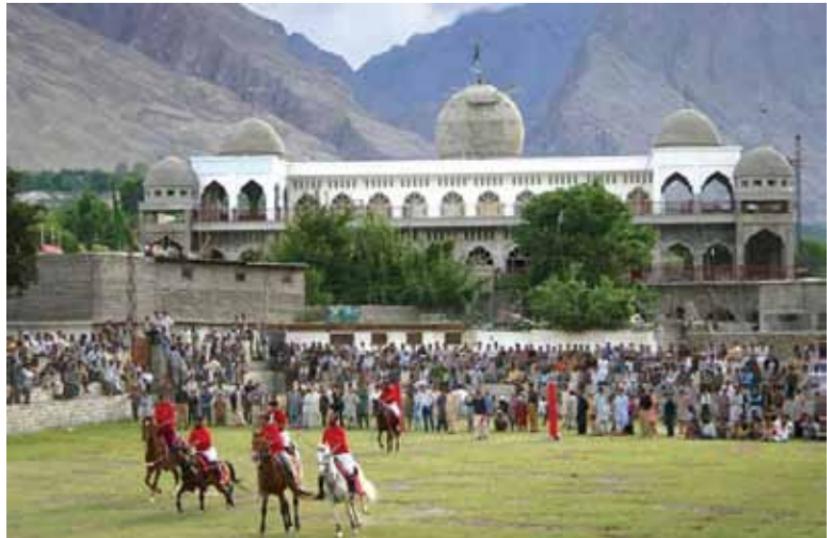
The government discriminates against religious minorities through specific policies, such as the *Hudood* Ordinances and the blasphemy laws. The *Hudood* Ordinances impose the law of the Qur'an on Muslims and non-Muslims. The blasphemy laws require the death penalty for defiling Islam or its prophets, life imprisonment for defiling the Qur'an, and 10 years in prison for insulting the religious beliefs of any citizen.

Recreation

Pakistanis enjoy cricket and occasionally hosts polo competitions in the hills of northern Pakistan, the world's highest polo grounds.

Kabaddi is a traditional Pakistani sport. The 4,000-year-old game combines wrestling and rugby and was originally intended for developing self-defense skills. Each team has 12 players, seven of which are on the field and five are in reserve.

There is mountain climbing, hiking, and skiing in the foothills of the Himalayas and deep sea fishing, sailing, and water sports



Polo (top) and Cricket Match (bottom) (*Photo by Peter Burgess*)

in the Arabian Sea. Golfing is also popular; there are courses in Lahore, Rawalpindi, Islamabad, and other cities.

Movies and television are popular entertainment. Many feature films are produced each year, mostly in Punjabi and Urdu. Pakistanis can easily find India-made DVDs and CDs, whose celebrities are household names.

Poetry is integral to Pakistani culture. The *qawwalis*, a devotional song, is revered poetry set to music and a hand-clapping chorus. Also popular is the *ghazal*, which is lyrical rhythmic chanting set to music expressing love's trials and tribulations.

Customs and Courtesies

Never enter a mosque without asking permission. When entering a mosque or a holy place, always remove your shoes. Never walk directly in front of someone who is praying. Do not eat, drink, chew gum, or smoke in the daylight hours during Ramadan in front of Muslims, who are not allowed to do so. Never be rude or discourteous; direct confrontation rarely brings positive results. Always obtain permission before photographing someone, particularly a woman.

Publicly consuming alcohol is banned. Non-Muslims can purchase alcohol and foreigners registered in international hotels can get a permit to be served alcoholic beverages. U.S. citizens may drink alcohol in their own homes, though alcohol should never be offered to a Muslim.

Greetings

The most common greeting for men is a handshake; close friends may embrace one another. Women greet each other with a handshake, hug, or kiss each other on each cheek. A man should not offer his hand to

a woman but may take hers if she offers it. A man may verbally greet another man's wife but should not look directly at her. In a group, each person is greeted individually. Unless they are close friends or relatives, Pakistanis address each other by title and last name.

Greetings often include lengthy inquiries about one's health and family. A man may place his right hand over his heart during this conversation. The most common greeting is *Assalaam alaikum* ("may peace be unto you"). The reply is *Waalaikum assalaam* ("and peace also upon you"). A common response in conversation is *Inshallah* ("God willing"). *Khuda hafiz* means "goodbye."

Gestures

Male friends commonly walk hand in hand or with their arms over each other's shoulders, except in the more conservative Balochistan and KPP. Members of the opposite sex, however, do not touch in public. Staring is culturally acceptable, and even common; it is not considered rude or threatening.

Never point the bottom of a foot or shoe toward another person; it is an insulting gesture indicating that the person is beneath you, on the same level as dirt. While sitting on the floor or crossing your legs, maintain awareness of the position your feet to ensure the soles are not pointed directly at anyone. Beckon someone by turning your palm face-down and waving the fingers up and down. It is impolite to use individual fingers to make gestures.

Cultural Considerations

Dress Standards

Although some Pakistanis wear conservative Western-style clothing, the *shalwar kameez* (Pakistan's national dress) is more com-

mon throughout the country and worn by both men and women. The ensemble, traditionally made of cotton, consists of the *shalwar* (a pair of loose-fitting pants with a drawstring waist and tapered at the bottom) and the *kameez* (a long tunic). Men wear solid, subdued colors and add a vest or coat for formal occasions. A man also wears the headdress—a turban, pillbox hat, or *karakuli* (fez-type hat)—that symbolizes tribal identity.

The woman's *shalwar kameez* is made of brightly colored or printed fabrics (cotton, silk, chiffon, satin, and crepe) embroidered with sequins or beads. It is worn with a *dupatta* (long scarf) over the head and shoulders. Some women also wear a *chaddar* (long shawl). Women in more conservative areas wear a *burqa* (a head-to-toe covering) over their clothing when they leave their homes.

Visitors should dress modestly to show respect for Islamic values and to avoid offending Pakistanis. Women should adopt the *shalwar kameez* and *dupatta* or wear baggy, loose-fitting clothes exposing no more than head, hands, and feet. Tight-fitting or insufficient clothing causes great offense to Muslims.

Eating

Almost all Pakistanis follow three Muslim dietary customs: they do not eat pork, they do not drink alcohol, and they fast during the month of Ramadan. During Ramadan, Muslims fast from sunup to sundown in order to learn discipline and self-control. Islam does not require the elderly, pregnant women, or children who have not reached puberty to fast.

Pakistani cuisine is diverse with Afghan-Iranian or Indian influences. Pakistanis sit on the floor and eat with the right hand. In Pakistani culture, the left hand is often used for unsanitary purposes so it should not be raised to the mouth, dipped in a com-

munal dish, or used to offer or accept anything. In some more Westernized households, Pakistanis sit at tables and use utensils.

Seasonings are essential to Pakistani cuisine—they typically include bay leaf, black and red pepper, cardamom, chili powder, cinnamon, cloves, coriander, cumin, curry, garlic, ginger, nutmeg, paprika, poppy seeds, saffron, or tumeric. *Roti* (bread), *chawal* (rice), *sabzi* (vegetables), and *gosh* (meat) are the four main components of a Pakistani meal. Beef, chicken, lamb, and fish are curried or marinated. Plain rice is the standard side dish. *Dals* (lentils), split peas, and chickpeas are popular. Unleavened breads made with wheat or white flour are eaten with most meals. *Naan* and *chapati* are flat wheat breads baked in a tandoor (clay oven) and are often used to scoop up food. Ghee (clarified butter) is commonly used in recipes or for frying. *Kheer* is a rich rice pudding cooked with cardamom, cloves, and cinnamon. *Mithai* are sweets made with flour and cream and cooked in syrup.

While fasting is imperative during Ramadan, feasting has its place on many other occasions, including *Eid ul-Fitr*, the holiday marking the end of Ramadan. The feast includes traditional fare such as *shami* kebabs (fried ground patties made from beef, split peas, onions, hot peppers, and spices), *samosas* (deep fried pastry triangles stuffed with spicy potatoes), *cholay* (chickpeas cooked in a spicy tomato sauce), and *rasmalai* (cheese soaked in sweet milk). Spicy dishes are often served with *dahi* (yogurt) to balance the spices.

Chai (tea) is served at all meals and is offered as a welcome gesture. The tea is boiled with milk, cardamom, nutmeg, and sugar. *Lassi* (a yogurt drink) and sugar cane juice are popular during the summer. Non-Muslims can get permit to purchase alcohol from the Excise and Tax Department in major cities. There are about 120 licensed alcohol sellers across Pakistan, usually small places

at the back of upscale hotels. Much of what is purchased legally is sold to Muslims at a premium.

Interpersonal Relations

Pakistan was proclaimed an Islamic Republic in 1956. Islam is a significant part of Pakistan's national identity and visitors should have some understanding of Islam and the accompanying social patterns. Women should cover themselves in public areas, since people are unaccustomed to seeing short sleeves and bare arms on a woman. It is inappropriate to discuss a man's wife or female relative with him. A man should not extend his hand to a woman in greeting but can take her hand if it is offered. Any other physical contact between a man and woman must be avoided. Public displays of affection are not acceptable between a man and a woman, even between man and wife. It is considered rude for a man to have eye contact with women on the street. It is considered rude and unethical for a man to maintain constant eye contact when conversing with a woman.

MEDICAL ASSESSMENT

Disease Risks to Deployed Personnel

National Center for Medical Intelligence (NCMI) assesses Pakistan as **HIGH RISK** for infectious diseases, with an overall disease risk that will adversely impact mission effectiveness unless force health protection measures are implemented.

The following is a summary of the infectious disease risks in Pakistan. Risk varies greatly depending on location, individual exposures, and other factors. More detailed information is available at <http://www.ncmi.detrick.army.mil>.

Food- or Water-borne Diseases

Sanitation is poor throughout the country, including major urban areas. Local food and water sources (including ice) are heavily contaminated with pathogenic bacteria, parasites, and viruses to which most U.S. service members have little or no natural immunity. Effective disease surveillance does not exist within the country. Only a small fraction of diseases are identified or reported.

If local food, water, or ice is consumed, diarrheal diseases can be expected to temporarily incapacitate a very high percentage of personnel within days. Hepatitis A, typhoid fever, and hepatitis E can cause prolonged illness in a smaller percentage. In addition, viral gastroenteritis (e.g., norovirus) and food poisoning (e.g., *Bacillus cereus*, *Clostridium perfringens*, and *Staphylococcus*) may cause significant outbreaks.

Vector-borne Diseases

The climate and ecological habitat support large populations of arthropod vectors, including mosquitoes, ticks, and sand flies. Disease transmission is sustained year-round at elevations below 2,000 meters, including urban areas. Serious diseases may not be recognized or reported because of the lack of surveillance and diagnostic capability.

Malaria and dengue fever, the major vector-borne risks in Pakistan, are capable of debilitating a high percentage of personnel for up to a week or more. The highest numbers of malaria cases occur in the provinces along the Afghan and Iranian borders and west of the Indus River. One of Pakistan's largest dengue fever outbreaks occurred from October through December 2006.

In addition, a variety of other vector-borne diseases occur at low or unknown levels; as a group, these diseases may constitute a potentially serious operational risk. Personnel exposed to mosquitoes, ticks, and sand flies are at high risk during day or night, in both urban and rural areas.

Sexually Transmitted and/or Blood-borne Diseases

Hepatitis B and HIV/AIDS are reported in Pakistan, particularly in prostitutes, a high-risk group for sexually transmitted disease worldwide. Parts of neighboring India have high HIV/AIDS rates, with likely spread into Pakistan. Men having sex with men, heterosexual contact, and intravenous drug use are the predominant modes of transmission. Carrier rates for hepatitis B are high. The long-term health impact of these diseases on individuals is substantial. A variety of other sexually transmitted diseases (including chlamydia, gonorrhea, chancroid, herpes, syphilis, and venereal warts) may cause symptomatic infection in a high percentage of personnel who have sexual contact.

Water-contact Diseases

Operations or activities that involve extensive freshwater contact (lakes, rivers, streams, or other surface water) may result in personnel being temporarily debilitated with leptospirosis. In addition, bodies of surface water are likely to be contaminated with human and animal waste. Activities such as wading or swimming may result in exposures to enteric diseases such as diarrhea and hepatitis via incidental ingestion of water. Prolonged water contact also may lead to the development of a variety of potentially debilitating skin conditions such as bacterial or fungal dermatitis.

Respiratory Diseases

Tuberculosis rates are high among the local population. Prolonged contact with the local population may result in high conversion tuberculosis skin test rates, well over the U.S. military baseline. In addition, U.S. personnel may be exposed to a wide variety of common respiratory infections in the local population.

Animal-associated Diseases

Rabies risk in Pakistan is among the highest in the world; dogs are the main rabies reservoir. Personnel bitten or scratched by animals are at high risk of developing rabies in the absence of appropriate treatment. Rare cases of anthrax could occur among personnel exposed to animals, animal products, or undercooked meat. Also, rare cases of Q fever could occur among personnel exposed to aerosols from infected animals. More cases are possible in situations where personnel have heavy exposure to barnyards or other areas where animals are housed.

Medical Capabilities

Pakistan has one of the least developed health and medical care systems in south Asia. In addition, the country has a few hospitals that approach Western standards of care. The health care system is inefficient, corrupt, and highly politicized. Disease surveillance and reporting are inadequate in large part because most seek health care in the private sector which does not report disease occurrences. Public awareness of mitigating disease risks, such as AIDS and tuberculosis, is poor.

Some private specialty clinics and hospitals in major cities provide quality care approaching Western standards including the Aga Khan University Hospital, Karachi, the Doctors Hospital and Medical

Center in Lahore, and the Shifa International Hospital in Islamabad. Most facilities in Pakistan lack necessary supplies and equipment. Military hospitals are better than comparable civilian facilities but still lack adequate staffing and medical materiel. The Pakistan Institute of Medical Science in Islamabad offers limited burn care capabilities. Many civilian and military physicians are well trained and qualified, but the quality of nursing care is far below Western standards. Military medics provide good basic lifesaving care but not to the same standard as U.S. combat medical personnel.

Emergency medical services and trauma systems are extremely limited, even in major cities. Pakistan has some experience in disaster management, but lacks the resources to deal effectively with follow-on repercussions without international aid. Hospitals plan for emergencies by allocating beds for contingencies, keeping staff on call, and stockpiling supplies. These measures may not be possible, particularly in less accessible areas of the country, given existing medical staff and supply shortages. The military regularly assists civilian relief authorities in managing disasters.

The blood supply is not considered safe for use by U.S. personnel. Hospitals and blood transfusion centers do not regularly test blood for HIV, hepatitis B and C, malaria, or syphilis in a quality assured manner and many unregulated private blood banks use unsafe paid donors.

The quality of medical materiel depends on the product and source. Domestic pharmaceutical manufacturing is below Western standards; in addition, pharmaceuticals produced in Pakistan by Western pharmaceutical manufacturers do not meet Western standards. Imported medications are expensive and often in short supply, and quality varies based on country of origin.

English is widely used in the health care sector, primarily among physicians. However, most medical assistant personnel, including nurses, have little comprehension of English.

Key Medical Treatment Facilities

Shaukat Khanum Memorial Hospital

Coordinates 31-26-55N 074-16-18E

Location 7-A, Block R-3 Johar Town

City Lahore

Telephone 042-111-155-555

Type Private

Beds 65

Capabilities **Medical:** cardiology, infectious disease, nuclear medicine, oncology, pediatrics, internal medicine; **Surgical:** OB/GYN, general surgery, ENT, ophthalmology; **Ancillary:** computed tomography (CT) scanner, magnetic resonance imaging (MRI), laboratory, ICU, cardiac care unit (CCU)

Comments Primary medical facility for use by U.S. consulate personnel.

Doctors Hospital and Medical Center

Coordinates 31-28-47N 074-16-49E

Location 152-G/1 Canal Bank, Johar Town

City Lahore

Telephone 042-5302701-14

Type Private

Beds Unknown

Capabilities **Medical:** cardiology, nuclear medicine, pediatrics; **Surgical:** general surgery, cardiothoracic, OB/GYN,

Capabilities <i>(cont.)</i>	ENT, pediatric; Ancillary: intensive care unit (ICU), trauma unit, laboratory, x-ray
Comments	Facility is new. Most of the medical staff has been trained in the United States.

Pakistan Institute Medical Sciences

Coordinates	33-42-09N 073-03-11E
Location	Faisal Avenue, Sector G-8/3
City	Islamabad
Telephone	859-511
Type	Government
Beds	600

Capabilities	Medical: dentistry, infectious disease, oncology, pediatrics, pulmonology; Surgical: OB/Gyn, general surgery, ENT, ophthalmology; Ancillary: CT scanner, laboratory, ICU, CCU, burn unit
Comments	The best staffed and equipped local institute for severe pediatric emergencies. Recommended for use by U.S. Embassy.

Combined Military Hospital

Coordinates	34-00-12N 071-32-36E
Location	Off the Mall Road
City	Peshawar
Telephone	091 201 6100
Type	Military
Beds	600

Capabilities	Medical: dentistry, infectious disease, emergency medicine, pediatrics, infectious diseases; Surgical: OB/Gyn, general surgery, ENT, ophthalmology;
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Capabilities **Ancillary:** CT scanner, laboratory, ICU, CCU, burn unit, trauma unit.

Comments One of the best hospitals in Peshawar. Care provided to military, family members and retired staff as well as civilians. Injured Taliban are also treated at this hospital. Highly capable orthopedic department and is well respected for its trauma unit.

Aga Khan University Hospital

Coordinates 24-53-33N 067-04-27E

Location Off of National Stadium Road

City Karachi

Telephone 92 21 493 0051

Type Private

Beds 654

Capabilities **Medical:** dentistry, infectious diseases, emergency medicine, pediatrics; **Surgical:** OB/Gyn, general surgery, ENT, ophthalmology, cardiothoracic, vascular; **Ancillary:** CT scanner, laboratory, ICU, CCU, burn unit, trauma unit, helipad.

Comments Considered for emergency use by the U.S. Consulate. Hospital is ISO certified and was accredited by the Joint Commission International in 2006.

Shifa International Hospital

Coordinates 33-40-32N 073-03-59E

Location Pitras Bkhari Road, Sector H-8,4

City Islamabad

Telephone 92-51-444-6801

Type Private

Beds 330

Capabilities **Medical:** dentistry, infectious diseases, emergency medicine, pediatrics; **Surgical:** OB/Gyn, general surgery, ENT, ophthalmology, cardiothoracic, vascular, neurosurgery; **Ancillary:** CT scanner, MRI, laboratory, ICU, CCU, blood bank, x-ray.

Comments Considered for emergency use by the U.S. Embassy although not always capable of handling trauma cases. Facility has a wide range of specializations and uses mostly U.S.-trained physicians.

HISTORY

Early History

Civilization began in approximately 2600 B.C. in the Indus River Valley. This civilization likely maintained agricultural production through river irrigation until 1750 B.C., when Aryan nomadic tribes from Central Asia conquered most of the Indus Valley.

By the year 326 B.C., Candra Gupta Maurya established the first empire in South Asia; his grandson, Asoka, led the Mauryan Empire to political prominence around 200 B.C. In the following centuries, various powers exercised control in the subcontinent. Most of them, however, only temporarily dominated particular regions.

Arab general Muhammad bin Qasim introduced Islam into the Sindh region in approximately 711 A.D.; a Turkish sultan, Mahmud of Ghazna, continued to spread Islam in the 10th century. By the 13th century, a succession of Turkic rulers known as the Mughals ruled most of the Indian subcontinent but they struggled with control. The Sikh rulers took control of the Punjab capital, Lahore, in 1761. By 1818, the Sikh ruler Ranjit Singh controlled large areas of Punjab and, the next year, Kashmir. His death in 1840 led to

infighting among Sikh leaders and broke up their holdings into small principalities. The British took advantage of the division and ended Sikh rule in 1849.

Beginning in the early 1800s, the British were a political and economic power over much of India. The British East India Company managed most of the area until the 1857 Indian Mutiny (Sepoy Mutiny) challenged British occupation. Afterward, the British government exercised more direct control over India. The British believed that Muslim leaders led the rebellion in order to regain political and economic advantages. In response, the British placed Hindus in many positions previously occupied by Muslims. They also replaced the official languages (Urdu and Persian) with English, which left many Muslims illiterate and unemployable.

In the 1920s, Allama Mohammad Iqbal envisioned a Muslim homeland called “Pakistan,” which means “Land of the Pure.” Mohammed Ali Jinnah, a lawyer and leader of the Muslim League political party, led the push for Pakistan’s establishment. Jinnah claimed that India consisted of two separate nations—Hindu and Muslim—and that Muslims could not safely live in a Hindu-dominated India.

World War II’s impact and a resistance to British rule in India led to British’s withdrawal from India in July 1947. Pakistan was created on 14 August 1947 but was divided into two non-contiguous areas situated east and west of India and separated by 1,600 kilometers (994 miles). Pakistan soon faced multiple problems: absorbing millions of Muslim refugees from India, overcoming a poverty crisis, and establishing a government and sense of national unity despite having a geographically and ethnically divided country.

Initially, Pakistan was governed by a Constituent Assembly responsible for drafting a constitution. The draft, however, was

delayed due to disagreements over how different regions would be represented and how the state would embody Islamic principles. The delay prompted Governor Gen Ghulam Mohammad to dismiss the Constituent Assembly in 1954. This started a pattern whereby military and civil bureaucracy, instead of elected officials, governs the country and influence society and the provinces.

The first constitution was written in 1956 by a new Constituent Assembly, which reformed itself as the Legislative Assembly. Regional rivalries and ethnic and religious tensions threatened political stability and President Iskander Mirza disbanded the assembly on 7 October 1958. Later that month, Gen Mohammad Ayub Khan overthrew Mirza.

Ayub Khan was a self-proclaimed reformist who tried to bring stability to Pakistan. He established a local government system called “Basic Democracies” that allowed communities to have input into the country’s politics. He quickly became disinterested in popular opinion and turned to the civil bureaucracy for policy advice and formation. A new constitution in 1962 established a weak legislature, known as the National Assembly, and a president with substantial legislative, executive, and financial powers.

In 1965, Ayub Khan led Pakistan in a 17-day war with India due to a dispute over the Kashmir region. Pakistan argued that, under the terms of its creation in 1947, Muslim-dominant areas became part of Pakistan. Pakistan also claimed that when the land was divided, India pressured the Hindu ruler of Kashmir to align with India, despite the wishes of the Muslim population. Ayub Khan resigned in 1969. Kashmir is still divided and the dispute remains unresolved.

Gen Agha Mohammad Yahya Khan became the next president and chief martial law administrator. He attempted to reinstitute



Disputed Kashmir Region.

parliamentary democracy but tensions between East and West Pakistan over National Assembly representation led to civil war in 1971. With India's support, East Pakistan seceded and became the independent nation of Bangladesh. India and Pakistan fought another 17-day war, mostly in Pakistan; it ended in stalemate. Due to Pakistan's military losses, Yahya resigned in 1971. Zulfikar Ali Bhutto was appointed president, becoming the first civilian head of government in nearly 20 years.

In August 1973, another constitution went into effect. It addressed the role of Islam, the distribution of power between the federal and provincial governments, and the division of responsibilities between the president and prime minister. Bhutto nationalized numerous industries; the government's heavy involvement had lasting negative economic consequences. While Pakistan finally appeared to be on the road toward democracy, political opposition grew against Bhutto due to his repression of political opponents and alleged voting irregularities. On 5 July 1977, Gen Mohammad Zia-ul-Haq overthrew Bhutto; Zia became chief martial law administrator. Bhutto was sentenced to death for conspiring to murder a political opponent and was executed in 1979.

Zia adapted Ayub Khan's basic democracies structure into a new system of local governments and he adopted various measures to create an Islamic state. When the Soviet Union invaded Afghanistan in 1979, Pakistan received many Afghan refugees, and large-scale foreign aid was channeled from the United States, China, Saudi Arabia, and other countries through Gen Zia, significantly increasing his power.

In 1985, Zia became president, terminated martial law, and reinstated the initial constitution. He added the Eighth Amendment, giving the president two new powers: 1) to appoint and dismiss the prime minister and provincial governors and 2) to dissolve the legislatures, both national and provincial.

Zia died in an airplane crash in August 1988. Benazir Bhutto, Zulfikar Ali Bhutto's daughter and head of the Pakistan People's Party (PPP), became prime minister. With her, Pakistan became the first Muslim country to have a female head of government.

Bhutto's government experienced severe economic problems, ethnic conflict, and lack of legislative support. Mohammed Nawaz

Sharif, the leader of the Pakistan Muslim League who succeeded Bhutto in 1990, faced the same problems. Bhutto's PPP won the National Assembly in 1993 and she returned to office. Her successor, President Farooq Ahmed Leghari, however, dismissed Bhutto 3 years later on charges of corruption and reappointed Nawaz Sharif in 1997.

Recent History

India, and subsequently Pakistan, each tested nuclear devices in 1998; many countries responded with condemnation and sanctions. However, Pakistan felt that it finally possessed sufficient force to deter its main rival, India. This boost in morale may have triggered Pakistan to go on the offensive against India.

In 1999, India and Pakistan engaged in a limited conflict, the Kargil War; Pakistan was condemned as the instigator for its alleged support of militants who entered India-held Kashmir from Pakistan-held Kashmir. The conflict proved to be embarrassing for Pakistan. Although Gen Pervez Musharraf was the architect of Pakistan's Kargil strategy and Prime Minister Nawaz Sharif initially supported him, Sharif later buckled under international pressure and attempted to fire Musharraf when the general was visiting Sri Lanka. In response, the military's corps commanders staged a coup, allowing Musharraf to return and assume the head of state position in late October 1999.

Pakistan became a key U.S. ally in the War on Terrorism after the 11 September 2001 attacks. As a result, Pakistan benefited from an infusion of economic and military aid. Musharraf, serving simultaneously as both president and Army chief of staff, used various measures to consolidate his executive power. In an April 2002 national referendum, Musharraf's tenure as president was extended to 2007. In November 2007, Musharraf suspended Pakistan's constitution and declared emergency rule although planned elections were not cancelled. One month later, Benazir Bhutto was assas-

sinated while seeking election to what would have been her third position of national leadership. Her widower, Asif Ali Zardari, was elected president in September 2008; Musharraf is no longer officially involved in politics.

Chronology of Key Events

- 1947** The Muslim state of Pakistan (east and west) is created after the British's rule of India ended.
- 1948** Pakistan's first war with India over the Kashmir region.
- 1956** First constitution is created; it proclaims Pakistan an Islamic Republic.
- 1958** Martial law is declared and Gen Ayub Khan takes control of the country.
- 1960** Gen Ayub Khan becomes president.
- 1965** Second Pakistan/India war over Kashmir region.
- 1969** Gen Ayub Khan resigns and Gen Yahya Khan becomes head of state.
- 1971** Civil war leads to secession of East Pakistan, which becomes Bangladesh. Gen Yahya Khan resigns and Zulfikar Ali Bhutto is appointed president.
- 1977** Gen Zia-ul-Haq overthrows Bhutto in a military coup.
- 1979** Bhutto, charged with conspiring to murder a political opponent, is executed.
- 1988** Gen Zia-ul-Haq dies in an airplane crash. Benazir Bhutto becomes prime minister.
- 1990** Mohammed Nawaz Sharif becomes prime minister.
- 1993** Benazir Bhutto becomes prime minister a second time.
- 1996** President Farooq Ahmed Leghari dismisses Bhutto as prime minister on corruption charges.
- 1997** Nawaz Sharif becomes prime minister a second time.
- 1998** Pakistan responds to India's nuclear tests with its own test.

- 1999** Pakistan-backed forces clash with India over the Kashmir region in the Kargil War. PM Nawaz Sharif attempts to fire Army Gen Musharraf, who responds by overthrowing Sharif in a military coup. Sharif and Bhutto are banned from running for political office.
- 2001** Musharraf names himself president and remains chief of Army staff. Pakistan becomes a key U.S. ally in the fight against terrorism.
- 2002** Musharraf extends his presidential term to 2007 through a national referendum.
- 2004** Shaukat Aziz is sworn in as prime minister. Musharraf continues dual-role leadership of president and chief of Army staff, despite his promise to relinquish his military role.
- 2007** November: Musharraf declares emergency rule and suspends the country's constitution. Musharraf comes under domestic and international pressure to step down. December: Benazir Bhutto is assassinated.
- 2008** Asif Ali Zardari elected president.

GOVERNMENT AND POLITICS

Government

National Level

Executive Branch

The executive branch includes a president and a prime minister, but the significance of the two posts shifts with changes in government and amendments to Pakistan's constitution. Since the 1999 coup, the presidency, held by Pervez Musharraf and his successor, Asif Zardari, has been the preeminent office in the executive branch. Between 1999 and 2007, Musharraf was also the Army chief of

staff; this dual role had been a source of criticism since the constitution forbids the president from holding any other paid position in Pakistan's government. However, special legislation engineered by Musharraf allowed him to retain the chief of staff position until at least 2007, when he was to retire from the military.

Currently, the offices of presidency and Army chief of staff are held by different men. Much of the presidential powers enacted by Musharraf are still retained, thus making the presidency the most powerful executive office instead of the prime minister. It remains to be seen if the power will shift back to the prime minister position.

According to the constitution, the president must be a Muslim and at least 45 years old.

The prime minister serves as the president's principal deputy for the daily execution of policy. He is nominated by the president and must be both a member of and approved by the National Assembly. The prime minister also heads the cabinet of ministers, a group of parliament members selected by the president to run various government ministries. The current cabinet consists of 33 members and has several committees for specific topics, such as defense.

Legislative Branch

Pakistan's parliament (*Majlis-e-Shoora*) officially consists of the president and two houses: the national assembly and the Senate.

The national assembly has 342 seats, proportionally divided among the provinces according to population. Sixty seats are reserved for women; they, also, are divided by province. Finally, ten seats, elected nationwide, are reserved for non-Muslims. The national assembly serves for 5 years, unless dissolved earlier by the president.



Parliament House in Islamabad (*Photo by Waqas Usman*)

The senate consists of 100 members. The four provincial assemblies each elect 14 general senators, 4 female senators, and 4 technocrats (including Muslim scholars, or *ulama*). FATA elects eight senators in direct elections, and the Federal Capital District elects two general senators, one woman, and one technocrat. The senate cannot be dissolved and has no fixed term. Senators serve for 6 years, with half of the members standing for election every 3 years.

Regular legislation must pass by a majority in both houses; constitutional amendments require a two-thirds majority. Approved bills or amendments go to the president for approval. If the president rejects a bill, it can be reconsidered by the legislature. If it passes again, the president cannot reject it.

Members of the national assembly must be at least 25 and senators at least 30. They must also have a college degree (a stipulation created by Musharraf to exclude most Islamic candidates from running for office), be of good moral character, and (excluding candidates for the reserved non-Muslim seats) conform to the principles of Islam.

Judicial Branch

Pakistan has a supreme court consisting of a chief justice and 16 judges. This court has final jurisdiction over appeals and primary jurisdiction in some special cases. Judges are appointed by the presi-



Pakistan Supreme Court, Islamabad (Photo by Dr. Wasif Iqbal)

dent, usually from a list provided by the chief justice. Each province has a high court consisting of a chief justice and a number of judges, which varies by province. There are also subsidiary civil and criminal courts, supplemented by specialized courts for various purposes, such as taxation, anti-corruption, customs, and banking.

In addition, there is a federal *Shariat* court with eight judges, including the chief justice, and at least three *ulama*. This court rules on whether laws are consistent with Islamic principles. Its decisions are appealed to the *Shariat* appellate bench of the supreme court, which consists of three supreme court justices and two *ulama* appointed by the president. If these courts find that a particular law violates Islamic principles, the government must repeal or modify the law.

Local Level

Pakistan is divided into four provinces (Balochistan, the KPP, the Punjab, and Sindh), Azad Kashmir, the Northern Areas, the FATA,

and the Federal Capital District. Each province has a government similar in structure to the federal government. It is headed by a governor appointed by the president. The local legislature is composed of elected representatives. From the provincial assembly (legislature), the governor appoints members of the cabinet of ministers. The president appoints a chief minister and judges that staff the high court.

The FATA is uniquely governed, only the president has any authority at the national level. According to Pakistan's constitution,



Administrative Districts

neither parliament nor the courts has jurisdiction over any of the seven agencies that make up the FATA. The British established the Frontier Crimes Regulation (FCR) to appoint a political agent (PA) who would have full executive, judiciary, and legislative powers for each agency. When Pakistan became a country, representatives of the local tribes signed an *Instrument of Accession*, which maintained the FCR in modern Pakistan.

Today, the FCR allows the president (through his appointed PA) final judgment over any criminal cases where a government-sanctioned *jirga* (meeting of elders) renders their verdict and sentence. The PA can enforce collective punishment against a family, clan, or tribe. In exchange, the tribes gain financial handouts (through the PA), are not liable for taxation, nor are they subject to the ‘secular’ court system.

Many Pakistanis view the FCR as an outdated remnant of colonialism, even characterizing it as a human rights violation; there is, however, no widespread support for a specific alternative system. Tribes still want to maintain independence from central government rule and the president and his PAs do not want to lose their powers to parliament or the national courts. Musharraf tried to transition the FATA into a provincially administered tribal area that would fall under Pakistan’s legislative and judiciary branches. That effort was stalled as a result of post-11 September 2001 militancy, which required federal security forces to be dispatched into the region.

Politics

Political Parties

The 1999 military coup caused major changes in Pakistan’s political party system. Opposition party leaders were subject to in-

creased eligibility restrictions and many of their leaders went into exile. Following the establishment of a civilian-led government in 2008, parties returned to their former role—representing a specific ethnic, religious, or socio-economic group.

Parties depend heavily on personal connections and leadership; many parties are named after their founders or leaders. In addition to the major parties, there are many smaller ones that are based on local tribal groups or individual political leaders. Party names and alliances change frequently.

The most established political movement in Pakistan is the Pakistan Muslim League (PML). The PML developed from the All-India Muslim League. Under Mohammed Jinnah's leadership (the Father of Pakistan), the All-India Muslim League played a major role in Pakistan's independence. Several parties claim the mantle of the PML; but the two main factions are the PML-Nawaz (PML-N)—established in 1993 by Prime Minister Nawaz Sharif and the PML-Quaid-i-Azam (PML-Q) created by the military. The PML-Q is led by former PML-N members who joined the military-sponsored group after the 1999 coup. PML-Q also appropriated PML-N offices in several major cities. Though the PML factions generally share a center-right, pro-business agenda, they were strongly opposed to each other on the issue of Musharraf's right to rule.

The Pakistan People's Party (PPP) is a center-left party previously led by the former prime minister, Benazir Bhutto, until her assassination when her son, Bilawal Bhutto, took over leadership. Its social welfare and land reform platform has become more business-friendly since the 1990s. The PPP is primarily a Sindhi movement. Pakistan's current president of is a member of the PPP.

Religious parties are a major factor in Pakistan politics. The two main religious parties are the Jamaat-i-Islami (JI) and the Jamiat

Ulema-i-Islam (JUI); together, they form the main base of the five-party Islamic coalition called the Muttahida Majlis-e-Amal (MMA).

JI is an Islamic revival party advocating a strong role for Shari'a (Islamic law) and religious principles in Pakistan's government. It has close ties to the military due to their common support for Kashmiri insurgents—who are fighting against India's rule—and Pakistanis fighting for the accession of Kashmir. JI's main supporters are city dwellers, including some Western-educated academics.

JUI is a more radical religious party, that adheres strictly to Shari'a supports a single pan-Islamic state akin to the 7th century caliphate. It recruits through *madrassas* and mosques. The JUI consists of two main factions, the JUI-Fazlur Rahman (JUI-F) and JUI-Samiul Haq (JUI-S), both named after their respective leaders. The JUI-F is mostly Pashtun and is the largest party in the MMA coalition. The JUI has been linked with the Afghan Taliban.

Regional parties also play a key role in Pakistan politics. The Muttahida Quami Movement (MQM) represents Urdu-speaking Muhajirs in urban parts of Sindh Province. It is allied with PML-Q in the Sindh region. Another party, the Haqqi or “real” Mohajir Quami Movement (also having the acronym “MQM”) opposes the leadership cult in the ‘other’ MQM.

The National Party and the Balochistan National Party are the major regional parties in Balochistan. Both are left-leaning and opposed to the province’s current government, led by the PML-Q and the MMA/JUI-F coalition. The Jamhoori Watan Party (JWP) is a more centrist opposition party led by a former Balochistan governor.

The Pakhtun-khwa Milli Awami Party (PkMAP) and the Awami National Party (ANP) are moderate Pashtun parties advocating local autonomy. They lost support to the more radical religious parties after U.S. military operations were staged along Afghanistan’s border.

The major parties cooperate with smaller parties under the umbrella of larger coalitions. The three main political coalitions were the Alliance for the Restoration of Democracy (ARD), the MMA, and the Pakistan Oppressed Nations Movement (PONM).

The ARD was the principle opposition group, led by the PML-N and the PPP. Its primary goal was to end military government and restore full democracy. However, it was not well organized and has thus dissolved since Musharraf's departure.

The MMA is a coalition of five leading religious parties led by the JI and JUI-F. It leads the KPP regional government and partners with the pro-military coalition ruling Balochistan. The PONM is an alliance of smaller regional parties opposed to military rule. It included both Sindhi and Pashtun parties unified by their opposition to centralized rule.

Party Name	Description
PML-Q	Military-sponsored ruling party. Notionally center-right and pro-business but with growing Islamist tendencies.
PML-N	Center-right opposition party.
PPP	Center-left opposition party.
MQM	Pro-government party representing Urdu-speaking mohajir in Sindh Province.
MQM-Haqiqi	Splinter of MQM.
Balochistan National Party	Left-leaning opposition Balochi regional party.
National Party	Left-leaning opposition Balochi regional party.
JWP	Centrist opposition party in Balochistan.
PkMAP	Moderate opposition Pashtun party.
ANP	Moderate opposition Pashtun party.
JI	Pro-government religious revival group.
JUI-F	Radical Pashtun-dominated Islamic religious party.
JUI-S	Radical Islamic religious party.

Foreign Relations

United States

The United States and Pakistan have traditionally been allies; the relationship, however, is often strained. Pakistan's test of nuclear weapons in 1998 and military coup in 1999 significantly harmed relations. Sanctions imposed after the nuclear tests were lifted in October 2001, because of Pakistan's support for the War on Terrorism.

Pakistan is a key U.S. ally in the War on Terrorism and has reluctantly supported U.S. operations in Afghanistan. Several senior AQ officials have been arrested in Pakistan.

The United States continues to press Pakistan over human rights, religious freedom, and democracy issues. Ultimately, however, security issues related to the global War on Terrorism remain the main focus of the U.S.-Pakistan relationship. On this front, the countries continue to work closely together.

Afghanistan

Pakistan supported anti-Soviet forces in Afghanistan after the 1979 invasion and has provided shelter for more than 1 million displaced Afghan refugees.

Ongoing tensions exist because of Pakistan's relationship with the Taliban. Pakistan was one of only three governments to formally recognize the Taliban in Afghanistan. Under international pressure following the 11 September 2001 terrorist attacks on the United States, Pakistan backed away from open support of the group. When the U.S.-led invasion initially evicted the Taliban from Afghanistan, Pakistan pledged to work with the new Afghan government. On the other hand, there continue to be accusations that Pakistan still shelters and, perhaps, even supports Taliban insurgents. A 2006 agree-

ment between Pakistan's government and pro-Taliban Pashtun tribal groups in Waziristan heightened concerns that Pakistan serves as a safe haven for the Taliban forces fighting in Afghanistan. In 2008 to 2009, militants seized control of Swat District in the KPP. The ensuing short-lived peace fell apart when militants invaded the adjacent district of Buner. The Pakistan military then launched a massive counterinsurgency operation, re-taking Buner and Swat. As of September 2009, Swat District remains a volatile area.

An unresolved border dispute also negatively impacts Pakistan-Afghanistan relations. Since Pakistan was created in 1947, Afghanistan has claimed it owns the Pashtun-occupied territory on the Pakistan side of the Durand Line—the line was established in 1893. Afghanistan is not giving voice to its claim. Pakistan's failure to renounce the claim, however, creates justifiable concern in Pakistan about the impact of a strong central government in Afghanistan.

India

Relations between India and Pakistan have been mostly hostile since the two countries gained independence in 1947. They have fought three major wars—1947, 1965, and 1971—and several small conflicts, including the 1999 Kargil conflict. The 1971 war was generally fought over the independence of East Pakistan (now Bangladesh). Kashmir Province, however, was the main focus in the other conflicts. Kashmiri Muslim militants launch terrorist attacks against Indian and Hindu targets in Kashmir and, occasionally, in India. India accuses Pakistan of providing materiel support to the insurgents; Pakistan asserts that the insurgency is an internal Kashmir issue and admits only to moral support for the militants.

Steady, low-level hostilities, with occasional flare-ups, continue between India and Pakistan armed forces along the border. Missile and nuclear tests by both countries in 1998 dramatically raised the tension levels. Several high-profile terrorist attacks conducted by Kashmiri militants in India nearly led to another full-fledged war from late 2001 to 2002.

Relations remain tense, though there is a formal cease fire. There have also been some tentative moves toward negotiations. Trade improvements are seen as the first step toward a broader peace settlement. The two countries have also been providing aid for regions along their shared border that were affected by an earthquake in October 2005. All such diplomatic improvements were suspended, however, following November 2008 attacks in Mumbai, which were supported from within Pakistan.

Iran

The relationship between Iran and Pakistan has been strained since the 1979 Iranian revolution. During Afghanistan's civil war, the two countries opposed each other. Relations improved slightly after the fall of the Taliban government in Afghanistan; but they deteriorated in 2005, when Pakistani officials accused Iran of supporting insurgent groups inside Pakistan.

Pakistan's government has acknowledged that Iran received nuclear technology, including centrifuges, from Pakistani scientist A.Q. Khan. It has, however, denied any official role in the transfers.

China

Pakistan and China have had a long relationship founded, in large part, on their common rivalry with India. China is a major supplier of military equipment and technology to Pakistan. China has provided substantial assistance to Pakistan's combat aircraft,

ballistic missile, and nuclear programs. China and Pakistan are also expanding commercial ties. Pakistan is seeking full membership in the Shanghai Co-operation Organization and a free-trade agreement with China. China is also helping Pakistan construct hydroelectric dams, a new seaport at Gwadar, and a new highway connecting Gwadar to Karachi, which could serve both commercial and military activities.

Bangladesh

Originally called East Pakistan, Bangladesh separated from Pakistan after the 1971 war. Although their relations were initially strained, they now are on fairly good terms and have had several high-level diplomatic visits in recent years. The countries are finalizing a free-trade agreement and have signed memoranda of understanding on agriculture, tourism, export promotion, and product standardization.

The major point of tension between Pakistan and Bangladesh is the fate of the Bihari refugees, Urdu-speaking Pakistanis who were stranded in Bangladesh after the two countries split. Some of these refugees wish to return to Pakistan; others, particularly those born after the split, want to become Bangladeshi citizens. Approximately 127,000 refugees were repatriated by 1982; almost 250,000 remain. There has been little movement on this issue in recent years.

International Organizations

Pakistan participates in these and other international organizations:

- ASEAN Regional Forum
 - Asian Development Bank
 - Commonwealth (reinstated 2004)
 - International Atomic Energy Agency
 - International Red Cross and Red Crescent Movement
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- Islamic Development Bank
 - Non-Aligned Movement
 - Organization of the Islamic Conference
 - Organization for the Prohibition of Chemical Weapons
 - Permanent Court of Arbitration
 - South Asian Association for Regional Cooperation
 - United Nations
 - World Health Organization
 - World Trade Organization
-

ECONOMY

Although Pakistan's overall economy has historically been underdeveloped, Pakistan's macro economy had impressive growth between 2001 and 2008. From 2004 to 2008, the country's gross domestic product (GDP) increased in all sectors. The country was regaining its international reserves and strengthening its banking sector. Public debt slowly declined from moderately high levels. Pakistan's tax reduction and greater export earnings also provided significant economic advances.

In 1988, IMF helped Pakistan restructure and improve its credibility with foreign investors. The IMF approved a US\$1.5 billion aid-and-debt forgiveness program for Pakistan, including a US\$250 million loan in 2004. In 2001, for its role in the War on Terrorism, Pakistan received additional financial support and the United States lifted its sanctions. Following the massive 2005 earthquake, many countries, including India and the United States, pledged millions of dollars to the rebuilding efforts.

In the 2008 global economic downturn, Pakistan took a major hit and has asked foreign countries to provide an influx of cash. Now,

an increasing debt burden and rising inflation are undermining the past years' gains.

Pakistan remains a low-income country with a large percentage of its population living in poverty. The government's reform efforts have centered on macroeconomic reforms to attract foreign investment, rather than on social reform and improvements to infrastructure in order to attract foreign investment and develop domestic industries. When combined with high-population growth rates, the lack of economic development contributes to a persistent poverty level. The country also faces the economic consequences of political instability, ethnic and sectarian violence, and devastating natural disasters, such as a 7.6-magnitude earthquake on 8 October 2005. The greatest threat to Pakistan's economy is inflation, which was at 17.19 percent in May 2009.

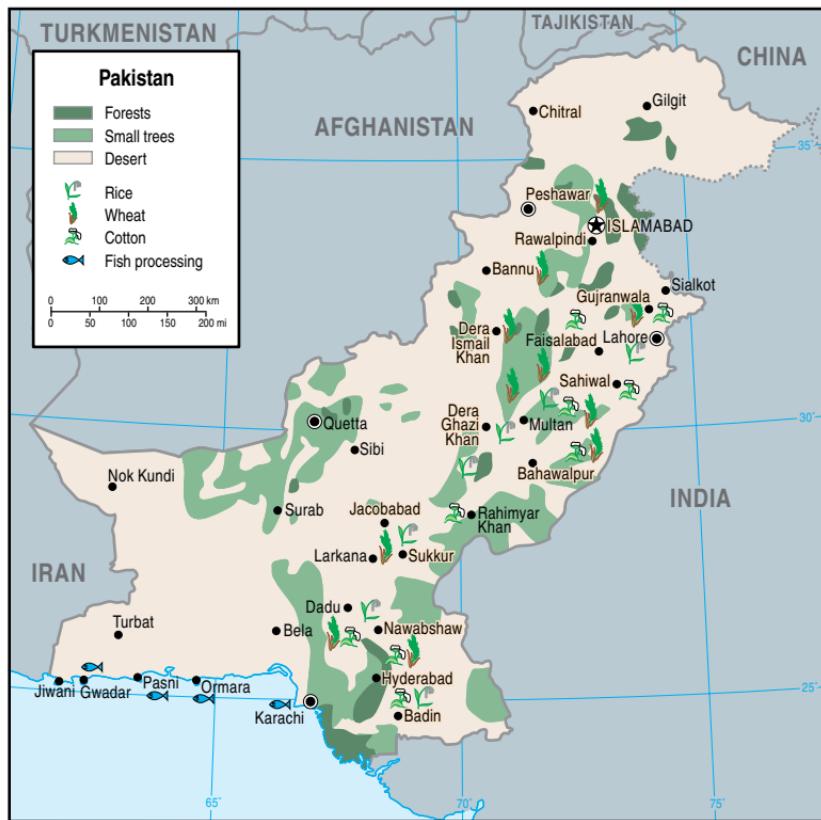
Economic Statistics

<i>GDP (official exchange rate)</i>	US\$160.9 billion (2009, est)
<i>Purchasing power parity</i>	US\$448.1 billion (2009, est)
<i>Growth rate</i>	2.7%
<i>Per capita</i>	US\$2,600
<i>Industry (% of GDP)</i>	24.3%
<i>Agriculture (% of GDP)</i>	20.8%
<i>Services (% of GDP)</i>	54.9%
<i>Inflation rate</i>	14.2%
<i>Debt</i>	US\$45.3 billion
<i>Unemployment rate</i>	7.4% plus substantial underemployment
<i>Imports</i>	US\$28.31 billion
<i>Exports</i>	US\$17.87 billion
<i>Labor force</i>	55.88 million

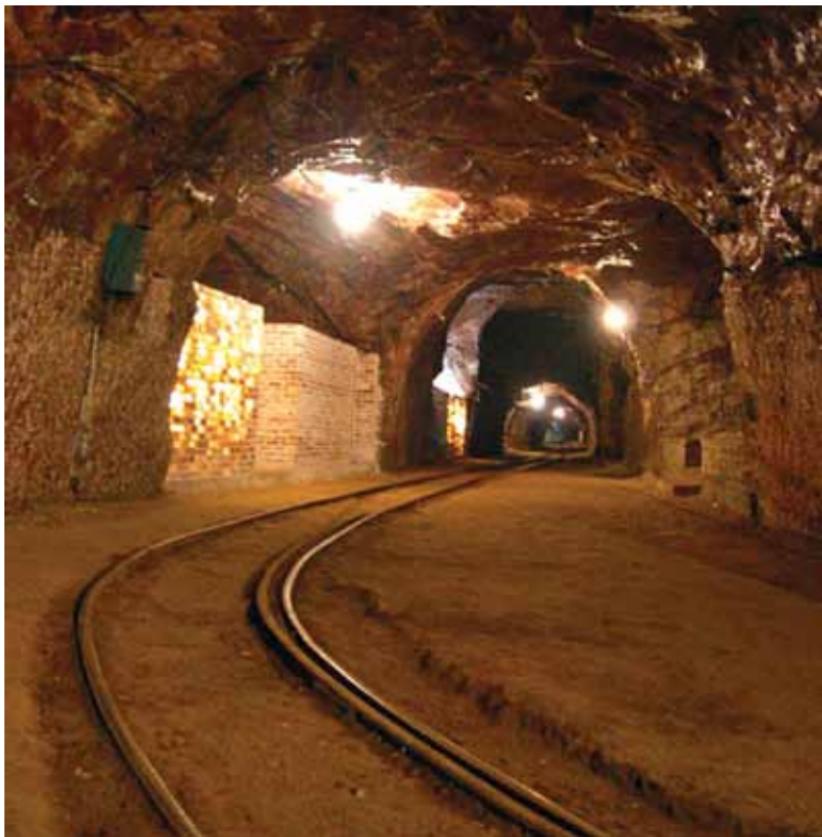
Resources

Pakistan's primary resources are arable land, water, natural gas reserves, petroleum, coal, iron ore, copper, salt, and limestone.

The country has 759 billion cubic meters (26.8 trillion cubic feet) of proven natural gas reserves, mostly in Balochistan Province. In 2003, it produced sufficient natural gas to meet its consumption needs. Projected economic growth, however, will likely outstrip production by the next decade. Baloch separatists also target natural gas pipelines.



Land Use



World's Largest Land Salt Mine, Khewra

Pakistan has 291 million barrels of recoverable crude oil reserves. Domestic oil production largely takes place in Punjab's Potwar plateau and the lower Sindh Province. The country produces 64,000 barrels per day of crude oil, and it plans to increase production to 100,000 barrels per day by 2010. Because domestic consumption of petroleum products exceeds production by nearly 50 percent, oil remains one of Pakistan's top imports. Pakistan lacks the in-

frastructure and capital to exploit fully its petroleum resources; it has made future energy development a priority.

Pakistan has the world's sixth-largest coal reserves, estimated at 3 billion tons. An additional 1.7 billion tons was recently discovered in the Thar Desert of the Sindh Province. This discovery increased foreign and domestic development interest. While Pakistan has substantial coal resources, the quality is poor.

Industry

Industry accounts for 25 percent of Pakistan's GDP. The main industries are textiles, food processing, pharmaceuticals, chemicals, steel, machinery, cement, paper products, and fertilizer as well as commercial services.

The cotton textile industry accounts for more than 60 percent of Pakistan's total exports. Large companies spin and weave the cot-



Sidewalk Shoe Repairman in Karachi (Photo by Sami Shah)

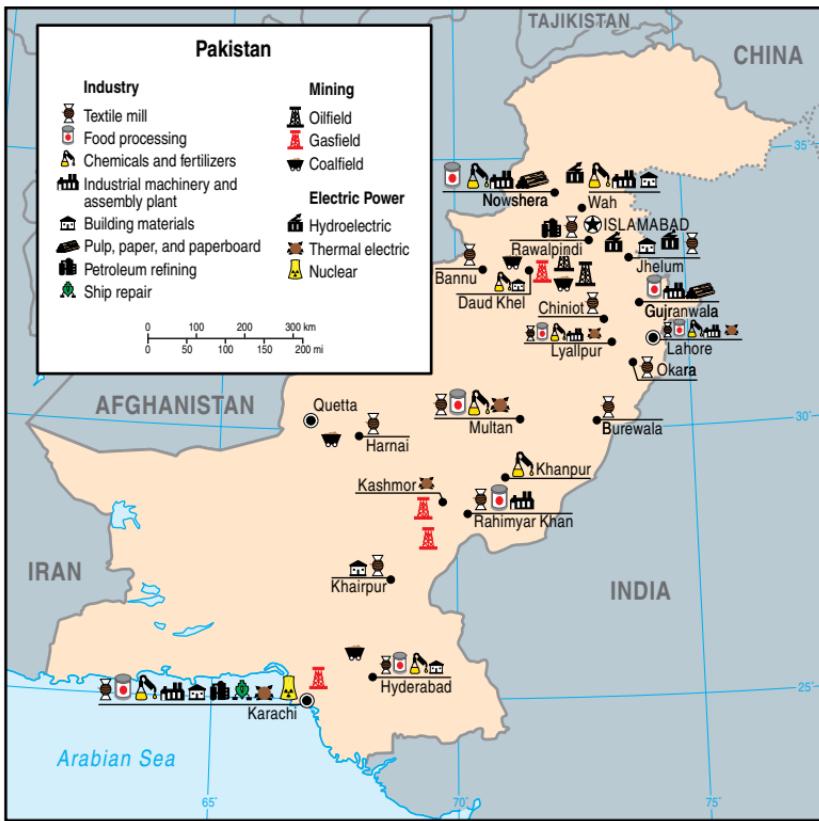


Textile Market (*Photo by Steve Evans*)

ton; small and mid-size firms manufacture garments. Technology prompted growth in the textile industry, but private investment remains relatively low. Predictions of increased international and domestic demand have spurred the government to give more attention to, and invest more money in textiles.

Pakistan's large agricultural sector makes the country an ideal candidate for growth in the processed-food industry. It registered nearly 7 percent growth from 2005 to 2006. Major subsectors are vegetable ghee, cooking oils, sugar, flour, and lye. The lack of infrastructure has hindered the development of additional subsectors.

Steel is one of the country's public-sector industries. Pakistan has one integrated steel plant, located east of Karachi near Port Qasim. It has an annual production capacity of 1.1 million tons (2.2 billion



Industry

pounds). Pakistan Steel produces coke, pig iron, billets, hot and cold rolled coils and sheets, and galvanized sheets. The facility can expand to over 3 million tons (6 billion pounds) of steel but still would not meet expectations for future domestic steel demand.

The services sector consists primarily of finance and insurance; transport, storage, and communication; and wholesale and retail trade. The finance and insurance sector experienced 23 percent growth in 2005-2006, part of the services sector's overall growth

of 8.8 percent. However, growth has slowed since 2008 due to the global economic downturn.

Foreign Investment

Foreign investment in Pakistan has been moderate, and the government is trying to change the trend. Foreign direct investment in fiscal year 2007 was US\$8.43 billion; in 2008, it was US\$5.19 billion, a decrease of 19.8 percent in 11 months. Political instability, security threats, protracted ethnic and sectarian violence, corruption, and rule of law gaps have discouraged foreign investors. Primary foreign investors have come from the United States, the United Kingdom, the United Arab Emirates, and Japan.

The government attempted different reform programs in 1992, 1997, and 2000, each designed to open the economy to new investment and reform the political structure to make Pakistan investor-friendly. Measures included market-oriented reforms, and unsuccessful or limited infrastructure improvements, privatization, deregulation, and tax and duty incentives.

Outlook

Along with many nations suffering from the global economic downturn, Pakistan's economy declined in 2009; unemployment and inflation increased while foreign investments decreased. Despite pressure from other nations and the IMF for Pakistan to reform and streamline its economy, friction between political parties, combined with the supreme court's resistance to implement the recommended measures, has hampered any feasible economic recovery plan. With no party expected to dominate the next round of elections, such disagreements will likely continue and any economic recovery program will be implemented only incrementally. Pakistan, therefore, is unlikely recover quickly.

THREAT

Crime

Pakistan is an impoverished and underdeveloped nation with a large unemployed and underemployed population. A worsening economic situation since late 2008 has increased unemployment and inflation, contributing to increased criminal threats. Like many nations with large populations, there is crime and criminal activity, including an illegal narcotics trade, white-collar crimes (e.g., cyber crimes), and domestic violence in Pakistan. Political crimes, too, are a serious threat; there have been a number of high-profile assassinations and killings, many remaining unsolved. Pakistan is governed by a mixture of Islamic law and English civic laws that often appear, to most outside observers, to be contradictory.

Women are more frequently crime victims in Pakistan. Pakistan's adherence to Islamic law, weak judicial and prison systems, and the second-class status of women make prosecuting individuals accused of crimes against women difficult. Honor killings, honor rapes, gang rapes, and other crimes against women are difficult to prove and prosecute—many go unreported. Despite the government's attempts to codify new laws and make prosecution easier, harsh Islamic traditions continue to delay such efforts, particularly in areas where the government has little or no enforcement capability, such as the FATA and Balochistan. Consequently, any woman who makes a claim of abuse without sufficient proof (e.g., four male witnesses) is subject to harsh penalties including death by stoning for adultery. According to the United Nations, Pakistan is high on the list as an originating and final destination for kidnapped women and children (particularly girls), used for forced labor and the sex trade.

Commercial fraud scams in Pakistan appear to be conducted mostly over the Internet. Pakistan ranks among the countries with the highest Internet fraud rates. Pakistan Internet fraud scams often target international and national banks. Official government websites around the world are often the target of their hackers.

Immigration fraud is also issue in Pakistan; brought by the country's poor economic conditions and large population, but mostly due to Pakistan's porous borders with Iran and Afghanistan.

Pakistan has a high murder and attempted murder rate; the rate of burglaries and kidnappings is consistently second. Trying to understand the criminal situation through official reports is, at best, very difficult. Many crimes, such as those against women, go unreported. In addition, statistical information about those that are reported (e.g., murder and attempted murder) is only general. A national murder total is reported; any specific breakdown is not. The result is that any sort of analysis, such as a comparison of rates between provinces or between urban and rural areas, is impossible. Due to the lack of specificity, it is also unclear which activities are included in the reports (e.g., it is uncertain whether honor killings are included as murders).

Travel Security

Travel threats in Pakistan range from robbery to kidnapping to murder. In many areas, particularly the FATA, Balochistan, and the Northern Territories, individuals are often armed, and the criminal justice system is weak. Kidnapping-for-ransom incidents occur throughout the country; in the FATA, they are a common source of income. If possible, avoid traveling to Pakistan. If it is unavoidable, travelers should be very cautious. The U.S. Department of State decrees that every U.S. citizen is responsible

for his own safety and should be aware that some areas of Pakistan should not be visited. Some general safety tips to follow include the following:

- Avoid public transportation, including taxis or buses.
- Travel by road and rail should be exercised with caution.
- Do not travel alone.
- Maintain a low profile and attempt to blend in.
- Women should dress conservatively, cover arms and legs, and avoid walking around alone.

DoD employees should maintain situational awareness when traveling in Pakistan. For U.S. military and civilian government travelers, an armed security detail is recommended. With the degree of banditry, kidnappings, and lawlessness in the country, being cognizant of one's surroundings might make the difference between being a victim and safely completing the trip.

If traveling to the tribally-dominant Balochistan, FATA, or Northern Territories without an armed escort, do so only at the invitation of a local tribal elder. The tribal elder and his tribe (or clan) are bound by honor to protect visitors from harm; however, kidnappings or attacks are still possible and traveling into those areas without protection significantly increases the chances.

- **Northern Territories** – U.S. citizens traveling to Gilgit, Hunza, Chitral, and the upper Swat Valley should use only licensed guides and tourist agencies. Occasionally there have been assaults and kidnappings of foreign visitors even though overall crime rates are low.
- **FATA and the KPP** – Foreigners should avoid these areas. The FATA, along the Afghan border, and certain areas within the KPP are designated as tribal areas that are not subject to normal government jurisdiction. The FATA is the only area that

is not fully governed by the Pakistan government. According to the Frontier Crimes Regulation—established by the British in the late 19th century and maintained when Pakistan gained independence in 1947—the FATA does not fall under the jurisdiction of the national legislative or judiciary branches, only the executive. As such, laws in the FATA are created and enforced solely by the president of Pakistan. Any criminal act against locals or Westerners is to be resolved by *jirga* (tribal council) and whatever resolution the *jirga* decides must be approved by the PA. Neither accuser nor accused can appeal to the nation's courts system. Local tribes rely on a traditional oral code called *Pashtunwali* to govern individual's conduct. In addition to the risky judicial circumstances, armed conflict in this area has become commonplace since 2000. Pakistan's military conducted offensive operations against insurgent groups that have challenged the state's authority.

- **Khyber Pass** – Located in the KPP, the Khyber Pass road connects Peshawar with Jalalabad and Kabul in Afghanistan. Traffic on the road is often threatened by insurgent activity, to include extortion, theft, or kidnapping for ransom. In addition, local Afghani tribes often fight among themselves to settle disputes. Foreigners must gain written permission from the local Pakistan government office in Peshawar and be escorted by armed Pakistani security forces to use this road.
- **Kashmir** – Pakistan and India have fought two wars over this region and terror acts are an almost daily occurrence. Kashmir is home to a number of well-known, anti-India Islamic terrorist groups seeking to unite the area with Pakistan. All groups are opposed to the West and may attempt to kidnap Westerners for financial or political gain. The U.S. State Department advis-

es against traveling to this area. Westerners who must travel there should contact the embassy for further guidance.

- **Punjab Province** – Non-essential travel to cities inside Punjab is strongly discouraged but no permit is required.
- **Islamabad-Rawalpindi Cities** – Islamabad is reportedly the showcase city for foreign government officials. While the crime rate is lower than in other parts of the country, Westerners have occasionally been victims of armed robberies and assaults. Thefts in U.S. Embassy employee's homes are typically committed by people working in the home. Islamabad's twin city is Rawalpindi; it is where most of the working-class citizens live. Both Islamabad and Rawalpindi have experienced public area bombings and rioting.
- **Sindh Province** – Sindh is home of Sunnis, Shi'a, Sindhis, and Mohajirs who sometimes clash violently. Assassinations, firefights, murders, bombings, and kidnappings-for-ransom occur in Sindh. No permit is required to visit to Sindh, but non-essential travel strongly discouraged.
- **City of Karachi** – Robberies and kidnappings often take place, with the perpetrator wanting to create fear and instability among the population rather than for profit. Five to ten people die every day as a result of political violence. Vehicular hijacking and theft are common; those who resist are often killed. Karachi also has banditry, drug feuds, and Sunni-Shi'ite violence. Karachi has the highest crime rates (separate from terrorist activities) of any city in Pakistan.
- City of Hyderabad – Random bombings, shootings, and mass demonstrations occur in Hyderabad. Kidnapping for ransom is common and has resulted in several deaths.
- **Balochistan Province** – Balochistan, which borders both Iran and Afghanistan, is notorious for kidnappings, narcotics activ-

ity, and cross-border smuggling. Even though members of the Taliban and AQ are believed to be present, the greatest threat emanates from local Baloch nationalist groups. Since 1947, Baloch nationalists have led at least five bloody insurrections. Ransom kidnappings occur as well; nationalist groups may kidnap Westerners to secure the release of Balochs detained by the Pakistan government. Permission from provincial authorities is required for travel into many areas; local authorities have detained travelers who lacked proper permission. Even with permission, safe passage cannot be guaranteed.

Terrorist Threat Assessment

Pakistan is still a developing country without a reconciled national identity. Many of the country's citizens have grievances over political disenfranchisement, lack of religious tolerance, the increasing influence of Islam, and foreign policy relationships, particularly with countries from the West. This uncertainty of how Pakistan should be governed is also at the heart of many of the nation's ills with respect to building a more civil society. This uncertainty can be seen in Pakistan's constitution, which heralds the country as both a democratic state *and* an Islamic republic. Reconciling this dichotomy represents the most significant challenge to fostering a sense of national identity and diminishing Pakistan's internal terrorism threat.

Pakistan has one of the highest terrorism threat rates in the world due to numerous local, regional, and transnational terrorist groups. There are at least 36 known terrorist organizations operating in Pakistan, many with known and demonstrated anti-U.S. sentiment. Although most groups share the militant Islam ideology, each has a distinct political objective and scope.

Typical targets include official U.S. government buildings, Western businesses, Pakistan military and government institutions, public sporting venues, prominent political or religious leaders opposed to militancy in the FATA, and rival politicians or political factions. Attack methods include small arms and IEDs. Terrorist activities include kidnapping for ransom and public executions (for propaganda). Terrorist groups are also involved in extortion, financial laundering, smuggling, drug trafficking, and other criminal activities. In fact, in Pakistan the line between criminal and political violence is so blurred that one is often mistaken for the other.

Occasional ethnic and religious-based violence has resulted in bomb attacks in Islamabad, Karachi, Peshawar, Quetta, Lahore, Parachinar, and other cities. Political demonstrations, rallies, and other large crowd activities often occur throughout Pakistan; they can, on very short notice, turn violent and they often display an anti-West sentiment.

The following are the most active and prominent terrorist or insurgent groups in Pakistan:

- **Al Qa'ida (AQ)** – Led by Usama bin Ladin and his deputy Aiman al-Zawahiri, AQ is the result of the merger of terrorist groups based in Egyptian and Saudi Arabia. Almost all of its senior leaders are either Egyptian or Saudi. Members include Syrians, Jordanians, Libyans, Iraqis, Pakistanis, and even Westerners. AQ seeks to re-establish the Islamic caliphate, which unites the entire Islamic world under one government. Its members are willing to conduct mass causality attacks, assassinations, and kidnappings. Believing all Western influences, particularly religious, must be eliminated prior to the founding of the Islamic caliphate. AQ aggressively targets Westerners; it also enters foreign fighters into Afghanistan to

attack Kabul's government and the Coalition forces. AQ has been implicated in numerous attacks inside Pakistan.

- **Lashkar-e-Tayyiba (LeT)** – Led by Hafiz Sayeed, LeT primarily battles India's interests; it also supports anti-West hostility. LeT was behind several attacks against India's government. A few senior leaders were detained by Islamabad for their involvement in the November 2008 Mumbai, India attack. Due to lack of evidence, however, they were released.
- **Tehrik-e-Taliban Pakistan (TTP)** – Based in South Waziristan Agency in the FATA, TTP has become the most aggressive insurgent group using terrorist tactics against the interests of Pakistan's government and prominent Pakistanis who oppose TTP's objective, eliminating national government influence in the FATA. TTP has been implicated in a string of major terrorist attacks in urban centers. Three took place in Lahore: one at a cricket match, one against a police facility, and one against the head cleric—an outspoken opponent of FATA militancy—of Jamia Naeemia Islamic school. TTP also may have been involved in the 2007 assassination of presidential candidate Benazir Bhutto and the large-scale 2008 bombing of the Marriott hotel in Islamabad that killed 60, including two U.S. citizens.
- **Tehrik-e-Nafaz-e-Shariat-e-Mohammedi (TNSM)** – The TNSM, operating in the northern FATA area and the western part of the KPP, has similar objectives to those of TTP. TNSM fighters are responsible for most of the Taliban influence of the historically settled areas of the KPP, including Dir, Swat, and Buner. TNSM fighters pushed into those areas and attempted to establish their version of Shari'a, completely bypassing the judicial institutions of the national government. TNSM also bombed girls' schools (claiming that educating females violates Islam), attacked local police stations, and generally terrorized

the population into submission. TNSM endorses attacks against Coalition forces and the current government of Afghanistan.

- **Afghan Taliban (TB)** – The TB, led by Mullah Omar, is believed to use Balochistan and FATA as a safe haven for its leaders and facilitators. Its objective is to restore the Taliban to power in Afghanistan by overthrowing the current Government of the Islamic Republic of Afghanistan (GIRoA) and evicting Coalition forces. Generally, the TB does not conduct attacks inside Pakistan.
- **Others** – Numerous anti-India terrorist organizations, such as Harakat-ul-Jihad-Islami (HUJI) and Jasish-e-Mohammed (JeM) maintain a presence throughout Pakistan and launch terrorist attacks into India. Pakistan's government has traditionally endorsed them as a proxy force to counter India in Kashmir. All are anti-West and this sentiment is expected to worsen as relations between India and the United States improve.

Drug Trafficking

Pakistan's drug industry includes manufacturing and smuggling of illicit narcotics from land-locked states, such as Afghanistan, to overseas destinations. The vast profits generated by this industry have corrupted the law enforcement authorities and possibly some military units; they also had funded many other related crimes.

Opium has been produced in Pakistan for export since the 1200s. Poppy is grown in the border areas of the FATA and Balochistan. Opium was banned 1979 and licit poppy cultivation and opium production declined. In the mid-1980s, however, the possibility of tremendous profits led to resurgence in poppy cultivation.

Opium is consumed domestically and shipped to overseas destinations; some is refined into heroin and primarily distributed to

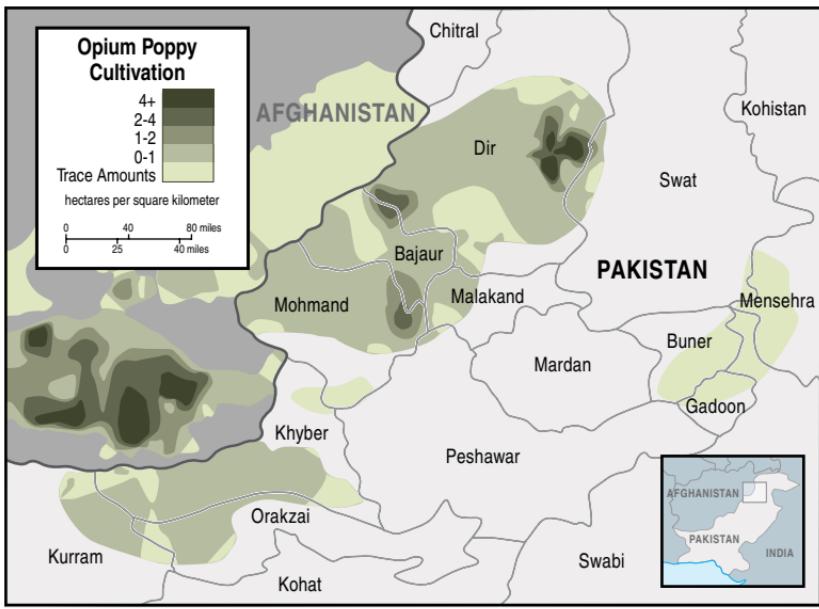
Iran, Europe, and Russia. Ninety-three percent of the world's opium is produced in Afghanistan and most of it is smuggled through Pakistan to international destinations. Opium sales provide a major source of revenue for the Taliban insurgency.

Large-scale illicit heroin production began in Pakistan in 1979. By the late 1980s, Pakistan and Afghanistan exported nearly half the world's heroin. Although their relative share has since declined somewhat, they remain among the world's major producers.

Pakistan, particularly under U.S. prodding, has attempted to cut back the cultivation of poppies. Those efforts generally have not been successful as opium production and trafficking continues. First, the government's influence has not extended effectively into the main areas of opium production and trafficking. Second, various political and economic forces have kept narcotics police from pursuing their work too assiduously. In 1991, the Pakistan Narcotics Control Board—an organization that was supposed to have close ties to the U.S. Drug Enforcement Administration—was so riddled with corruption that its new director had to fire most of the staff. Since then, its successor, the Anti-Narcotics Force has not significantly curtailed the narcotics industry.

Cannabis is also produced in large quantities in Pakistan but complete information is not available. Most cannabis trafficked in the region originates in Afghanistan. In Pakistan, it is usually processed in the FATA. It is then moved through the tribal areas bordering the KPP in the direction of Balochistan and leaves the country through Iran or the Mekran coast.

While there are a few major drug kingpins, the reality is no single cartel or entity controls the drug trade. The FATA and Balochistan's remote geography makes it very difficult for any one group to exert full control over any aspect of the narcotics indus-



Opium Poppy Cultivation

try. Opium and marijuana tend to be locally grown and then sold, sometimes openly, at bazaars with minimal interference from authorities. Smugglers are able to buy narcotics either at those bazaars or directly from the farmer; they then transport it across the porous Pakistan-Iran border or ship it overseas.

Pakistan's lead agency for countering the illicit drug trade is the Anti-Narcotics Force under the Ministry of Narcotics Control. It is joined in this task by other national and local law enforcement entities, whose missions also include countering narcotics proliferation. Pakistan also cooperates with international partners. It has extradition treaties with multiple countries, including the United States and Iran. To help coordinate efforts, Pakistan has a Memorandum of Understanding with Iran, China, Russia, and a few other countries.

Intelligence Threat

Pakistan's primary intelligence services are the Inter Services Intelligence (ISI), Intelligence Bureau (IB), and Military Intelligence (MI). Their mission is to preserve Pakistan's national security. That common goal, however, is sometimes insufficient to overcome interagency mistrust and tension. Every intelligence agency primarily serves the interests of its parent organization and withholds information if it implicates or threatens policy positions advocated by their parent organization. The sharing of information is on an *ad hoc* rather than on a routine basis with information only being shared with the approval of senior leaders. This slows down or inhibits effective interagency coordination.

The ISI is the largest of the intelligence services, with an estimated strength of 10,000 (excluding covert agents). Created in 1948, shortly after Pakistan's birth, and subject to frequent reorganization as Pakistan's governmental leadership changes hands, it is the country's lead intelligence agency. ISI is primarily focused on external threats and was largely responsible for funneling aid to the Afghan Mujahedeen during the Soviet-Afghan war. Like ISI, MI is externally focused; the IB, as part of Pakistan's Interior Ministry, focuses primarily on internal affairs. The IB works for the president of Pakistan and primarily tracks internal political threats from activists, journalists, terrorists, and suspected foreign intelligence agents.

ARMED FORCES

Pakistan has an army, navy, and air force. In the early 1990s, Pakistan formed a battalion of Pakistani Marines (PAKMAR) to meet evolving naval doctrine and requirements. PAKMAR is structurally a subset of the Pakistan Navy. All service headquar-

ters are in Rawalpindi. The army is the dominant service, and the air force and navy provide support and defensive functions.

On 28 November 2007, Gen Ashfaq Parvez Kayani succeeded Gen Pervez Musharraf as army chief of staff, Pakistan's most senior military position. Kayani's professionalism and past performance have earned him the respect of his peers and subordinates. His former duties include serving as the director general of military operations during Pakistan's 2001 standoff with India and, later, serving as director of the ISI. Kayani attended the U.S. Army Command and General Staff College at Fort Leavenworth, Kansas.

Service chiefs report to the Ministry of Defense for budgetary matters; however, the army chief of staff runs the decision-making process for allocating funds to all services. The chief sits on the Joint Chiefs of Staff Committee (JCSC), whose chairman, in wartime, serves as principal staff officer to the president. The JCSC advises the president on strategic and logistical matters, develops proposals on force size and structure, advises the government on situation and dispersion of major industries, and formulates industrial mobilization plans.

Capabilities

The armed forces are disciplined and somewhat well-trained and -equipped. The troops generally demonstrate high morale. All branches of the military conduct live-fire exercises, which are mostly scripted. Pakistan has also developed a limited strategic nuclear and missile capability.

As the dominant service, the army has the most influence over procurement programs and doctrine development. Although Pakistan's military leaders understand the value of joint combat,

such capabilities remain elusive. Pakistan's troops regularly train but seldom conduct joint service military exercises.

Pakistan's troops are active in UN peacekeeping operations and missions around the world. Troops have served in Cambodia, Somalia, Bosnia, and Haiti. An 11,000-man contingent participated in the Gulf War Coalition. Additionally, Pakistani troops served with U.S. forces in Somalia as part of UN-mandated Operation RESTORE HOPE.

Mission

The primary mission of Pakistan's armed forces is to defend the country's territorial integrity against an external attack. The secondary mission is to assist the Pakistan government in guaranteeing internal security. A third mission, reemphasized in the aftermath of the October 2005 earthquake, is to provide disaster relief. Throughout its existence, during times of peace and war, the Pakistan military has been involved in the country's administration. Its role in politics has ranged from augmenting the civil bureaucracy to governing the country through martial law. Since its founding, Pakistan has been ruled under martial law four times: in 1958, 1969, 1977, and 2007.

Personnel

With a population of more than 172 million, Pakistan's manpower base is more than adequate to maintain force levels. Service is voluntary. Although the military recruits nationwide and attempts to achieve an ethnic balance, most recruits come from a few districts in northern Punjab Province and the adjacent KPP. Enlistments are usually for periods of 7 years, beginning at age 17.

The army follows the British regimental system in which recruits are trained at regimental centers. Basic training lasts from 4.5 to 6 months, depending on the branch of service. Each armed service maintains noncommissioned officer schools. Initial officer training is conducted in Kakul at the Pakistan Military Academy, which provides a 2.5-year course in academic and military subjects. Pakistan also has a command and staff college in Quetta, Balochistan, for mid-level officers (captains and majors).

Senior officers (lieutenant colonel and colonel) in all service branches attend the National Defense College at Rawalpindi, which provides training in higher military strategy and national security. Attendees, depending on their career track, take either the National Defense Course or the Armed Forces War Course. The latter is the most prestigious military course in Pakistan, and only those officers slated for high-level leadership roles attend. Other high-level military schools include the army, navy, air force, and joint services staff colleges.

During the 1950s and 1960s, hundreds of Pakistani officers were sent for training in the United Kingdom, other commonwealth countries, and the United States. They attended armored and infantry schools, as well as higher staff and command institutions. In the 1980s, Pakistan sent 200 officers per year to study in foreign military schools. Most went to the United States and the United Kingdom. The U.S. students were part of the U.S. International Military Education and Training (IMET) program for foreign officers. In the years that IMET was unavailable, foreign training was obtained in China and various countries in the British Commonwealth, Africa, the Middle East, and Southeast Asia.

The following table lists Pakistan's approximate strategic military strength:

Service	Component	Personnel
Army	Active/reserve	550,000/165,000*
Navy	Active/reserve	22,000**/5,000
Air Force	Active/reserve	45,000/10,000

*In wartime, the army also commands an additional 304,000 personnel: troops from the National Guard (185,000), paramilitary troops from the Ministry of the Interior (105,000, of which 65,000 are from the Frontier Scouts in Khyber-Pakhtunkhwa Province and Frontier Corps-Balochistan and up to 40,000 from Pakistan Rangers), and troops from the Maritime Security Agency (2,000).

** This number includes the 1,200-strong Pakistan Marines.

Uniforms, Ranks, and Insignia

Pakistan's military uniforms closely resemble those of the British armed services. The principal colors are greenish-brown for the army, navy-blue for the navy, and light blue for the air force. Three-colored leaf-pattern fatigues are commonly worn by army units. Rank insignia are similar to those used by the British forces. Uniforms vary depending on combat role: armor crews wear black, infantry units wear a variety of camouflage, and members of the Special Service Group (SSG) wear woodland camouflage.

The rank structure is also patterned on the British model. Following the British-Indian tradition, there are three junior commissioned officer (JCO) grades between enlisted and officer rank. JCOs cannot become commissioned officers. The JCO is a continuation of the former viceroy's commissioned officer rank.

In the early 1990s, JCOs were responsible for the day-to-day supervision of lower grades. As officers have become less dependent on British models, and as the education level of enlisted men has risen, JCO responsibilities have begun to decrease (except in the Frontier Corps/Scouts). Promotion to JCO rank, however, remains

ENLISTED								
	Pakistan Rank	Lance Naik	Naik	Havildar	Company Quartermaster Havildar	Company Havildar Major	Battalion Quartermaster Havildar	Battalion Havildar Major
	U.S. Equivalent	Private 1st Class	Corporal	Sergeant	Staff Sergeant	Sergeant 1st Class	Master Sergeant	Sergeant Major
OFFICER								
	Pakistan Rank	Jamadar	Subedar	Subedar Major	2nd Lieutenant	1st Lieutenant	Captain	Major
		No U.S. Equivalent						
		Lieutenant Colonel	Colonel	Brigadier	Major General	Lieutenant General	General	Field Marshal

Pakistan Army Rank Insignia

a powerful incentive for enlisted personnel; thus, if JCO ranks are ever abandoned, it will likely be a slow process.

Strategy

Deterrence is Pakistan's primary strategy and is implemented in two parts. The first is Offensive-Defense, or *Riposte*. It calls for two corps-level penetration attacks, 40 to 50 kilometers (25 to

30 miles) into enemy territory. The second strategy relies on the threat of a primary or secondary strategic nuclear launch capability to prevent further conflict escalation. Pakistan expects that if it were to be attacked, the international community would intervene to prevent a nuclear exchange, forcing a cease-fire approximately a month after the start of hostilities.

Pakistan plans for its wartime logistical supply to last about 30 days. This strategy forces Pakistan to accept enemy penetration into its territory. On the other hand, it plans for rapid reinforcement, counterattack, and exploitation by independent mechanized and armor brigades positioned to provide strategic defense-in-depth. Pakistan considers this a major risk, as it is highly possible, depending on the severity of enemy penetration, that the military will run out of critical supplies prior to the 30-day marker.

Army

Mission

The primary mission of Pakistan's army is to protect the country's long land border and interests in Kashmir and Jammu, including Siachen Glacier.

Personnel

Pakistan's army comprises 550,000 active-duty personnel; slightly larger than the U.S. Army, it is the fifth-largest army in the world. In addition, the army can call up 165,000 reserve troops and as many as 304,000 paramilitary troops. Training levels for the paramilitary forces, however, vary greatly.

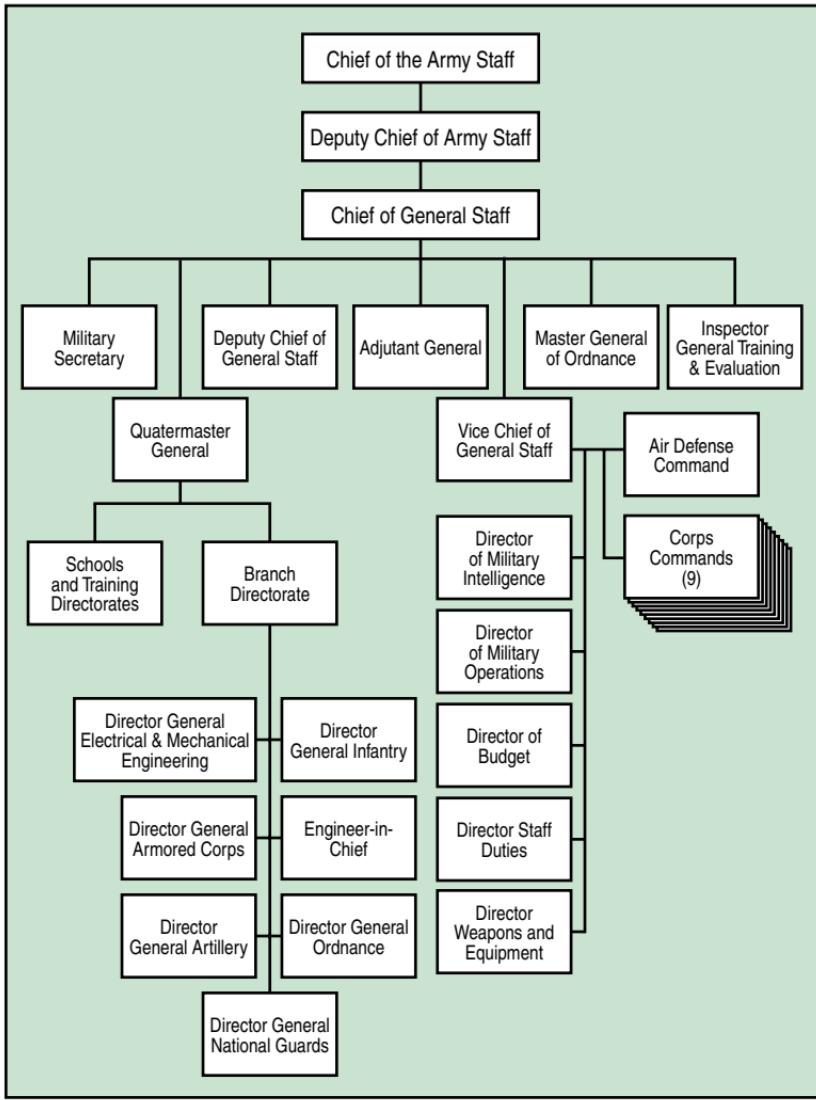
Organization

The army chief of staff commands Pakistan's nine army corps from Army General Headquarters (GHQ) in Rawalpindi. The army chief of staff is assisted by the chief of general staff, adjutant general, quartermaster general, master general of ordnance, inspector general of training and evaluation, and the military secretary. In 2007, the Pakistan Army announced the creation of three intermediate regional commands: Southern Command, Central Command, and Northern Command.

To improve wartime command and control for subordinate corps, GHQ permanently established the three commands. Southern Command is based in Quetta. Northern Command is likely based in Gujranwala, Punjab. Central Command's location is unknown, but may be Multan, Punjab, home of the 2 (Strike) Corps. Plans call for each regional command to be headed by a lieutenant general. This arrangement may be modified, because each corps is also commanded by a lieutenant general. The plan is that this regional commander and his staff will be corps commanders in peacetime but will also be given regional command in the event of a war. This arrangement can create conflict and confusion during wartime.

The army, following British tradition, is organized according to corps, divisions, brigades, regiments, and battalions. There are six parent regiments from which all subordinate infantry battalions have formed: the Punjab Regiment, the Sindh Regiment, the Baloch Regiment, the Azad Kashmir Regiment, the Northern Light Infantry, and the Frontier Forces Regiment (not to be confused with the Frontier Corps, or Frontier Constabulary, both of which are paramilitary forces commanded in peacetime by the Ministry of Interior). Battalions are referred to by their nominal unit number along with their parent regiment (e.g., 33 Baloch Regiment means

33 Battalion, Baloch Regiment). Each corps is commanded by a lieutenant general and consists of two or more divisions.



Army Organization

Pakistan's army is made up of the following:

- 2 armored divisions
- 18 infantry divisions
- 7 independent armored brigades
- 1 mechanized infantry brigade
- 6 independent infantry brigades
- 8 air defense brigades
- 9 artillery brigades
- 3 armored reconnaissance regiments
- 1 special services group with 3 battalions
- 15 aviation squadrons
- 12 surface-to-air missile batteries

Each armored division consists of at least two armored brigades, each with five armored and up to three mechanized infantry battalions. They are supported by artillery, air defense, engineer, and communication units plus a logistics battalion (under the direct command of the divisional headquarters).

Infantry divisions include three brigades. Each brigade usually consists of three infantry battalions and one of each of the following:

- Armored regiment with 44 MBTs
- Artillery regiment consisting of three field gun batteries
- Signals battalion
- Engineer battalion
- Reconnaissance battalion

The strength of combat and service support varies by division.

Pakistan's nine corps have various missions or geographic areas of responsibility.



Pakistan Military Bases

- **1 (Strike) Corps** (also referred to as Army Reserve North or ARN) is garrisoned in Kharian, Punjab. It conducts offensive operations to execute the *riposte* strategy. Its assigned area of responsibility is south of Sialkot. It has two subordinate infantry divisions, one armor division, and one independent armored brigade.
- **2 (Strike) Corps**, at Multan, conducts offensive operations to execute *riposte*. Its assigned area of responsibility is southeast

of Bahawalpur. It has one subordinate infantry division and one armored division.

- **4 Corps**, garrisoned in Lahore, is assigned an eastern defensive area of responsibility in Punjab, bordering India near Amritsar. It has two subordinate divisions, one independent armored brigade, and possibly additional independent combat brigades.
- **5 Corps**, garrisoned in Karachi, is responsible for defending Sindh Province. It has two divisions, at least one armored brigade, and two independent infantry brigades.
- **10 Corps**, garrisoned at Rawalpindi, is responsible for Pakistan-held Kashmir. It has three subordinate (light) infantry divisions. It also has a major subordinate command, headquarters Force Command Northern Area (FCNA), with one subordinate infantry division that has four to five (light) infantry brigades.
- **11 Corps**, garrisoned in Peshawar, KPP, has no specific area of responsibility. It is considered to be a strategic reserve element, tasked with rapidly reinforcing first- and second-echelon forces with its two subordinate divisions.
- **12 Corps**, garrisoned in Quetta, Balochistan, is assigned internal security in Sindh Province; it may, however, be deployed anywhere in the country. It is considered to be a strategic reserve element, tasked with rapidly reinforcing first- and second-echelon forces with two subordinate divisions.
- **30 Corps**, garrisoned at Sialkot, Punjab, is assigned responsibility for the Sialkot sector, on Pakistan's eastern border. It has two subordinate divisions and one independent armored brigade.
- **31 Corps**, garrisoned in Multan, Punjab, is responsible for the area around the Cholistan Desert south of the Sutlej River. It has two subordinate divisions and two armored brigades.

Capability

Seven of Pakistan's nine corps are close to the India border. These units form a defensive belt stretching from mountainous Kashmir in the north (10 Corps) to the desert plains in the south and Pakistan's coastal region (5 Corps). Three infantry-heavy defensive or holding corps (4, 30, and 31) protect the lines of communication and the capital, Islamabad. Counterattack, strike, and exploitation forces (1 and 2 Corps) are positioned just behind the defensive belt to reinforce friendly forces rapidly and/or exploit opportunities and execute the *riposte* strategic doctrine. These forces are armor heavy and have the best weapons, equipment, and combat support capability in the army.

The army's strategic reserve forces (11 and 12 Corps) have practiced tactics such as night movement and crossing major obstacles so that they may reinforce the defense, assume a follow-on echelon function, or add weight to the "strike" corps.

Cooperation between Pakistan's army and air force is limited; the air force is not able to provide reliable, flexible close air support (CAS) to ground forces. The army does have a limited amount of aviation assets that provide CAS and reconnaissance. An army attack aviation unit became operational in 1985 and has operated in an anti-tank/ground attack role, with some light transport duties. Strong emphasis is placed on ground air defense (AD) by man-portable, surface-to-air missiles (such as the Chinese-made missile systems, Swedish RBS-70, and U.S. Stinger) and gun systems. Overall, however, AD support for ground forces is poor.

Training

In basic training, every enlisted soldier is encouraged to develop an attachment to the regiment with which he will remain

through much of his career. About 320 officers enter the army annually through the Pakistan Military Academy at Kakul, in the Abbottabad district of KPP. Some, particularly physicians and technical specialists, are directly recruited; they are central to the officer corps. Officers complete 10 years of education and spend 2 years at the Pakistan Military Academy. They attain a baccalaureate-level education, including English-language skills.

The army has 12 additional training establishments, including artillery, intelligence, and mountain warfare schools. At the apex of the army training system is the command and staff college at Quetta; it is one of the few institutions inherited from the colonial period. The college offers a 10-month course in tactics, staff duties, administration, and command functions through the division level.

Pakistan's army is disciplined and professional. It traces its lineage to British Indian Army units with regimental histories of almost 200 years. The army also claims older Islamic warrior traditions.

Equipment

Main battle tanks

T-80UD
Type 85IIAP (China)
T-54/55
Type 59/T-59M incl. Zarrar upgrade
Type 69
Al Khalid

APCs

M113A1
M901 ITV
BTR-70/80 (in UN service)

Wheeled armored vehicles

UR-416(IS)

<i>Artillery</i>	105-mm M101; Model 56 122-mm Type 54 122-mm D-30 130-mm Type 59-1 155-mm M59; M114; M198 155-mm M109A2/A5 SP 203-mm M115 203-mm M110A2 SP 88-mm 25 Pounder Gun Mk3
<i>Air defense</i>	12.7-mm (quad) M55 14.5-mm ZPU-2 and ZPU-4 (China) 23-mm (twin) ZU-23 (China) 35-mm (twin) Oerlikon-Contraves (also used for airfield defense; of which up to 60 have been delivered with Skyguard FCS) 37-mm (twin) (China) (400+) (same as M1939 of former USSR) 57-mm Type 59 (S-60) (China)
<i>Mortars</i>	120-mm M1943 (USSR) 107-mm M30 (U.S.) 81-mm M1 (U.S.); PMT 60-mm 120-mm
<i>MRLs</i>	122-mm Azar (Type 83) 300-mm A100 Heavy MRL
<i>Antitank rockets</i>	40-mm RPG-7; COBRA (Egypt)

<i>Antitank missile systems</i>	Baktar Shikan BGM-71 TOW (U.S.) Green Arrow (Chinese Red Arrow) AT-11 Sniper (for T-80UD)
<i>Surface-to-air</i>	Spada 2000 – Aspide (Italy) Crotale (France) (PAF only) HQ-2 (China) FIM-92A Stinger (U.S.) MANPAD RBS 70 Rayrider (w/Giraffe radar) (Sweden) Anza MkI & Anza II MANPAD Mistral 1 MANPAD HN-5A MANPAD
<i>Surface-to-surface</i>	Hatf-2 (Shadoz, Abdali); Range 280 km; Payload 500Kg Hatf-3 SRBM (Ch M11) Ghaznavi; Range 300 km; Payload 500 kg Hatf-4 Shaheen 1; Range 600-800 km; Payload 500 kg Hatf-5 Ghauri; Range 1,500 km; Payload 700-800 kg Hatf-6 Shaheen 2; Range 2,000 km; Payload 750-1,000 kg Hatf-7 Babur (Babar) Glcm; Range 500 km; Payload likely 500 kg Hatf-8 Ra'ad Alcm; Range 350 km
<i>Radar systems</i>	TPQ-36 Firefinder Counter-battery radar RASIT

<i>Fixed-wing aircraft</i>	Commander 840 Gulfstream Commander 840 (communications) Y-12 Turbo Panda Mushshak MFI-171 (liaison/observation) Cessna Caravan C-508
<i>Helicopters</i>	Bell AH-1F Huey Cobra (attack) Bell 206 JetRanger II (observation) AS-350B3 (observation) Bell 412EP (utility) Bell Huey II (utility) Mi-8 (utility) Mi-17 (utility) SA 330J (utility) SA 316B (utility) UH-1H (utility) Hughes 300C (trainer)

NOTE: Pakistan's Cobra helicopters are armed with BGM-71 TOW antitank missiles.

<i>Reconnaissance/observation</i>	MFI-17 Mushshak (Pakistan)
<i>Utility/communications</i>	Cessna 421 (U.S. Cessna 400 series) Commander (U.S. U-9)

Navy

Mission

The primary mission of Pakistan's navy is defensive: to protect the sea lines of communication leading into Pakistan's ports, par-

ticularly the main port of Karachi; to prevent a seaborne attack on Pakistan's shores; and to oversee enforcement of its jurisdiction of more than 621,600 square kilometers (240,000 square miles) of water encompassing the nation's EEZ. Pakistan's historical and projected naval opponent is India.

Since 2004, Pakistan's navy has participated in the Coalition Forces Maritime Campaign Plan (CMCP), under the direction of Combined Task Force 150 (CTF-150). The CMCP is the multinational maritime component of Operation ENDURING FREEDOM operating in the Arabian Sea, Arabian Gulf, Gulf of Oman, and in the coastal waters around the Horn of Africa. In April 2006, Pakistan's navy assumed command of CTF-150, the first non-NATO nation to do so. The navy took command again in April 2007 and July 2009. The navy also makes diplomatic port calls and goodwill cruises to Pakistan's Arab neighbors.

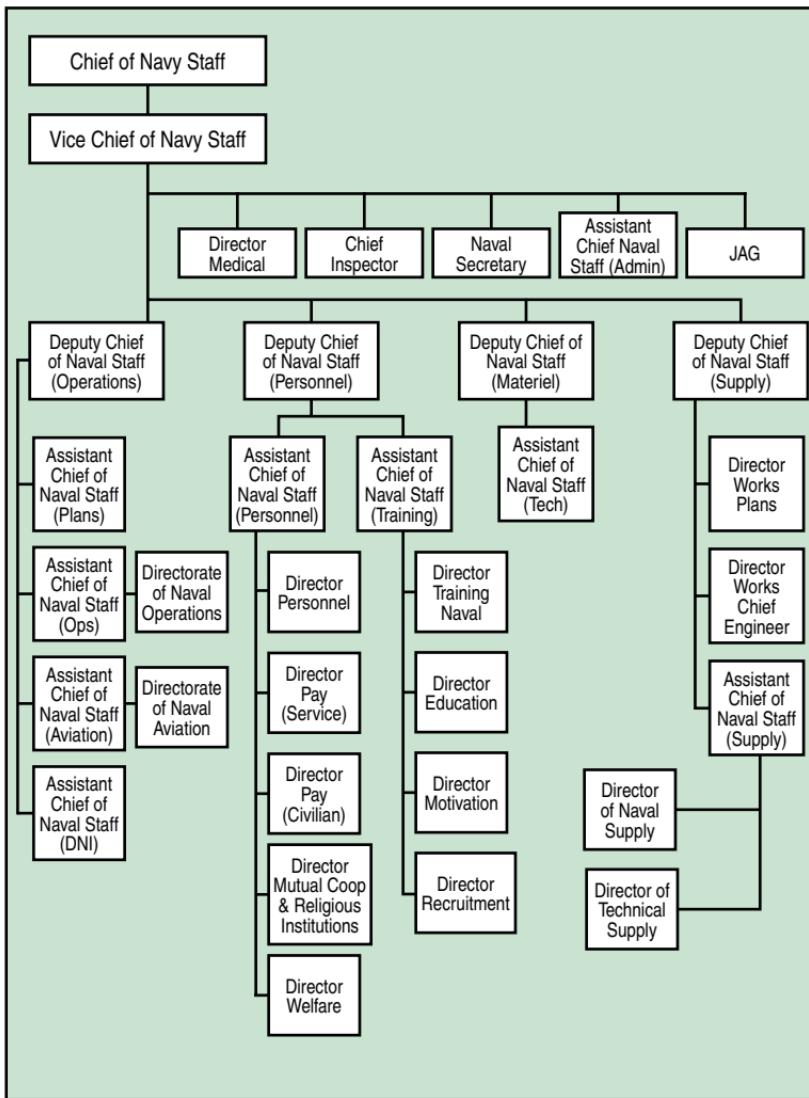
Personnel

Naval personnel number approximately 25,000 (including approximately 1,200 Marines, 200 Naval Special Forces Group [SSG(N)] personnel, and 2,000 Maritime Security Agency personnel). Naval service is voluntary.

There is no naval reserve, though personnel can be recalled in an emergency if they left in the previous 5 years.

Organization

The chief of the naval staff is a member of the Joint Chiefs of Staff committee as well as the National Security Council. The chief of the naval staff is assisted by a vice chief of naval staff and six deputy chiefs (operations, material, supply, training and personnel, projects, and projects-II).



Pakistan Navy Organization

Navy headquarters are at Islamabad; fleet headquarters are at Karachi, Pakistan's main naval base. The Naval Air Force, the Marines, and the SSG(N) are also based at Karachi. Karachi, 160 kilometers (100 miles) from the India border, is Pakistan's only facility capable of building oceangoing ships. The navy also has facilities at Ormara, Pasni, and Gwadar (mainly a civil port facility).

The navy is divided into five commands. The Commander Pakistan Fleet (COMPAK) commands the fleet; Commander Logistic (COMLOG) commands supply organization and dockyard; Commander of North Navy (COMNAV) is responsible for all installations north of Karachi; Commander of Karachi (COMKAR) runs all training establishments; and Commander Coast (COMCOAST) commands the SSG(N), Marines, and coastal stations.

Capability

The navy is Pakistan's smallest armed service, reflecting the historic dominance of the army and the significance placed on land and air battles. The navy receives about 25 percent of the country's annual defense budget.

Pakistan's conventional maritime operations are considered technically proficient and competent, though limited in scope. The PN is capable of achieving limited strategic objectives. Although primarily a defensive force, the PN could be assigned offensive roles during wartime (e.g., against Indian vessels). In recent years, there has been an increased emphasis on and resources provided to train Pakistan Marines and Special Forces.

Pakistan's navy (and its subordinate Marines) lacks a conventional amphibious capability and offensive amphibious doctrine. Although limited in number, Pakistan has landing/assault craft to support coastal and riverine defense missions, as well as special operations forces.

Training

Initial officer training is conducted at the Naval Academy, Pakistan Naval Station (PNS) Rahbar, in Karachi. Academy training lasts 30 months, followed by short-term (2- to 3-year) ship-and-shore assignments. Staff and command training is conducted at the PN War College, Lahore. Operational training is carried out through

ENLISTED		Leading Seaman	Petty Officer	Chief Petty Officer	Fleet Chief Petty Officer	Master Chief Petty Officer
OFFICER	Pakistan Rank					
	Pakistan Rank					
	Pakistan Rank					

Pakistan Navy Rank Insignia

work-ups and individual and fleet exercises. The navy also regularly conducts exercises with foreign navies.

Equipment

Surface Fleet

Class	Role
<i>Sword</i>	Frigate
<i>Tariq (Amazon)</i>	Frigate
<i>Jalalat</i>	Fast attack craft - missile
<i>Jurrat</i>	Fast attack craft - missile
<i>Kaan 15</i>	Fast intervention craft
<i>Kaan 33</i>	Fast attack craft
<i>Military assault craft</i>	Fast intervention craft
<i>Larkana</i>	Patrol craft - large
<i>Town</i>	Patrol craft - large
<i>Munsif (Éridan)</i>	Minehunter

Submarines

Class	Role
<i>Khalid (Agosta 90B)</i>	Attack
<i>Hashmat (Agosta 70)</i>	Attack
<i>Midget Submarines</i>	Attack

Auxiliaries

Class	Role
<i>Griffon 2000 TDX(M)</i>	Hovercraft
<i>Fuqing</i>	Utility vessel
<i>Poolster</i>	Utility vessel
<i>Coastal tankers</i>	Tanker
<i>Attock</i>	Tanker

<i>Behr Paima</i>	Survey ship
<i>Coastal tugs</i>	Tug - coastal
<i>Coastal Tugs</i>	Tug - coastal
<i>Town</i>	Training ship

Maritime Security Agency

Class	Role
<i>Shanghai II</i>	Fast attack craft - gun
<i>Gearing (Fram 1)</i>	Patrol ship
<i>Barkat</i>	Patrol ship
<i>Guns</i>	Patrol boat
<i>Huangfen</i>	Patrol boat

Naval Aviation

Type	Role
<i>Zhi-9EC</i>	Helicopter-anti-submarine warfare
<i>Br 1150 Atlantic</i>	Maritime patrol/ASW
<i>P-3C Orion</i>	Maritime patrol/ASW
<i>BN2T Maritime Defender</i> *	Maritime patrol/ASW
<i>WS.61 Sea King Mk 45</i>	Maritime patrol/ASW
<i>F27-200 Friendship</i>	Reconnaissance/surveillance
<i>F27-400 Friendship</i>	Reconnaissance/surveillance
<i>F27-400M Troopship</i>	Reconnaissance/surveillance
<i>Aerospatiale SA 319B Alouette III</i>	Reconnaissance/surveillance
<i>WG.13 Lynx HAS. Mk 3</i>	Multi-role
<i>SA 316 Alouette III</i>	Multi-role
<i>SE 3160 Alouette III</i>	Multi-role

Naval Aviation - Missiles

AM 39 Exocet

Anti-ship

Coast Guard

Class

Swallow

Crestitalia MV 55

Role

Patrol boat

Patrol craft - fast

In addition to the naval air assets, the air force operates MIRAGE aircraft, which can be used for maritime strikes.

Marine Corps

Mission

The Pakistan Marines (PAKMAR) is a regiment-size force whose mission is to provide security to Pakistan's navy bases; assist in civil domestic functions, such as disaster relief; and defend areas of Pakistan's border.

History

PAKMAR formed in 1971, in response to the war in east Pakistan. After that conflict, the force was disbanded. In 1990, it was reactivated in its present form. An ongoing dispute in the Sir Creeks region, along Pakistan's southernmost border with India, resulted in the creation of a PAKMAR Creeks Battalion in 1999.

Personnel

PAKMAR is a volunteer force. Recruitment for all ranks is open to anyone who meets PAKMAR physical and educational standards, regardless of social class, caste, or tribe. Officer candidates must graduate from a college or university with a grade point average of 65 percent or higher; enlisted Marines must finish high

school with a 45-percent average. Morale is good, and retention is not a problem; most Marines remain in service until retirement. Marines discharged from active duty remain on active reserve status for 8 years or until they reach a maximum age, 45 for enlisted Marines and 50 for officers.

Organization

PAKMAR operational control resides with the chief of the navy staff. Unlike the USMC, PAKMAR is a true subset of, and functionally subordinate to, the navy.

PAKMAR comprises more than 1,500 Marines, organized into two battalions, a command element, and a training center. PAKMAR headquarters are at PNS Qasim on Manora Island, near the mouth of Karachi's harbor. Here, PAKMAR conducts both administrative and logistics functions, and much of its formal training. The latter is done through the auspices of Marine Training Command.

Enlisted Rank Structure:

- Marine One - Recruit
- Marine Two - All mandatory training completed
- Leading Marine - Squad leader
- Petty Officer - Platoon sergeant
- Chief Petty Officer - Senior enlisted in a company
- Master Chief Petty Officer - Senior enlisted in a battalion

Training

Marines receive all of their initial training from Pakistan's naval schools; only a few Marines attend Pakistan's national academies. Sailors who complete phase one of naval boot camp may be recommended for the 6-month Marine Corps School at the Qasim Naval Base. This training is followed by a 3 1/2-month basic in-

fantry school with army troops at the Sindh Regimental Center in Hyderabad. A final training phase, for more advanced Marine training courses, is held at the Qasim Naval Station.

Equipment

Weapons

Pakistan Marines are equipped with 7.62-mm G3 rifles, AK-47 assault rifles, 7.62-mm Pakistani-made MG1A3 or MG118 machineguns (a variant of the German-made MG42), and 12.7-mm heavy machineguns. The MG118 reportedly has a tendency to jam due to overuse and improper maintenance. PAKMAR officers also carry 9-mm pistols, either a P7M13, Walther, or a China-made model. Specialty weapons include the 9-mm MP5 submachinegun and Steyr sniper rifle. The RPG-7 is used in anti-tank and anti-personnel roles. An infantry company's weapons platoon is equipped with six MG1A3s and an unknown number of RPG-7s and 60-mm mortars. Training in the use of mortars, however, is limited. Only battalion-level weapon sections have snipers; there are no snipers in infantry companies.

Communication

PAKMAR communicates by VHF radios; unencrypted, push-to-talk radios; and Iridium phones.

Personal Equipment

PAKMAR personnel are equipped with body armor, Night Optical Devices (AN/PVS-4A, AN/PVS-5C, and NVB-5A), GPS devices, NBC equipment, and ALICE packs. Special equipment includes non-lethal weapons. The body armor consists of old-style flak jackets used by the United States from the 1970s to the 1990s. They are a mix of olive drab green and traditional woodland camouflage pattern and do not provide small-arms protection.

Transportation

Deploying Pakistan Marines to the Sir Creeks region highlighted the need for increased mobility. This led to a significant advance in PAKMAR equipment: the purchase, in December 2004, of four Griffon 2000 TDX hovercraft and four Marsun military assault boats (MABs). Produced in the United Kingdom, the Griffon 2000 TDX hovercraft is 12.7 meters (42 feet) long with a 6.1-meter (20-foot) beam. In addition to one crewman, it can carry 20 to 25 combat-loaded troops or 2.2 metric tons of cargo. The vessel can travel up to 35 knots fully loaded for 10 hours, giving it a 175-nautical-mile combat range.

PAKMAR has no organic aviation assets; however, it has access to the PN's MK45 Sea Kings. Overland transportation is provided by SUV 4x4 vehicles. PAKMAR also has a limited air defense capability.

Air Force

Mission

The primary role of the Pakistan Air Force (PAF) is to defend Pakistan's airspace. The PAF's priority is to achieve air superiority over battle areas through defensive and offensive operations, including strikes against enemy air bases. PAF secondary missions include support to ground operations, conventional and nuclear retaliatory strikes, fleet protection/maritime strikes, and search and rescue. The PAF is responsible for air combat operations as well as strategic land-based air defense. Because CAS to ground troops is secondary, little time is devoted to such training. During peacetime, the PAF assists in internal security maintenance, renders support during civil emergencies, and supports civic action programs.

Personnel

The PAF has 45,000 active personnel and 10,000 reserves.

Organization

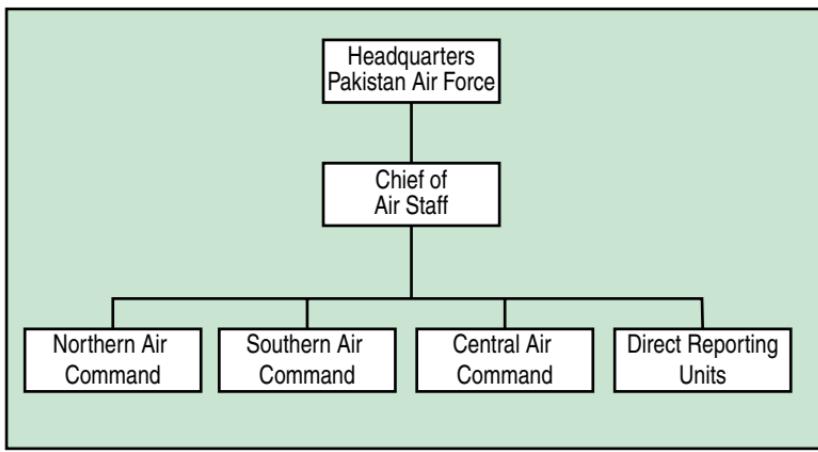
The PAF is a relatively large and well-trained force. It is divided into five directorates, each commanded by a deputy chief of air staff: operations, administration, engineering, personnel, and training.

The chief of the PAF sits on the National Security Council and the Joint Chiefs of Staff committee; the chief is responsible for co-ordinating inter-service cooperation. The current chief, Air Chief Marshal Rao Qamar Suleman, was appointed in March 2009.

The following is the PAF command organization and disposition:

Central Air Command Headquarters, Lahore

- HQ Communications Flight
 - 34th Fighter Wing, Rafiqui
 - 5th AD/Reconnaissance Sqn
 - 20th Combat Training Sqn



Pakistan Air Force Organization

- 83^d SAR/Liaison Sqn
- 15th AD/Attack Sqn
- 27th AD/Attack Sqn
- 38th Multi-Role Wing, Mushaf
 - 9th AD/Attack Sqn
 - 11th Flight Training Sqn
 - 24th EW/ECM Training Sqn
 - 82^d SAR/Liaison Sqn
 - 786 Sqn (Falco UAV)

Northern Air Command Headquarters, Peshawar

- Headquarters Communications Flight
- 33^d Multi-Role Wing, Minhas
 - 14th AD/Attack Sqn
 - 25th AD/Attack Sqn
 - 87th Sqn SAR
- 36th Tactical Attack Wing, Peshawar
 - 16th Attack Sqn
 - 26th Attack Sqn
 - 81st SAR/Liaison Sqn
- 37th Combat Training Wing, Mianwali
 - 1st Advanced Training FCU
 - 18th Combat Training Sqn
 - 19th Combat Training Sqn
 - 86th SAR/Liaison Sqn

Southern Air Command Headquarters, Faisal

- Headquarters Communications Flight
- 31st Fighter Wing, Quetta
 - 17th AD/Attack Sqn
 - 23^d AD/Attack Sqn
 - 85th SAR/Liaison

- 32^d Fighter/Ground Attack Wing, Masroor
 - 2^d Sqn
 - 7th AD/Attack/Training Sqn
 - 8th Land/Sea Attack Sqn
 - 22^d Combat Training Sqn
 - 84th SAR/Liaison Sqn

Direct Reporting Units

- 35th Air Transport Wing, Chaklala
 - 3^d Sqn AEW&C
 - 6th Transport Sqn
 - 12th Transport Sqn
 - 41st Communications Sqn
- Special Services Wing
 - No 1 Special Ops Sqn
 - No 2 Special Ops Sqn
 - No 3 Special Ops Sqn
 - No 4 Special Ops Sqn
 - No 5 Special Ops Sqn
 - Para Training Sq, Risalpur
 - Special Reconnaissance Flt
- Combat Commanders School, Mushaf
 - F-7 Tactics Training Sqn
 - Mirage Tactics Training Sqn
- Air Force Academy/University, Risalpur
 - Flying Instructors' School
 - Primary Flying Training Wing
 - 1st Training Sqn
 - 2^d Training Sqn
 - Basic Flight Training Wing
 - 1st Training Sqn
 - 2^d Training Sqn

- Advanced Jet Training Wing
 - 1st Advanced Training Sq
- PAF College

Capability

Although it has used preemptive strikes against strategic forward air bases in the past, Pakistan has officially stated that this tactic has been removed from its doctrine. However, the PAF likely retains this capability. PAF operations also provide vital support for the army in executing the *riposte* strategy by degrading enemy attack formations and defensive positions. PAF air defense assets are expected to defeat enemy attempts to gain air superiority.

Pakistan has nuclear weapons capability, which can be delivered by air. Although Pakistan has a robust ballistic missile program that would be capable of delivering a nuclear warhead, the PAF has been training with its F-16 and Mirage aircraft as an additional delivery method.

Training

The Pakistan Air Force Academy is based at Risalpur, where pilots receive initial, basic, and advanced flight training. Aircraft used for this training include the Pakistan-produced Mushshak and Super Mushshak, the T-37, and the China-built K-8 Karakorum.

There are also schools for air force officers. The Air Force College in Risalpur offers a 2-year course in academic and technical subjects as well as flight training. Advanced training is carried out at the base in Sargodha. The PAF also has an advanced technical training facility at Korangi Creek, near Karachi, for courses in aeronautical engineering.

ENLISTED						
	Pakistan Rank	Aircraftman	Leading Aircraftman	Senior Aircraftman	Junior Technician	Corporal Technician
OFFICER						
	Pakistan Rank	Pilot Officer	Flying Officer	Flight Lieutenant	Squadron Leader	Wing Commander

Pakistan Air Force Rank Insignia

The PAF participates in joint exercises with other countries, particularly Saudi Arabia and other Gulf nations. These countries perceive that the PAF pilots are highly skilled.

Women in the PAF

Women have been allowed to join the PAF for many years; their roles, however, have been limited to the ground branches. The PAF recently allowed women to enroll in the Air Force Academy's aerospace engineering and fighter pilot programs; four women graduated from the academy in March 2006, and the PAF received its first female pilots. Although these women received training in fighter aircraft, they were not given assignments to fighter squadrons. They are serving in one of the transport squadrons.

Equipment

Pakistan has a rudimentary aviation industry. It is capable of assembling and maintaining imported designs and, also, of originating some small-scale designs, such as its popular Mushshak and Super Mushshak trainer aircraft, and the JF-17. Most of the aircraft in its inventory are imported from the United States, France, and China. As such, constant modernization is a priority to keep pace with international developments and to counter air attacks from modern air threats.

Unmanned Aerial Vehicles

Pakistan has a developing domestic unmanned aerial vehicle (UAV) industry that is tied in with national defense and procurement. Pakistan's military has employed various domestically designed UAVs for reconnaissance and surveillance during operations along the Kashmiri border in the conflict with India.

Fighters/Attack

Designation

F-16A Fighting Falcon

F-16B Fighting Falcon

Role

Multi-role fighter

Multi-role fighter

Designation	Role
<i>F-16C Fighting Falcon (as of July 2010)</i>	Multi-role fighter
<i>F-16D Fighting Falcon (as of July 2010)</i>	Multi-role fighter
<i>JF-17 Thunder</i>	Multi-role fighter
<i>F-7P</i>	Air defense/attack
<i>F-7MP</i>	Air defense/attack
<i>F-7PG (F-7MG)</i>	Air defense/attack
<i>Mirage 5F</i>	Air defense/attack
<i>Mirage IIIEL</i>	Air defense/attack
<i>Mirage IIIEP</i>	Air defense/attack
<i>Mirage IIIO</i>	Air defense/attack
<i>A-5-III Fantan (Being Phased out by 2011)</i>	Attack
<i>Mirage 5PA</i>	Attack
<i>Mirage 5PA2</i>	Attack
<i>Mirage 5D</i>	Attack
<i>Mirage 5PA3</i>	Anti-ship attack

Reconnaissance/Patrol

Designation	Role
<i>Mirage IIIRP</i>	Reconnaissance
<i>Saab 2000</i>	Airborne early warning

Transports

CN-235M-220 (one in VIP configuration)
C-130B Hercules
C-130E Hercules
L-100 Hercules
F27-200 Friendship
Y-12 (II)

Falcon 20E
A310

Communications/Combat Support

King Air B200
172 Skyhawk
560 Citation V
G-1159C Gulfstream IV-SP
PA-34 Seneca
Mushshak
Falcon 20F

Helicopters

SA 316/319 Alouette III/ICA-Brasov IAR-316 Alouette III

Utility

Mi-171Sh

UAV Squadron

Uqaab Tactical UAV
Eagle Eye-P1 Tactical UAV
Eagle Eye-P1T UAV
Flamingo Tactical Medium Range UAV
Jasoos-II Tactical UAV
HUMA-1 Tactical UAV
Vision-1 Tactical UAV
Bravo Tactical UAV
Vector Tactical UAV
Hornet Tactical UAV
Stingray Mini UAV

Air-to-Air Missiles

R-530 AIM-7 Sparrow (PL-5)

R-550 Magic AIM-9 Sidewinder (PL-7)

R-550 Magic 1 AIM-120 AMRAAM (once F-16C/D in country) (PL-9)

R-530 SD-10 (future)

Air-to-Surface Missiles

AGM-88 HARM

AGM-65 A/B Maverick

Anti-ship Missiles

AM 39 Exocet

AGM-84 Harpoon

Special Forces

The SSG is an all-volunteer special operations command. Overall, the SSG is one of the best special operations units in a developing nation and is considered the best among Pakistan's military units.

The SSG has 2,500 personnel, most of whom are selected from the Pakistan Army. Each battalion, commanded by a lieutenant colonel, has a strength of 600. Each company, commanded by a major, has a strength of 150. The SSG wears a standard Pakistan Army uniform. A maroon beret and the SSG qualification patch distinguish SSG attire from that worn by the rest of the military's personnel.

The basic wartime missions of the SSG are to conduct airborne and commando operations to support conventional ground forces. These operations include long-range reconnaissance and direct action. Peacetime missions include internal security, counterterrorism, antiterrorism, anti-hijacking, search and rescue, VIP protection, counterinsurgency operations, and protection of key government facilities. The SSG also protects against border incursions by Indian

forces, trains and supports insurgents (unconventional warfare), and provides military support to regional and other Islamic countries.

The SSG can conduct up to battalion-size independent airborne or ground military operations; it can also, on a much smaller scale, conduct naval commando-type missions. The SSG routinely deploys members to the Siachen Glacier region.

Paramilitary Force

Pakistan's paramilitary force is generally subordinate to the Ministry of the Interior. In wartime, however, control of the paramilitary force shifts to the GHQ. There are up to 302,000 personnel in the force. These personnel free the army and navy from most of the responsibilities of policing borders and economic zones. Paramilitary force officers are provided by the regular forces. In war, some of the more capable units reinforce the army.

The Frontier Corps/Scouts (FC/FS), totaling 100,000 personnel, is split into two entities, the Frontier Scouts-Khyber-Pakhtunkhwa Province (FS-KPP) and the Frontier Corps-Balochistan (FC-B). Both are responsible for border security and focus on law enforcement actions decreed by the local political agent or president of Pakistan. Recently, however, the FS-KPP has been used more as a counterinsurgency combat unit. As the lead entity for clearing anti-government Taliban insurgents from the FATA, the FS-KPP receives support from the army (infantry, artillery, and aviation) and air force (F-16s).

Border Guards

Pakistan border guards are specialized units that include the following organizations:

- **National Guard (185,000):** Provides the primary border security forces.

- **Pakistani Rangers (25,000 to 30,000):** Police the border with India and have traditionally guarded the Jhelum Valley route toward the India/Pakistan border in Kashmir, as well as the northern areas.

Coast Guard

The army operates a coast guard that has small patrol craft and survey ships. During peacetime, the coast guard performs both police and search-and-rescue functions; in the event of a conflict, it would operate similarly to a marine corps. The 2,000-member force operates in conjunction with the PN and the Maritime Security Agency (MSA).

The coast guard, a paramilitary organization comprising four battalions, is responsible for conducting land-oriented, anti-smuggling operations. It is commanded by a brigadier, and its relationship with the MSA is often strained, though it operates approximately 30 small craft. The coast guard gets its aviation assets from the army on an ad hoc basis; thus, its operational capabilities are limited .

Maritime Security Agency

Pakistan established the MSA on 1 January 1987. The agency's purpose is to enforce Pakistan's 200-nautical-mile EEZ. The MSA consists of about 2,000 personnel. Although considered a branch of the army, the MSA operates in coordination with the navy and the coast guard. Its assets are assigned only during peacetime. In wartime, the MSA is operationally subordinate to the navy. Equipment includes a BADR (ex-British BATTLE-Class) destroyer and four China-made SHANGHAI II-class small combatants.

The MSA is an independent service of the armed forces, but it relies on the PN for manning and support. The MSA is based in

Karachi and is commanded by a commodore. It is responsible for policing the EEZ, conducting search-and-rescue in cooperation with the PN, and monitoring and enforcing pollution and maritime conservation policies.

Police

The police officers' duties include executing court orders and warrants; collecting and communicating intelligence concerning public order; preventing crime; and detecting, apprehending, and arresting criminals.

The overall police force is organized in much the same way today as it was during the British colonial period. Except for centrally administered and tribal territories in the north and northwest, basic law and order responsibilities have been carried out by the four provincial governments. The police forces of the four provinces are independent, and there is no nationwide integration; nevertheless, the federal minister of the interior provides overall supervision. Police ranks are inspector, sergeant, sub-inspector, assistant sub-inspector, head constable, and constable.

Police in Pakistan are generally unarmed. For crowd control, they are trained to use a *lathi*, a 1.5-meter (5-foot) wooden staff derived from ancient Indo-Pakistani martial arts practices. The *lathis*, which may be weighted, are used either to hold crowds back or to push them away. The police also employ 37/38-mm grenade launchers with tear gas and wooden baton rounds. Traditional firearms are also available.

Police senior officers are the inspector general, who heads a provincial police force, and a deputy inspector general, who directs the work of a division or range. The principal focus of police activity is at the district and sub-district levels. District activities are headed by a superintendent, and sub-district activities are headed by an

assistant or deputy superintendent. At each level, police officials report to their respective political or civil service head; the inspectors general, however, have direct access to the federal Ministry of Interior. Larger municipalities have their own police forces.

Senior positions in the police are filled from the police service of Pakistan (PSP). The PSP is not an operational body; rather, it is a career service similar to the civil service of Pakistan. Officers from the PSP are assigned to the provincial services or, on rotation, to central government agencies where their skills are needed. Recruitment to the PSP is through an annual national examination. Candidates who successfully pass the examination receive 2 years of training at the police training college in Sihala, near Islamabad, and are then assigned to one of the provincial forces.

The central government controls the specialized police agencies: the Federal Investigative Agency, railroad and airport police forces, an anticorruption task force, and various paramilitary organizations such as the Rangers, constabulary forces, and the FC/FS. The government or the public refers cases to the Federal Investigative Agency. After the investigations, cases are then referred to *ehtesab* (accountability courts) for indictment and trial.

The Narcotics Control Division (NCD) was established in April 1989 to combat a proliferating drug problem. The two law enforcement agencies under the NCD are the Pakistan Narcotics Control Board (PNCB) and the Antinarcotics Task Force (ANTF). The PNCB provides administration, control, and supervision. The ANTF investigates offenses relating to preparing, producing, trafficking, transporting, and smuggling narcotics, alcohol, and chemical precursors used to manufacture narcotics and other illegal drugs.

Weapons of Mass Destruction

Nuclear Weapons

Pakistani officials believe that their country's nuclear capability deters war and ensures national survival. In 1998, Pakistan conducted nuclear tests, demonstrating its nuclear capability to the world. It claimed to have detonated five nuclear devices on 28 May (total yield estimated at 9 to 12 kilotons) and a single weapon on 30 May (estimated yield 4 to 6 kilotons). Pakistan's primary motivation is assessed to be a response to India's nuclear tests. Pakistan, like India, is not a signatory to the Nuclear Nonproliferation Treaty or the Comprehensive Test Ban Treaty and is unlikely to accede to either instrument without a similar commitment from India. Pakistan has approximately 50 to 80 warheads. Delivery systems would likely include F-16 aircraft and variants of Ghauri and Shaheen ballistic missiles.

The prime minister and the Army Chief of Staff share the authority to use nuclear weapons. These are the highest positions at the National Command Authority (NCA), which is part of the Joint Staff. In the event that nuclear weapons were to be used, the NCA would give authorization through Joint Staff HQ in Rawalpindi. The Joint Staff HQ would communicate the nuclear instructions to army and air force headquarters for relay to nuclear-capable units.

The NCA consists of three elements: the employment committee; the development control committee; and the strategic plans directorate, which acts as the body's secretariat.

The employment committee is chaired by the head of government and includes the ministers of foreign affairs, defense, and interior; chairman of Joint Chiefs of Staff Commission (JCSC); service

chiefs; director general (DG) of strategic plans; and others, designated by the chairman.

The development control committee is chaired by the head of government and includes the chairman of JCSC, service chiefs, DG of strategic plans, and designated representatives of strategic organizations and the scientific community.

The strategic plans directorate, headed by a senior Army officer, is an established subcomponent of the JCSC headquarters, tasked with planning, coordinating, and establishing a reliable command, control, communications, computers, and intelligence network to support NCA decision making.

Biological Weapons

Pakistan is a signatory to the Biological Weapons Convention. Pakistan's official policy is that it does not produce or maintain inventories of biological weapons. Pakistan would be capable of producing some offensive biological weapons through dual-use technologies should the government choose to do so.

Chemical Weapons

Pakistan ratified the Chemical Weapons Convention on 28 October 1997 and declared possession of only riot-control chemical agents. Pakistan's official policy is that the country does not produce or maintain inventories of chemical weapons. It is capable of producing offensive chemical weapons and delivering them through a variety of means, including air, artillery, and missiles. Pakistan continues to modernize and upgrade commercial industries that employ dual-use technologies to maintain this production capability.

Ballistic Missiles

Pakistan actively pursues ballistic missile development programs. It has short-range (up to 1,000 kilometer [620 miles]) and medium-range ballistic missiles (1,000 to 3,000 kilometers [620 to 1,865 miles]). In 2008, Pakistan's intermediate-range (3,000 to 5,500 kilometers [1,865 to 3,420 miles]) ballistic missiles entered service. Pakistan continues to plan and develop intercontinental ballistic missiles (more than 5,500 kilometers [3,420 miles]).

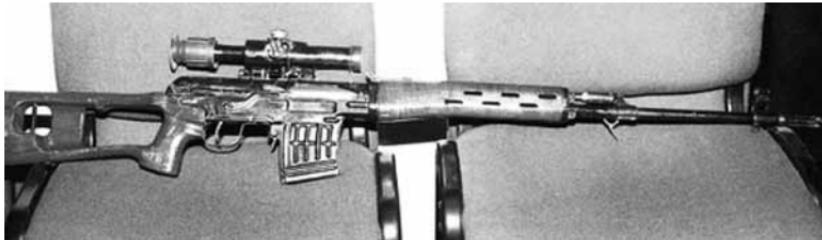
System	Range (km)	Payload (kg)	Comments
<i>Hatf-I/IA</i>	80	500	Based on Chinese M-11
<i>Hatf III</i>	600-800		Based on Chinese M-9/DF-11
<i>Hatf-V(Ghauri)</i>	1,500		Based on DPRK Nodong-1
<i>Ghauri II</i>	2,000		
<i>Ghaznvi</i>	2,000		
<i>Shaheen I</i>	750	900	
<i>Shaheen II</i>	2,500	1,000	

NOTE: See updated missile information under the equipment listings.

APPENDIX A: **EQUIPMENT RECOGNITION**

INFANTRY WEAPONS

7.62-mm Dragunov SVD



Maximum Effective Range	800 m
Caliber	7.62- x 54-mm
System of Operation	Gas, semiautomatic
Overall Length	48.2 in. (1,225.0 mm)
Magazine Capacity	10-rd staggered row detachable box magazine
Weight (Loaded)	9.5 lbs

Austria 7.62mm SSG-69 Sniper Rifle



Maximum Effective Range	800 m
Caliber	7.62- x 51-mm
System of Operation	Bolt action
Overall Length	44.81 in. (1,140.0 mm)
Magazine Capacity	5- or 10-rd detachable magazines
Weight (Loaded)	10.46 lbs (4.73 kg)

Accuracy International's Arctic Warfare Sniper Rifle



Maximum Effective Range	800 m
Caliber	7.62- x 51-mm
System of Operation	Bolt action
Overall Length	1,180 mm.
Magazine Capacity	10-rd box magazine
Weight	13.64 lbs 6.2 kg (unloaded)

MG3



Maximum Effective Range	800 m (bipod); 1,200 m (tripod)
Caliber	7.62- x 51-mm NATO
System of Operation	Short-recoil, automatic
Overall Length	48 in
Feed	100-rd drum or 250-rd belt
Weight	23.2 lbs (10.56 kg)

Chinese Type 81 Light Machine Gun



Maximum Effective Range

800 m

Caliber

7.62- x 39-mm

System of Operation

Gas, automatic

Overall Length

1,024 mm

Magazine Capacity

30-rd box magazine or 75-rd drum

Weight

11.33 lbs (5.15 kg) (unloaded)

Chinese Type 54-1



Tactical Anticraft Range	1,000 m
Maximum Horizontal Range	8,000 m
Caliber	12.7 x 108-mm
System of Operation	Gas, automatic
Overall Length	1.5 m
Magazine Capacity	50-rd metallic link belt
Weight w/tripod	202 lbs (92 kg) (gun and towed mount with shield)

Chinese Type 69 Launcher



Maximum Effective Range

300 m (moving target)

500 m (stationary target)

2,200 m (up to this distance for indirect fire)

40 mm (warhead diameter varies)

Caliber of Launch tube

910 mm (unloaded; varies when loaded)

Launcher Length

Note: Chinese Type 69 launcher (top) and Russian RPG-7 launcher (bottom), left-side comparison

ARMOR

al-Khalid



Crew	3
Armament	1 x 125-mm smoothbore gun w/39 rds; 1 x 7.62-mm coaxial MG; 1 x 12.7-mm anti-aircraft (AA) MG
Night Vision	Yes
NBC	Yes
Maximum Range	400 km
Maximum Speed	62 km/h
Combat Weight	48,000 kg
Height	2.3 m
Length	6.9 m (gun forward)
Width	3.4 m
Gradient	50%
Vertical Obstacle	0.85 m
Trench	3 m

T-80UD



Crew	3
Armament	1 x 125-mm gun w/45 rds; 1 x 7.62-mm coaxial MG w/1,250 rds; 1 x 12.7-mm AA MG w/500 rds
Night Vision	Yes
NBC	Yes
Maximum Range	335 km
Maximum Speed	70 km/h
Combat Weight	42,500 kg
Height	2.2. m
Length	9.656 m (gun forward)
Width	3.589 m
Fording	1.8 m
Gradient	63%
Vertical Obstacle	1.0 m
Trench	2.85 m

Type 85



Crew	3
Armament	1 x 125-mm gun w/42 rds; 1 x 7.62-mm coaxial MG w/3,000 rds; 1 x 12.7-mm AA MG w/500 rds
Night Vision	Yes
NBC	Yes
Maximum Range	600 km
Maximum Speed	65 km/h
Combat Weight	42,500 kg
Height	2.2 m
Length	10.42 m (gun forward)
Width	3.4 m
Fording	1.4 m
Gradient	60%
Vertical Obstacle	0.8 m
Trench	2.7 m

Al Zarrar



Crew	4
Armament	1 x 125-mm smoothbore gun w/28 rds; 1 x 7.62-mm SMGT coaxial w/3,000 rds; 1 x 12.7-mm DShK AA w/500 rds
Night Vision	Yes
NBC	Yes
Maximum Range	400 km (600 km w/long-range tanks)
Maximum Speed	55 km/h
Fuel Capacity	927 liters (+400 liters in external tanks)
Combat Weight	40,000 kg
Height	2.8 m
Length	9.24 m
Width	3.3 m
Fording	1.4 m
Gradient	32%
Vertical Obstacle	0.5 m
Trench	2.5 m

Type 54/55 and Type 59/69



Crew	4
Armament	1 x 100-mm D10T2S gun w/43 rds; 1 x 7.62-mm SMGT coaxial w/3,500 rds; 1 x 12.7-mm DShK AA w/500 rds
Night Vision	Yes
NBC	Yes
Maximum Range	460 km (650 km w/long-range tanks)
Maximum Speed	50 km/h
Fuel Capacity	960 liters
Combat Weight	36,000 kg
Height	3.03 m
Length	9.0 m
Width	3.76 m
Fording	1.4 m
Gradient	60%
Vertical Obstacle	0.8 m
Trench	2.7 m

Note: Some tanks have been upgraded to 105-mm M68 gun w/44 rds

M48A5



Crew	4
Armament	1 x 105-mm M68 rifled gun w/54 rds; 1 x 7.62-mm coaxial MG; 2 x 7.62-mm AA MG
Maximum Speed	48.8 km/h
Maximum Range	499 km
Fuel Capacity	1,420 liters
Combat Weight	48,987 kg
Length	9.3 m (gun forward)
Width	3.631 m
Height	3.08 m
Night Vision	Yes
NBC	Yes
Fording	1,219 m
Gradient	60%
Vertical Obstacle	0.915 m
Trench	2.59 m

Ferret



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

UR-416



Crew/Passengers	2 + 8
Type	4 x 4
Armament	1 x 12.7-mm MG w/520 rds
Night Vision	Optional
NBC	No
Maximum Range	700 km
Maximum Speed	81 km/h
Fuel Capacity	150 liters
Combat Weight	7,600 kg
Height	2.25 m
Length	5.1 m
Width	2.25 m
Fording	1.3 m
Gradient	70%
Vertical Obstacle	0.55 m

M113A1/2/Talha



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

BTR-70



Crew/Passengers	2 + 9
Type	8 x 8
Armament	1 x 14.5-mm KPVT w/500 rds; 1 x 7.62-mm PKVT w/2,000 rds
Night Vision	Yes
NBC	Yes
Maximum Range	600 km
Maximum Speed	80 km/h
Fuel Capacity	350 liters
Combat Weight	11,500 kg
Height	2.235 m
Length	7.33 m
Width	2.8 m
Fording	Amphibious
Gradient	60%
Vertical Obstacle	0.5 m
Trench	2 m

BTR-80



Crew/Passengers	2 + 8
Type	8 x 8
Armament	1 x 14.5-mm KPVT w/500 rds; 1 x 7.62-mm PKVT w/2,000 rds
Night Vision	Yes
NBC	Yes
Maximum Range	600 km
Maximum Speed	85 km/h
Fuel Capacity	300 liters
Combat Weight	13,600 kg
Height	2.35 m
Length	7.65 m
Width	2.9 m
Fording	Amphibious
Gradient	60%
Vertical Obstacle	0.5 m
Trench	2 m

Type 63



Crew/Passengers	2 + 13
Type	Tracked
Armament	1 x 12.7-mm MG w/1,120 rds
Night Vision	No
NBC	No
Maximum Range	500 km
Maximum Speed	66 km/h
Fuel Capacity	450 liters
Combat Weight	12,600 kg
Length	5.47 m
Width	2.97 m
Height	2.85 m
Fording	Amphibious
Gradient	60%
Vertical Obstacle	0.6 m
Trench	2.0 m

ARTILLERY

M109A2/A5 Self-propelled Howitzer



Crew	6
Armament	1 x 155 M185 howitzer w/34 rds; 1 x 12.7-mm AA MG w/500 rds
Howitzer Maximum Range	24,000 m
Maximum Speed	56.3 km/h
Maximum Range	349 km
Combat Weight	24,948 kg
Fording	1.07 m
Gradient	60%
Trench	1.83 m

M110A2 Self-propelled Howitzer



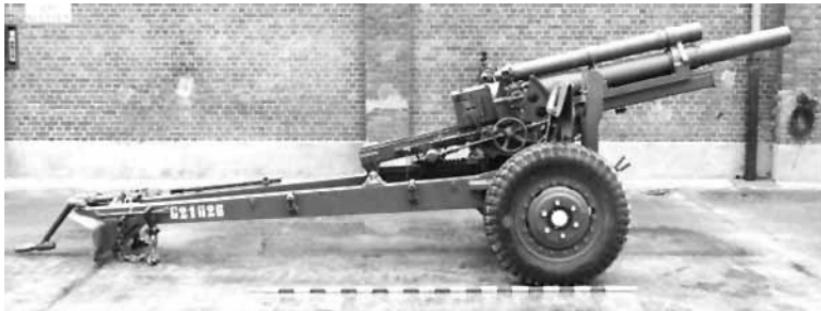
Crew	13
Armament	1 x 203-mm M201 howitzer w/2 rds
Howitzer Maximum Range	30,000 m
Maximum Speed	54.7 km/h
Maximum Range	523 km
Combat Weight	28,350 kg
Fording	1.066 m
Gradient	60%
Trench	1.905 m

M46 Field Gun



Crew	8
Caliber	130mm
Maximum Range	27,150 m
Max Rate of Fire	6 rds/min
Combat Weight	7,700 kg (firing); 8,450 kg (traveling)
Length	11.73 m
Width	2.45 m
Height	2.55 m
Prime Mover	6 x 6

M101 Howitzer



Crew	8
Caliber	105mm
Maximum Range	11,270 m
Max Rate of Fire	10 rds/min
Combat Weight	2,030 kg
Length	5.991 m
Width	3.65 m
Height	3.124 m (firing); 1.524 m (traveling)
Prime Mover	6 x 6

M198 Howitzer



Crew	11
Caliber	155mm
Maximum Range	30,000 m (RAP)
Rate of Fire	4 rds/min
Combat Weight	7,163 kg
Length	11 m (firing); 12.34 m (traveling)
Width	8.53 m (firing); 2.79 m (traveling)
Height	2.9 m
Prime Mover	6 x 6

M114 Howitzer



Crew	11
Caliber	155mm
Maximum Range	14,600 m
Rate of Fire	40 rds/h
Combat Weight	5,760 kg
Length	7.315 m
Width	2.438 m
Height	1.803 m
Prime Mover	6 x 6

M115 Howitzer



Crew	14
Caliber	203mm
Maximum Range	16,800 m
Rate of Fire	1 rd/min
Combat Weight	13,471 kg (firing)
Length	10.972 m (traveling)
Width	2.844 m (traveling)
Height	2.743 m (traveling)
Prime Mover	6 x 6 truck or artillery tractor

Type 54-1 Howitzer



Crew	8
Caliber	122mm
Maximum Range	11,800 m
Rate of Fire	6 rds/min
Combat Weight	2,500 kg
Length	5.9 m (traveling)
Width	1.975 m (traveling)
Height	1.82 m (traveling)
Prime Mover	6 x 6

Type 59-1 Field Gun



Crew	8-10
Caliber	130mm
Maximum Range	27,150 m
Rate of Fire	10 rds/min
Combat Weight	6,300 kg
Length	10.8 m
Width	2.42 m
Height	2.75 m
Prime Mover	6 x 6

Model 56 Pack Howitzer



Crew	7
Caliber	105mm
Maximum Range	10,575 m
Rate of Fire	3 rds/min
Combat Weight	1,290 kg
Length	4.8 m
Width	2.9 m
Height	1.93 m
Prime Mover	4 x 4

Heavy Mortar



Crew	6
Caliber	120mm
Maximum Range	8,950 m
Rate of Fire	12 rds/min

Type 53 Light Mortar



Crew	4
Caliber	82mm
Maximum Range	3,040 m
Rate of Fire	25 rds/min

81-mm Light Mortar



Crew	5
Caliber	81mm
Maximum Range	5,000 m
Rate of Fire	15 rds/min

60-mm Light Mortar



Crew	2
Caliber	60mm
Maximum Range	2,000 m
Rate of Fire	25 rds/min

ANTIARMOR

M901 ITV



Crew	4 or 5
Type	Tracked
Armament	1 x twin TOW launcher w/12 rds; 1 x 7.62-mm MG w/1,000 rds
Night Vision	Yes
NBC	No
Maximum Range	500 km
Maximum Speed	63 km/h
Fuel Capacity	360 liters
Combat Weight	11,800 kg
Height	2.91 m (traveling); 3.35 m (launcher erected)
Length	4.83 m
Width	2.69 m
Fording	Amphibious
Gradient	60%
Vertical Obstacle	0.61 m
Trench	1.68 m

M40A1 106mm Recoiless Rifle



Crew	3
Maximum Range	3,000 m (HEAT/direct fire); 7,500 m (indirect fire)
Rate of Fire	1 rd/min
Combat Weight	209.5 kg
Length	3.404 m
Width	1.52 m
Height	1.11 m
Prime Mover	4 x 4

TOW ATGM



Crew

4

Maximum Range

3,750 m

Baktar Shikan/Red Arrow 8 ATGM



Crew

3-4

Maximum Range

3,000 m

Milan



Crew

2

Maximum Range

2,000 m

AIR DEFENSE

BM 11/Azar Multiple Rocket Launcher



Crew

5

Armament

30 x 122-mm rockets

Maximum Range

2,000 m

Rate of Fire

30 rds/15 sec

Reload Time

8-9 minutes

Surface-to-Air Missile System HQ-2J (M-7) and HQ-2B



Type	2-stage low- to high-altitude SAM system
Range Limits	
HQ-2J	7 to 34 km (120 km in surface-to-surface role, CEP = 500 m)
HQ-2B	7 to 35 km
Effective Altitude Limits	
HQ-2J	500 to 27,000 m
HQ-2B	1,000 to 27,000 m
Maximum Target Speed	$\leq 3,600 \text{ km/h}$
Warhead	130-kg HE-blast-fragmentation
Fuze	Proximity or command
Guidance	Command
Reload Time	10 to 15 minutes
Missile Launch Weight	
HQ-2J	2,326 kg
HQ-2B	2,322 kg
Maximum Wingspan	2.5 m
Missile Length x Max. Diameter	10.84 x 0.65 m
Transporter-Launcher	
HQ-2J	Semi-fixed trainable single-rail launcher, traverse 360 degrees, elevation +11 to +65 degrees
HQ-2B	Mobile single-rail launcher (based on Type 63 tank chassis)

NOTE: The HQ-2 systems are improved versions of Russia's S-75 (SA-2 GUIDELINE). The HQ-7J can be used against ground targets. This requires a different control system and tank-chassis launcher.

ZPU-2 (Twin) 14.5-mm



Crew

4

Maximum Range

8,000 m (horizontal); 5,000 m (vertical)

Rate of Fire (Per Barrel)

150-600 rds/min

Combat Weight

994 kg

Length

3.536 m

Width

1.92 m

Height

1.83 m

ZPU-4 (Quad) 14.5-mm



Crew	5
Maximum Range	8,000 m (horizontal); 5,000 m (vertical)
Rate of Fire (Per Barrel)	150-600 rds/min
Combat Weight	1,810 kg
Length	4.53 m
Width	1.72 m
Height	2.13 m

Pakistani 14.5-mm Gun-Missile System



Crew

5

Maximum Range

3,700 m (vertical); 5,950 m (horizontal)

Rate of Fire (Per Barrel)

500-600 rds/min

Note: System also has 4 x ANZAR MANPAD SAM missiles

ZU-23 23-mm



Crew

5

Maximum Range

7,000 m (horizontal); 5,100 m (vertical)

Rate of Fire (Per Barrel)

200-800 rds/min

Combat Weight

950 kg

Length

4.37 m

Width

1.83 m

Height

1.87 m

Chinese Type 65 37-mm Twin



Crew

10

Maximum Range

6,700 m (vertical); 8,500 m (horizontal)

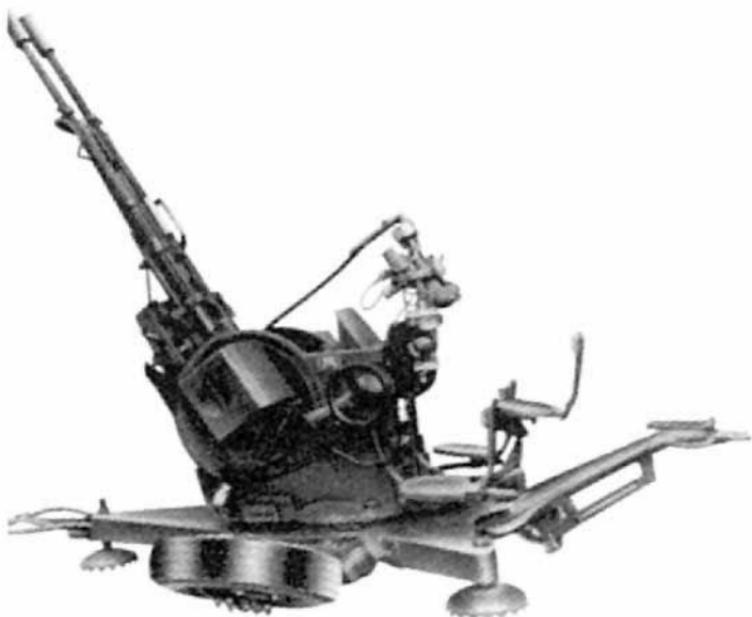
Rate of Fire (Per Barrel)

160-180 rds/min

Combat Weight

2,700 kg

Chinese Type 85 25-mm Twin



Crew	3 + off-mount loaders
Maximum Range	7,000 m
Rate of Fire (Per Barrel)	600 rds/min
Combat Weight	1,500 kg
Length	4.68 m
Width	2.04 m
Height	2.08 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/60



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

S-60 57-mm



Crew	7
Maximum Range	12,000 m (horizontal); 8,800 m (vertical)
Rate of Fire	100-120 rds/min
Combat Weight	4,500 kg
Length	8.6 m
Width	2.054 m
Height	2.46 m

M1939 37-mm



Crew	8
Maximum Range	9,500 m (horizontal); 6,700 m (vertical)
Rate of Fire	160-180 rds/min
Combat Weight	2,100 kg
Length	6.03 m
Width	1.93 m
Height	2.10 m

Spada 2000



Crew	N/A
Armament	Aspide 2000
Missile Max Range	24 km
Missile Speed	M2.5+
Missile Max Alt	>8000 ft

Mistral MANPAD



Basic System Components

2-stage missile, tripod, electronics box, sighting system, battery-coolant unit

Effective Range

300 to up to 6,000+ m depending on missile variant and target type

Effective Altitude

5 to 3,000+ m

Warhead

3-kg HE-fragmentation

Guidance

Passive IR-homing

Fuze

Contact and active laser proximity

Missile Launch Weight

19 kg (Mistral 2 is lighter)

Weight of Container and Missile

24 kg

Wingspan

0.2 m

Missile Length x Diameter

1.86 x 0.0925 m

RBS-70



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

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

FIM-92A Stinger



Type	2-stage low-altitude air defense missile system
Ranges	
Effective	4,000 m
Maximum	8,000 m
Maximum Engagement Altitude	3,500 m
Warhead	1-kg HE-fragmentation.
Guidance	Passive IR-homing
Fuze	Time-delayed contact
Missile Weight	10.1 kg
System Weight, Shoulder-Fired	15.7 kg
System Weight, Tripod-Mounted	136.4 kg
Missile Length x Diameter	1.47 x 0.069 m

NOTE: Missile and manportable launcher shown above.

HN-5A



Crew	1
Maximum Range	2,500 m
Combat Weight	16 kg
Length	1.44 m

Anza II



Crew	1
Maximum Range	4,000 m
Combat Weight	16.5 kg
Length	1.477 m

AIRCRAFT

JF-17 Thunder (Pakistan) or FC-1 Xiaolong (China)



Crew

1- or 2-seat trainer

Armament

Centerline station for GSh-23-2 twin-barrel cannon or other store, two attachments under each wing and one at each wingtip for assorted missiles, rockets, and/or bombs

Maximum Speed

M1.6

Combat Range

648-nm fighter and 378-nm ground attack

Wingspan

9.465 m (31ft 0.5in)

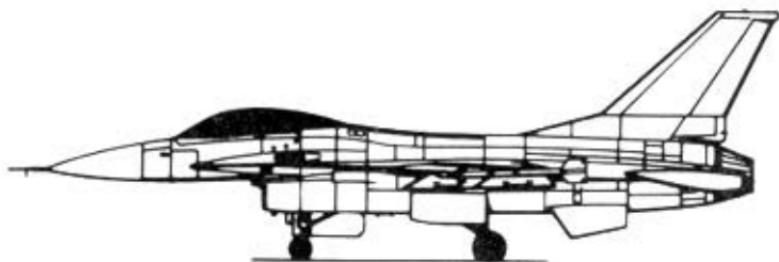
Height

4.775 m (15ft 8in)

Length

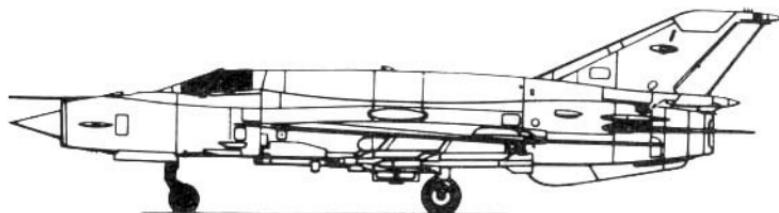
14.97 m (49 ft 1.5 inch)

F-16



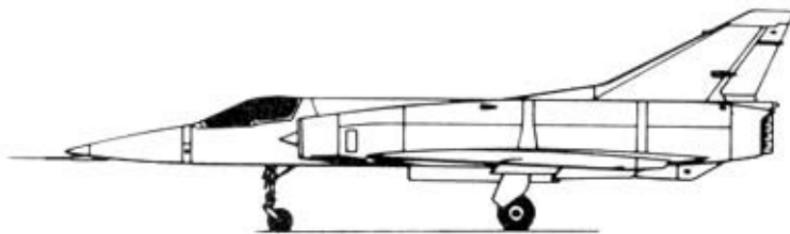
Crew	1
Armament	1 x 20-mm Vulcan assorted rockets, missiles, and/or bombs
Maximum Speed	M2.0+
Maximum Range	1,252 km
Wingspan	9.75 m
Height	5.09 m
Length	15.03 m

F-7P



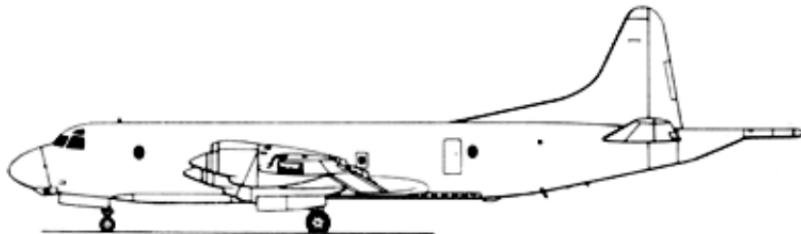
Crew	1
Armament	1 x twin-barrelled 23-mm gun in belly pak w/200 rds; assorted missiles, rockets, and/or bombs
Maximum Speed	M1.06
Maximum Range	1,100 km
Wingspan	7.15 m
Height	4.1 m
Length	15.76 m

Mirage IIIE/F



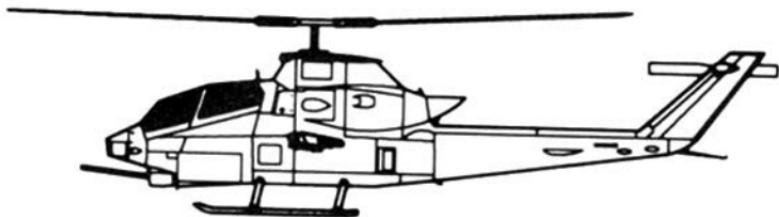
Crew	1
Armament	1 x twin-barrelled 23-mm gun in belly pak w/200 rds; assorted missiles, rockets, and/or bombs
Maximum Speed	M1.06
Maximum Range	1,100 km
Wingspan	7.15 m
Height	4.1 m
Length	15.76 m

P-3 Orion



Type	ASW/maritime reconnaissance
Wingspan	21 m
Length	16 m

AH-1F Cobra



Crew	2
Armament	1 x 20-mm Vulcan rotary cannon
Assorted ATGM or rockets	M1.06
Maximum Speed	127 kt
Maximum Range	507 km
Rotar Diameter	3.28 m
Length	16.18 m
Height	4.09 m

UH-1H



Crew	3
Armament	Assorted guns, rockets, and/or missiles
Maximum Speed	128 kt
Maximum Range	400 km
Length	12.98 m
Height	3.87 m
Length	16.18 m
Height	4.09 m

Westland Lynx



Crew	2
Armament	2 x Type 244S torpedoes or 2 x 12.7-mm MG pods
Operational Speed	120 kt
Maximum Range	593 km

MK-45 SeaKing



Crew	2
Armament	2 x Type 244S torpedoes or 2 x Mk 11 depth charges or 1 x AM 39 Exocet missile
Operational Speed	125 kt
Maximum Range	1,165 km

Mi-2 Hoplite



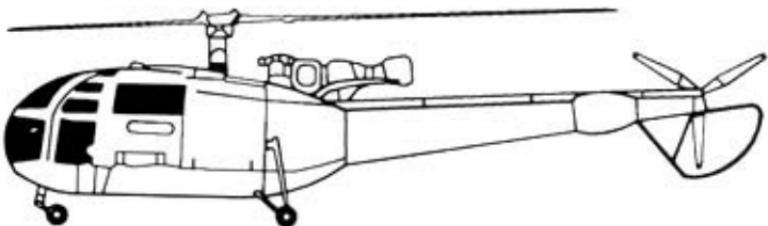
Crew	1
Armament	Possible rockets, missiles, or guns
Maximum Speed	102 kt
Maximum Range	91 nm
Rotar Diameter	14.5 m
Length	17.42 m
Height	3.75 m

Mi-8



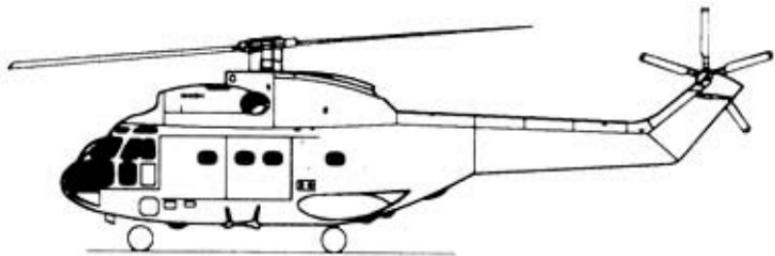
Crew	4
Armament	Assorted rockets, missiles, and gun pods
Maximum Speed	135 kt
Maximum Range	307 nm
Rotar Diameter	21.29 m
Length	25.33 m
Height	5.54 m

SA-319 Alouette III



Crew	1 or 2
Armament	Assorted guns, missiles, or rockets
Maximum Speed	118 kt
Maximum Range	340 nm
Length	12.84 m

SA-330 Puma



Crew	2
Armament	Assorted guns, missiles, or rockets
Maximum Speed	142 kt
Maximum Range	297 nm
Length	18.15 m

SHIPS

Agosta 90B Class



Complement

36 (7 officers)

Armament

SSM: Exocet SM 39 may be carried; 4- to 21-in (533-mm) bow tubes; Stonefish mines

Maximum Speed, Knots

13 surfaced; 15.5 submerged

Maximum Range, Miles

8,500 at 9-kt snorkeling; 350 at 3.5-kt submerged

Displacement, Tons

1,570 surfaced; 1,760 submerged (1,960 with MESMA)

Dimensions, Feet (Meters)

221.7 x 22.3 x 17.7 (67.6 x 6.8 x 5.4)

Hashmat (Agosta 70)



Complement	59 (8 officers)
Armament	SSM: McDonnell Douglas Sub Harpoon; 4- to 21-in (533-mm) bow tubes; Stonefish mines
Maximum Speed, Knots	12 surfaced; 20 submerged
Maximum Range, Miles	8,500 at 9-knot snorkeling; 350 at 3.5 kt submerged
Displacement, Tons	1,490 surfaced; 1,740 submerged
Dimensions, Feet (Meters)	221.7 x 22.3 x 17.7 (67.6 x 6.8 x 5.4)

Midget Submarine



Complement	8 + 8 swimmers
Armament	2 x 21-in (533-mm) tubes; 12 Mk 414 Limpet type
Maximum Speed, Knots	7 submerged
Maximum Range, Miles	1,200 surfaced; 60 submerged
Displacement, Tons	118 submerged
Dimensions, Feet (Meters)	91.2 x 18.4 (27.8 x 5.6)

Sword Class Frigate



Complement	170
Armament	8 C-802 (YJ-82/CSS-N-8 Saccade); 1 HQ-7 (Crotale) multiple launcher CSA-N-4; 1 x 3-in (76-mm) AK 176M; 2 x 30-mm Type 730B; 6 x 324-mm (2-triple) tubes
Maximum Speed, Knots	27
Maximum Range, Miles	4,000 at 18 kt
Displacement, Tons	2,250 full load
Dimensions, Feet (Meters)	403.5 x 45.9 (123.0 x 14.0)

Tariq (Amazon Class) Frigate



Complement	175 (13 officers)
Armament	4 x Harpoon SSM; 1 x Vickers 114-mm gun; 4 x 25-mm guns (2 x twin mounts)
Maximum Speed, Knots	30
Maximum Range, Miles	4,000 at 17 kt
Displacement, Tons	3,700 full load
Dimensions, Feet (Meters)	360 wl x 41.7 x 19.5 (109.7 x 12.7 x 5.9)

Hegu Class Fast Attack Craft - Missile (Jalalat)



Complement

17 (2 officers)

Armament

2 x 2SY 1 SSM 2 x Norinco 25-mm (twin mount)

Maximum Speed, Knots

37.5

Maximum Range, Miles

400 at 30 kt

Displacement, Tons

74.2 full load

Dimensions, Feet (Meters)

88.6 x 20.7 x 4.3 (27 x 6.3 x 1.3)

Kaan 15 Fast Intervention Craft



Maximum Speed, Knots

54

Maximum Range, Nautical Miles

300+

Displacement, Tons

4 full load

Dimensions, Feet (Meters)

55.1 x 13.1 x 3.6 (15.4 x 4.04 x 0.90)

Kaan 33 Fast Intervention Craft



Complement

20

Armament

1 x 20mm/70 2 x 12.7mm MG

Maximum Speed, Knots

46+

Maximum Range, Nautical Miles

800 at 33 kt

Displacement , Tons

120 full load

Dimensions, Feet (Meters)

118.8 x 22.5 x 4.6 (35.6 x 6.7 x 1.40)

Larkana Class Large Patrol Craft



Complement	25 (3 officers)
Armament	2 x 37-mm (twin mount); 4 x 25-mm (2 x twin mounts)
Maximum Speed, Knots	23
Maximum Range, Miles	2,000 at 17 kt
Displacement, Tons	180 full load
Dimensions, Feet (Meters)	128 x 22 x 5.4 (39 x 6.7 x 1.7)

Town Class Large Patrol Craft



Complement

19

Armament

2 x Bofors 40-mm; 2 x 12.7-mm MG

Maximum Speed, Knots

24

Displacement, Tons

143 full load

Dimensions, Feet (Meters)

107 x 20 x 6.9 (32.6 x 6.1 x 2.1)

Munsif (Eridan) Mine Hunting Ship



Complement

46 (5 officers)

Armament

1 x GIAT 20F2 20-mm gun; 1 x 12.7-mm MG

Maximum Speed, Knots

15 (7 on auxiliary propulsion)

Maximum Range, Miles

3,000 at 12 kt

Displacement , Tons

595 full load

Dimensions, Feet (Meters)

168.9 x 29.2 x 9.5 (51.5 x 8.9 x 2.9)

Griffon 2000 TDX(M) Landing Craft Air Cushion (LCAC)



Complement	2 + 22 PAX
Armament	None
Maximum Speed, Knots	40
Maximum Range, Miles	800 at 30 kts
Displacement, Tons	4.6 full load
Dimensions, Meters	10.6 x 4.5

Poolster Class Oiler



Complement	200 (17 officers)
Armament	1 GE/GD 6-barrelled Vulcan Phalanx Mk 15
Maximum Speed, Knots	18
Maximum Range, Miles	18,000 at 14 kt
Cargo Capacity, Tons	10,300 including 8-9,000 oil fuel
Displacement , Tons	16,800 full load
Dimensions, Feet (Meters)	552.2 x 66.6 x 26.9 (168.3 x 20.3 x 8.2)

Fuqing Class Oiler



Complement	130
Armament	1 GE 20-mm Phalanx
Maximum Speed, Knots	18
Maximum Range, Miles	18,000 at 14 kt
Cargo Capacity, Tons	10,550 fuel; 1,000 diesel; 200 feed water; 200 drinking water
Displacement , Tons	21,750 full load
Dimensions, Feet (Meters)	561 x 71.5 x 30.8 (171 x 21.8 x 9.4)

Attock Class Oiler



Complement	18
Armament	2 Oerlikon 20 mm
Maximum Speed, Knots	8
Maximum Range, Miles	18,000 at 14 kt
Cargo Capacity, Tons	550 fuel
Displacement, Tons	1,200 full load
Dimensions, Feet (Meters)	177.2 x 32.3 x 15.1 (54 x 9.8 x 4.6)

Behr Paima Survey Ship



Complement

84 (16 officers)

Maximum Speed, Knots

13.7

Maximum Range, Miles

5,400 at 12 kt

Displacement, Tons

1,183

Dimensions, Feet (Meters)

200.1 x 38.7 x 12.1 (61 x 11.8 x 3.7)

Coastal Tug



Complement	6
Maximum Speed, Knots	12
Maximum Range, Miles	5,400 at 12 kt
Displacement, Tons	265 full load
Dimensions, Feet (Meters)	85.3 x 22.3 x 9.5 (26 x 6.8 x 2.9)

Shanghai II Class Fast Attack Craft-Gun



Complement	34
Armament	4 x 37-mm/63 (2 twin); 2 x 25-mm/80 (twin).
Maximum Speed, Knots	30
Maximum Range, Miles	700 at 16.5 kt
Displacement, Tons	131 full load
Dimensions, Feet (Meters)	127.3 x 17.7 x 5.6 (38.8 x 5.4 x 1.7)

Gearing (Fram-Class) Destroyer



Complement	180 (15 officers)
Armament	2 U.S. 5-in (127 mm)/38 Mk 38 (twin); 6 x 324-mm Mk 32 (2 triple) tubes.
Maximum Speed, Knots	32
Maximum Range, Miles	4,500 at 16 kt
Displacement, Tons	2,425 standard; 3,500 full load
Dimensions, Feet (Meters)	390.5 x 41.2 x 19 (119 x 12.6 x 5.8)

Barkat Class OPV



Complement	50 (5 officers)
Armament	1 x 37-mm twin mount; 2 x 23-mm twin mounts
Maximum Speed, Knots	27
Maximum Range, Kilometers	1,500 at 12 kt
Displacement, Tons	435 full load
Dimensions, Feet (Meters)	190.3 x 24.9 x 7.5 (58 x 7.6 x 2.3)

Guns Class Patrol Boat



Complement	6
Armament	1 x 7.62-mm MG
Maximum Speed, Knots	21
Displacement, Tons	15 full load
Dimensions, Feet (Meters)	42.6 x 12.0 x 3.3 (13.0 x 3.65 x 1.0)

Huangfen Class Patrol Boat



Complement	28
Armament	4 x Norinco 25-mm (twin mount); 2 x SSM
Maximum Speed, Knots	28
Maximum Range, Miles	800 at 22 kt
Displacement, Tons	171 standard; 205 full load
Dimensions, Feet (Meters)	126.6 x 24.9 x 8.0 (38.6 x 7.6 x 2.7)

Swallow Class Patrol Boat



Complement

8

Armament

2 x 12.7-mm MGs

Maximum Speed, Knots

25

Maximum Range, Miles

500 at 20 kt

Displacement, Tons

52 full load

Dimensions, Feet (Meters)

65.6 x 15.4 x 4.3 (20.0 x 4.7 x 1.3)

Crestitalia MV 55 Fast Patrol Craft



Complement	5
Armament	2 x 12.7-mm MGs
Maximum Speed, Knots	35
Maximum Range, Miles	425 at 25 kt
Displacement, Tons	23 full load
Dimensions, Feet (Meters)	54.1 x 17.1 x 2.95 (16.5 x 5.2 x 0.9)

APPENDIX B: HOLIDAYS

National Holidays

23 March	Pakistan Day	Commemoration of the All India Muslim League's 1940 resolution demanding a separate, independent Muslim state.
1 May	Labor Day	
14 August	Independence Day	Commemoration of Pakistan's (as India) independence from the United Kingdom in 1947.
6 September	Defense Day	
9 November	Allama Mohammad Iqbal Day	Birthday of a national poet.
25 December	Quaid-e-Azam's Birthday	Birthday of Pakistan's founder, Quaid-e-Azam Mohammed Ali Jinnah.

Religious Holidays

2010 - 17 November 2011 - 5 November 2012 - 25 October 2013 - 14 October 2014 - 3 October	Eid-ul-Azha ("Feast of the Sacrifice")	Commemoration of Hazat Ibrahim's willingness, when asked by Allah, to sacrifice his son.
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2010 - 15 December 2011 - 4 December 2012 - 23 November 2013 - 13 November 2014 - 2 November	Ashura	Mourning ritual on the day of the death of Hazrat Imam al-Hussain, grandson of the prophet Muhammad. Imam al-Hussain was killed in the Battle of Karbala (in modern Iraq). Around this date, Shi'a-Sunni tensions often escalate worldwide, particularly in Pakistan.
2010 - February 26 2011 - February 15 2012 - February 4 2013 - January 24 2014 - January 12	Eid-e-Milad-un-Nabi	Birthday of the prophet Muhammad.
2010 - 10 August 2011 - 31 July 2012 - 19 July 2013 - 8 July 2014 - 27 June	Ramadan	Month-long celebration of the revelation of the Qur'an to Muhammad.
2010 - 10 September 2011 - 31 August 2012 - 19 August 2013 - 8 August 2014 - 27 July	Eid al-Fitr	The end of Ramadan.
2010 - 25 July 2011 - 15 July 2012 - 4 July 2013 - 23 June 2014 - 12 June	Laylat ul-Bara'ah ("Night of Freedom from Fire")	Seen by some as a preparation for Ramadan. (<i>Not widely practiced outside Pakistan.</i>)

One of the last 10 nights of Ramadan	Laylat al-Qadr (“Night of Destiny”)	Commemoration of the day when the Qur'an was revealed to Muhammad. The holiest night in Islam. The exact date varies between Sunni and Shi'a.
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APPENDIX C: **LANGUAGE**

Hindus greet each other by saying *namaste* (“I bow to thee”); they fold their palms together as they say it.

Muslims greet each other by saying *salaam alekum* (“peace be on you”). The reply is either the same words, or *valekum as salaam* (“and also on you”).

To say “goodbye,” Hindus say *namaste* and Muslims say *khuda hafiz* (“may God protect you”). *Shabba khair* is used for “good night.”

Many words used in Hindi/Urdu are familiar to English speakers as many words are derived from English. Urdu speakers may understand some English words.

The pronoun *ap* is preferable for addressing people than other, second-person pronouns.

Legend

- (H) Hindu
- (m) masculine
- (mc) more common
- (U) Urdu
- (f) feminine

English

My name is ...

What is your name?

Where do you come from?

I live in ...

Hindi/Urdu

mera nam ... hai

apka nam kya hai?

ap kahan ke rehne vale hain? (m)

ap kahan ki rehne vali hain? (f)

main ... men rehta hun (m)

English	Hindi/Urdu
main ...	men rehti hun (f)
Australia	ostreliya
Canada	kainada
China	chin
Egypt	mistr (H)
England	inglaint
Greece	yunan or gris
Japan	japan
Russia	rus
USA	amrika
I am a/an ...	main ...hun
American	amrikan
British	angrez
What is your occupation?	ap kya kam karte hain?
I am a/an ...	main ...hun
actor	aiktar
actress	aiktres
builder	bildar
doctor	doktar
journalist	patrakar (H) akhbar nabis
lawyer	vakil
musician	myuzishan
student	parh raha hun (m) parh rahi hun (f)
teacher	tichar
What is your religion?	apka dharm kyd hai? (H) apka mazhab kya hai? (U)
I am ...	main ... hun
Hindu	hindu
Muslim	mussalman
Christian	isai
Jewish	yahudi
Buddhist	baudhh dharm ka (m) baudhh dharm ki (f)

English

How's it going?

Fine/Well.

Can you help me?

I am looking for ...

How old are you?

I'm ... years old.

I don't understand.

Can you speak English?

Do you understand English?

I speak very little Hindi.

Please speak a little slower?

Where do you live?

Is there a place to stay
(nearby)?

A good place.

Anything will do.

Are there rooms available?

Can I sleep here?

What is the rent for a day?

Do you have a cheaper room?

Is a bathroom attached?

Does it have hot water?

Can I see the room?

Do you have any other rooms?

Can you lower the rate?

Hindi/Urdu

kaisa chal raha hai?

thik thak

kya ap meri madad kar sakte hain?

main ... ko dhundh raha hun (m)

main ... ko dhundh rahi hun (f)

apki umr kya hai?

meri umr ... sal hai

meri samajh men nahin aya

kya ap angrezi bol sakte hain? (m)

kya ap angrezi bol sakti hain? (f)

kya ap angrezi samajhte hain? (m)

kya ap angrezi samajhti hain? (f)

main bahut kam hindi janta hun (m)

main bahut kam hindi janti hun (f)

zara ahista bol sakte hain? (m)

zara ahista bol sakti hain? (f)

ap kahan rehte hain? (m)

ap kahan rehti hain? (f)

(as pas koi) rehne ki jaga hai?

koi achchhi si jaga

kuchh bhi chalega

koi kamra khali hai

kya main yahan so sakta hun? (m)

kya main yahan so sakti hun? (f)

ek din ka kya kiraya hai?

is se sasta kamra hai?

sath men bathrum hai?

us men garam pani hai?

kya main kamra dekh sakta hun? (m)

kya main kamra dekh sakti hun? (f)

kya ap ke pas aur koi kamra hai?

kya ap kirdya kam kar sakte hain? (m)

kya ap kirdya kam kar sokti hain? (f)

English

Can you lower it further?
I/we'll stay (two nights).
Where can I wash my clothes?

Can I leave my (bag) here?

I'll return in (two weeks).

Where is the ...?
hotel
mosque
restaurant
shop
temple
Do you have a ... ?
room
bathroom
bed
ordinary room
air-conditioned room
Is there ... ?
a telephone
laundry service
hot water
breakfast
How much is ... ?
it per night
a cheaper room
the bill
the meal
one week's rent
one month's rent
How much?
All these things are mine.

Hindi/Urdu

kuchh aur kam kar sakte hain?
ham (do rat) rahenge
kapre kahan dho sakta hun? (m)
kapre kahan dho sakti hun? (f)
apna (jhola) yahan chhor sakta hun? (m)
apna (jhola) yahan chhor sakti hun? (f)
moin (do hafton) men vapis a jahunga (m)
moin (do hafton) men vapis a jahungi (f)
... kahan hai?
hotal
masjid
khane ki jaga or resturent
dukan
mandir
ap ke pas ... hai?
ek kamra
bathrum; gusalkhana
bistara or bistar
sada kamra
eyar kondishond kamra
... hai?
telifon
kapre dhone wala or dhobi
garam pani
nasta or subah ka nashta
... ke kitne paise lagenge?
ek rat
is se saste kamre
bil
khane (H & U), bhojan (H)
ek hafte
ek mahine
kitna hai?
e sab chizen meri hain

English	Hindi/Urdu
This room is too big.	ye kamra bahut bara hai
This room is too small.	ye kamra bahut chhota hai
Please bring it as soon as you can	zara jaldi Iayen
accommodation	rehne ki jaga
address	pata
arrival	ana (H & U); agaman (H)
bathe	nahana
bedroom	sone ka kamra or bedrum
blanket	kambal
box	baks
bulb	balb
clean	saf
cost (n)	kimat
crowded (with people)	(logon se) bhara hua
dinner	rat ka khana
dirty	ganda
electric	bijli wald
elevator	ift
exit (n)	bahar ka darvaza
fan	pankha
food	khana
lock	tala
mosquito net	mashari
pillow	sirhana or takiya
roof/ceiling	chhat
soiled	maila
sheet	chadar
suitcase	sutkes; baksa?
Where is the ...?	... kahan hai?
station	steshan
bus stop	bas stap
dining car	daining kar
ticket office	tikat aphis
airport	eyarpot

English	Hindi/Urdu		
What ... is this?	ye kaun si ... hai?		
street	sarak		
city	shehar		
When will the ...leave?	... kab jaegi?		
bus	bas		
next bus	agli bas		
Trains are sometimes called <i>gari</i> (which is also the generic term for all vehicles, including animal powered) or <i>rel gari</i> .			
I would like ...	main... pasand karunga (m)		
	main ... pasand karungi (f)		
a sleeper	slipar		
berth	barth		
upper	upar wald		
lower	niche wald		
Two tickets to ke liye do tikat		

Key Words

English	Hindi/Urdu
bicycle	saikal
boat	kishti
bridge	pul
car	gari (or motar gari or kar)
coast	kindra (H & U); sahil (U)
crowd	bhir
daily	rozana
early (quickly)	jaldi
early in the morning	subah savere
hire (v)	kiraye pe lena
petrol	petrol (or tel)
road	arak
taxi	taaksi
ticket	tikat
how far?	kitna dur?
right	dahina or daen

English	Hindi/Urdu
left	baen
north	uttar (H) shumal (U)
south	dakshin (H & U); junub (U)
east	purab (H) mashriq (U)
west	pashchim (H); maghrib (U)

Key Phrases

English	Hindi/Urdu
Excuse me. (literally, ‘forgive me’)	maf kijiye.
How are you?	ap kaise hain?
Thank you.	hukriya.
Thank you very much.	bahut, bahut shukriya.
Very well, thank you.	bahut achchhe shukriya.
You’re welcome. (literally, ‘It doesn’t matter’)	koi bat nahin
Is someone sitting here?	kya yahan koi baitha hua hai?
Someone is sitting here.	yahan koi baitha hua hai
May I/we sit here?	kya ham yahan baith sakte hain?
Can I/we (put) my/our bag here?	kya ham apna baig yahan (rakh) sakte hain?
Can you wait for me?	ap mera intezar kar sakte hain?
How many (kilometers)?	kitne (kilomitar)?
I am looking for ...	main ... ko dhundh raha hun (m) main ... ko dhurdh rahi hun (f)
Where are you going?	ap kahan ja rahe hain?
I want to go to ...	main ... jana chahta hun (m) main ... jana chahti hun (f)
How much will it cost to go to ...	ane ke liye kitna paisa lagega?
Can you wait here?	kya ap yahan intezar kar sakte hain?
Drive slowly please.	zara ahista chalaiye

English

I will get out here.	main yahan utrunga (m) main yahan utrungi (f)
Which bus goes to ...?	.. kaun si bas jati hai?
Does this bus go to ...?	kya ye bas ... jati hai?
What's the fare?	kirdya kitna hai?
Where can one catch the bus to ...?	... jane wali bas kahan milegi?
When will the bus leave?	bas kab chalegi?
How many buses per day are there to ...?	... ko din men kitni basen jati hain?
What time does the bus reach ...?	bas ... kitne baje pahunchegi?
When the bus reaches ... please tell me.	jab bas ... pahunche to mujne bataiyega
Can I/we stop over in ...?	kya ham ... meri theher sakte hain?
Is ... far from here?	kya ... yahan se dur hai?
Is ... nearby?	kya ... nazdik hai?
Stop here.	yahan rukiyega?
Where is the ...?	... kahan hai?
bank	baink
barber	nai
market	bazar
church	girja ghar
mosque	masjid
temple - Hindu	mandir
temple - Sikh	gurudwara
temple -	Jain Jain mandir
How far is the ...?	... kitni dur hai?
factory	faiktari; karkhana
Indian laundry	dhobi ki dukan
western-style laundry	drai klinar
I'm looking for themain ... dhundh raha hun myuziyam or ajayab ghar
museum	park or bag (gardens)
park	sinema
cinema	

Hindi/Urdu

English	Hindi/Urdu
When does it open?	vo kab khulta hai?
When does it close?	vo kab band hota hai?
lawyer	vakil
beggar	bhikhari
capital	rajdhani
fortune-teller	jyotishi
map	naksha
movie	pikchar
school (western-style)	skul
shop	dukan
village	gaon
zoo	chiriya ghar
Where is the post office?	dak khana kahan hai?
What does it cost to send a ...? postcard;	ek ... bhejne ke liye kitne paise lagenge? aerogramme erogram
May I have ...	mujhe ... chahiye
stamps (postal)	dak tikat
envelope	lifafa
insurance	bima
receipt	rasid
This letter is going to the USA.	ye chitthi amrika ke liye hai
How much is it to send this letter to England?	is chitthi ko inglaind bhejne men kitne paise lagenge?
I would like (five) aero- grammes, please.	mujne (panch) erogram chahiye, ji
I want to send this package by airmail.	main is parsal ko eyarmel se bhejna chahta hun (m) main is parsal ko eyarmel se bhejna chahti hun (f)
I (need/want) a receipt.	mujhe rasid (ki zururat hai/chahiye)
I want to insure/register this parcel.	main is parsal ko inshor/rajistar karana chahta hun
What will it cost?	kitne paise lagenge?
I want three 50-paise stamps, please.	mujhe tin pachas paise ke tikat chahiye ji

English	Hindi/Urdu
How much per word?	har lafz (U)/shabd (H) ke liye kitna?
Have you received any mail for ...?	... ke liye koi chitthi ai hai?
Where is the bank?	baink kahan hai?
I want to change...	main ... badalna chahtahun
U.S. dollars	amirkan dolar
British pounds	angrezi paund
What is the exchange rate for ... ?	... ka ikschenj ret kya hai?
German marks	jarmani ke mark
Australian dollars	ostreliya ke dolar
I need to change money.	mujhe paise badalne ki zururat hai
Can I change money here?	kya yahan paise badle ja sakte hain?
I need to cash this cheque.	main is chek ko kaish karana hahta hun
Can I exchange this bill (note) for smaller change?	kya ap is not ke badle chenj de sakte hain?
money	paise
coins	sikke
notes	not
police station	thana
thief	chor
help!	bachao!
I have been robbed.	meri chorhi ho gai hai.
I didn't do anything.	mainne kuchh nahin kiya.
It is not mine.	vo mera nahin hai.
weather	mausam
climate	abohava (literally, water & air)
breeze	hava: sabu (morning breeze)
dusty wind	dhul bhari hava
fog	kohra
mist	dhundh
lightning	bijli
very hot	banut garam
cool weather	thanda mausam

English	Hindi/Urdu
How's the weather?	mausam kaisa hai?
It is cold?	thanda hai?
Is it going to rain?	kya barish hogi?
The weather is nice today.	dj mausam achchha hai.
summer	garmi
winter	sardi
spring	bahar: basant
autumn	patjhar
the monsoons	sawan: barsat
meals	khana (U, mc); bhojan (H)
breakfast	nashta
lunch	dopehar ka khana
dinner	rat ka khana
I am feeling thirsty.	pyas lagi hai
I am hungry.	bhukh lagi hai
I eat rice.	main chaval khata hun (m) main chaval khati hun (f)
I drink tap water.	main nal ka pani pita hun (m) main nal ka pani piti hun (f)
I smoke cigarettes.	main sigaret pita hun (m) main sigaret piti hun (f)
Can I have a little ...?	mujhe thora sa ...? ubla pani
boiled water	aur
more	mujhe ... drjiyega khana
Please give me ...	roti
a meal	main ... nahin kha sakta (m)
bread	main ... nahin kha sakti (f)
I cannot eat ...	mirch wala khana
spicy food	anda
eggs	main ... nahin khata (m)
I don't eat ...	main ... nahin khati (f)
any meat	koi bhi gosht
fish	machhli

English	Hindi/Urdu
I eat only vegetarian food. (A table) for four.	main shakahari (or vaigiterian) hun char logon ke liye (tebal)
What do you have?	kya kya hai?
Have you eaten?	apne kha liya?
I've eaten already.	mainne kha liya
Can we order some food?	(kya ham khana) ordar kar sakte hain
We/I would like some food.	khana chahiye
Do you have drinking water?	pine ka pani hai?
I like hot and spicy food.	mujhe garam, masaledar khana pasand hai
I don't like spices and chilies.	mujhe mirch masala pasand nahin
What do you have that's special?	has kya hai?
What does this have in it?	is men kya kya hai?
A bottle of beer, please. (Enough) for four people.	ham ek botal biar lenge char logon ke liye
I didn't order this.	mainne ye nahin manga tha
fork	kanta
spoon	chammach
knife	chhuri
plate	plet; thali (steel)
straw (drinking)	paip; strau
curry	tarkari kari
dry/without gravy	sukha/bina tari ke
without curry or spices	bina mirch masale ke
boiled	ubla hua
without chillies	bina mirch ke
without spices	bina masale ke
permitted to Muslims	halal
forbidden to Muslims	haram
bread	roti
Western-style bread	dabbal roti

English	Hindi/Urdu
Where is the ...?	... kahan hai?
shop	dukan
market bazaar	markit
barber	nai (H & U); hajjam (U)
chemist	davai ki dukan
book shop	kitab ki dukan
cobbler	mochi
shoeshop	juton ki dukan
cloth/clothes shop	kapron ki dukan
tailor	darzi
teastall	chay ki dukan
How much? (does it cost)	kitna?
still not enough	`ab bhi kam hai
good enough	thik hai
expensive	mehenga or mainga
cheap	sasta
too expensive	bahut mehenga
Can I see that?	kya main vo dekh sакта hun? (m) kya main vo dekh sакти hun? (f)
Please show another kind/ style.	koi aur qism/stail dikhaiye
Do you have (any) more?	ap ke pas (kuchh) aur hain?
The sleeves are too long.	bazu bahut lambe hain
How much for both?	dono ka kitna?
How much all together?	kul mila kar kitna?
good quality (stuff)	barhiya (mal)
colors	rang
white	sufed
green	hara (m); hari (f)
pink	gulabi
black	kala (m); kali (f)
red	lal
grey	saleti
brown	bhura

English

(I) don't want (it).
It costs too much.
How much will ... cost?
this
fruit
this fruit
one
one meter
one (piece)
both
How much will three
(of these) cost (if bought
together)?
Do you have ... ?
newspaper(s)
matches
mosquito repellent
paper
envelope
shoulder bag
soap
map
Where can I buy ...
string
film
I want ...
a book
cigarettes
shoes
socks
shirt
I am looking for ...
cooking
jewelry

Hindi/Urdu

nahin chahiye
bahut zyada hai
... ki kya kimat hai?
is
phal
is phal
kg ek kilo
ek mitar
ek
dono
tin len to kya kimat hogi?
ap ke pas ... hai?
akhbar
machis
machchhar marne wali dava
kagaz
lifafa
jhola
sabun
naksha
... kahan kharid sakte hain?
dhaga
film
mujhe ... chahiye
kitab
sigaret
jute
jurab, moze
kamiz
ham ... dhundh rahe hain
pot patila
gehne, zevar

English	Hindi/Urdu
cotton thread	sut
cotton (adj)	suti
cotton material	suti kapra
silk	resham (n); reshami (adj, silken)
wool	un (n); uni (adj, woollen)
bottle	botal
mirror	shisha
glass (or metal)	tumblergilas
pen kalam	
I don't have much money.	mere pas zyada/bahut paise nahin hain
That's too much.	bahut zyada hai
(I will) give ... rupees.	... rupaye dunga (m) .. rupaye dungi (f) kitne rupaye?
How many rupees?	kimat (or dam) kam kar sakte hain?
Can you bring the price down?	
The price is too much.	kimat bahut zyada hai
(I) won't give more than se zyada nahin dunga (m) ... se zyada nahin dungi (f)
Do you have something cheaper?	is se sasta kuchh hai?
If (I) buy two ... will the price come down?	do ... len to kimat kam hogi
The quality is not good.	mal achchha nahin hai
What's your lowest price?	ap ki sab se kam kimat kya hai?
this one	ye wala
that one	vo wala
which one?	kaun sa?
too big	bahut bara
too small	bahut chhota
too long	bahut lamba
too short	bahut chhota
too tight	bahut tang
too loose/wide	bahut dhila/chaura

English	Hindi/Urdu
not enough	kafi nahin; or kam hai (too little)
Where is the ...?	kahan hai?
doctor	doktar
dentist	danton ka doktar
hospital	haspatal
chemist's shop	davai ki dukan
...'s house .	.. ka ghar
I have a ... cold	zukam
fever	bukhar
dysentery	pechish ho gayi
My ... aches/hurts	... men dard hai
stomach	mere pet
chest	meri chhati
back	meri pith
anemia	khun ki kami
cholera	haiza
constipation	kabz
cough	khansi
cramps	maror; nas charhna
diabetes	daibitis
diarrhea	pechish
dysentery	pechish; julab (mc)
headache	sar dard
impotence	namardgi; khoi hui taqat
influenza	flu, miyadi bukhar
malaria	maleriya
pneumonia	nimonia
rabies	kutte ki bimari; rebiz
sprain	moch
stomachache	pet dard
toothache	dant dard
venereal disease	gupt rog; kam rog (H); jinsi bimarf (U)
medication	davai
pill	goli

English	Hindi/Urdu
sleeping pill	nind ki goli
How much (money) per tablet?	ek goli ki kya kimat?
How many times a day? (four) times a day	din men kitni bar? din men (char) bar
I'm allergic to penicillin. Aspirin, band aid, etc.	mujhe penicilin se elargi hai English or brand name.
I am tired.	main thaka hua hun (m) main thaka hui hun (f)
I need a doctor. I have (vomited) several times.	mujhe doktar chahiye mujhe kai bar (ulti/kai) hui hai
accident	aiksident; takkar (collision)
addict	adi
addiction	lat
address	pata
allergy	elargi
bandage	patti
beware	hoshiyar
bleed	khun behna
blood	khun
bone	haddi
faint	behosh
insane	pagal
itch	khujli
lice	juen
nurse	nars
pain	dard
What time is it?	kya taim hua?
What hour is it?	kitne baje hain?
How long (will it/you take)?	kitni der hai?
Will it/you take time?	der lagegi?
12 noon; 12 in the afternoon	dopehar ke barah baje

English

12 midnight; 12 at night
 5 am; 5 in the morning
 5 pm; 5 in the evening
 4 am; 4 in the morning
 4 pm; 4 in the evening
 morning
 afternoon
 evening
 night
 midnight
 9 o'clock

Hindi/Urdu

rat ke barah baje
 subah ke panch baje
 sham ke panch baje
 subah (or rat)
 dopehar ke char baje (or sham ke char baje)
 subah
 dopehar
 sham
 rat
 adhi rat
 nau baje

Months

English	Hindi/Urdu
January	janvari
February	farvari
March	march
April	aprail
May	mai
June	jun

English	Hindi/Urdu
July	julai
August	agast
September	sitambar
October	aktubar
November	navambar
December	disambar

Days

English	Hindi/Urdu
Monday	somvar (H & U) pir (U)
Tuesday	mangalvar
Wednesday	budhvar
Thursday	brihaspativar (H) jumerat (U)

English	Hindi/Urdu
Friday	shukrvvar (H) juma (U)
Saturday	shanivar
Sunday	ravivar (H) itvar (U)

Present Time

English	Hindi/Urdu	English	Hindi/Urdu
today	aj	in this month	is mahine
this evening	aj sham	all day long	sara din
tonight	aj rat		

Past Time

The words for yesterday/tomorrow and the day before/the day after are the same. Therefore, clarifying phrases have been included.

English	Hindi/Urdu
yesterday	kal
the day that has gone	bita hua kal
day before yesterday	parson (or bita hua parson)
last week	pichhle hafte
two weeks ago	do hafte pehle
three months ago	tin mahine pehle
four years ago	char sal pehle

Future Time

English	Hindi/Urdu
tomorrow	kal
the day still to come	ane wald kal
day after tomorrow	parson (or ane wala parson)
next week	agle hafte
next month	agle mahine
2 more months	do mahine aur
3 months later	tin mahine bad
I will stay here for 2 months.	main yahan do mahine rahunga (m) main yahan do mahine rahungi (f)
What month is this?	ye kaun sa mahina hai?
What is the date today?	aj kya tarikh hai?
How long have you been here?	ap yahan kab se hain?

I'm going to Hyderabad for three weeks.	main tin hafte ke liye haidrabad ja raha hun (m) main tin hafte ke liye haidrabad ja rahi hun (f)
Any time	kabhi bhi
annual	salana
before	pehle
century	sadi (U, mc); shatabadi (H)
date	tarikh
dawn	subah; pratah (H)
day	din
daytime	din ka vakt
early	jaldi

Ordinal Numbers

English	Hindi/Urdu	English	Hindi/Urdu
first	pehla	fifth	panchvan
second	dusra	sixth	chhatha
third	tisra	seventh	satvan
fourth	chautha	eighth	athvan

(eighth onwards: suffix -van to the number concerned)

English	Hindi/Urdu
one-quarter	chautha (fourth); ek chauthai (one fourth)
one-half	adha or paune ek
(the) whole	pura
one-and-a-quarter	sava (or sava ek)
one-and-a-half	derh
one-and-three-quarters	paune do
two-and-a-quarter	sava do (and so on for 3 1/4)
two-and-a-half	dhai; arhai (U)
two-and-three-quarters	paune tin (and so on for 3 3/4)

Urdu Numbers

1	ek	38	aratis	75	pachhattar
2	do	39	untalis	76	chhihattar
3	tin	40	chalis	77	sathattar
4	char	41	iktalis	78	athhattar
5	panch	42	bayalis	79	unasi
6	chha	43	taintalis	80	assi
7	sat	44	chauvalis	81	ikasi
8	ath	45	paintalis	82	bayasi
9	nau	46	chhiyalis	83	terasi
10	das	47	saintalis	84	chaurasi
11	gyarah	48	artalis	85	pachasi
12	barah	49	unanchas	86	chhiyasi
13	terah	50	pachas	87	satasi
14	chaudah	51	ikkyavan	88	athasi
15	pandrah	52	bavan	89	navasi
16	solah	53	trepan	90	navve
17	satrah	54	chauvan	91	ikanave
18	aththarah	55	pachpan	92	banave
19	unnis	56	chhappan	93	teranave
20	bis	57	sattavan	94	chauranave
21	ikkis	58	athavan	95	pachanave
22	bais	59	unsath	96	chhiyanave
23	teis	60	sath	97	sattanave
24	chaubis	61	iksath	98	athanave
25	pachchis	62	basath	99	ninnanave
26	chhabbis	63	tresath	100	ek sau
27	sattaish	64	chaunsath	200	do sau
28	aththais	65	painsath	300	tin sau
29	unnattis	66	chhiyasath	339	tin sau untalis
30	tis	67	sarsath	1000	ek hazar
31	ikkattis	68	arsath	7809	sat hazar ath sau nau
32	battis	69	unhattar	10,000	dashazar
33	tetis; taintis	70	sattar	13,002	terah hazar do
34	chauntis	71	ikhattar	1 million	lakh; ek lakh
35	paintis	72	bahattar	1 billion	karor; ek karor
36	chhattis	73	tehattar	1 trillion	arab
37	saintis	74	chauhatttar		

APPENDIX D: DANGEROUS PLANTS AND ANIMALS

Snakes

Common Indian or Blue Krait

Description:

Adult length usually 1.0 to 1.5 meters; maximum of 1.8 meters. Background color generally black, brownish black, or bluish black, with about 40 thin white crossbars, which may be indistinct or absent anteriorly. Belly white. Head flat. Body cylindrical, tapering toward short, rounded tail. Distinctive markings include spectacle mark on expanded hood, dark spot on either side of underside of hood, and two or more broad black crossbands below hood.



Habitat:

Most common in open country, cultivated areas, and scrub jungles up to 1,700 meters elevation. Avoids very rocky and sandy terrain. Found in termite mounds, rat holes, heaps of rubbish, and roofs of buildings. Frequently enters human dwellings. Needs ample water supply, so may be found in moist and wet areas, such as wells or tanks containing water.

Activity and behavioral patterns:

Strictly nocturnal; not usually seen during day. Moves quickly. Specimens disturbed during day rarely bite, but instead, press head against ground. At night, extremely dangerous and aggressive.

Venom characteristics:

Potent neurotoxin. Most victims bitten while asleep in huts at night. Bites may produce invisible or barely perceptible puncture marks. Few local symptoms; may produce mild pain or numbness with little or no local swelling. Mortality rate high without anti-venin treatment.

Indian Spectacled Cobra

Description:

Adult length usually 1.5 to 2.0 meters; maximum of 2.4 meters. Heavy-bodied snake. Background color usually dark brown or black to yellowish white above and white or yellowish below. Distinctive markings include spectacle mark on expanded hood, dark spot on either side of underside of hood, and two or more broad black crossbands below hood.



Habitat:

Variety of habitats: flat grasslands and jungles, among scattered trees, near rice fields and other cultivated areas, and near settlements. Occurs at sea level and higher elevations.

Activity and behavioral patterns:

Diurnal; most active during evening and early morning. Not generally aggressive. When threatened or cornered, lifts upper body and spreads hood. When biting, holds on and chews savagely. Quick-moving and agile. Lives in holes in embankments, hollows of trees, old termite mounds, ruined buildings, and rock piles. Fond of water. Does not "spit" venom at aggressor.

Venom characteristics:

Potent neurotoxin with some hemotoxic properties. May cause severe local pain and swelling immediately following bite; dark discoloration, necrosis, and blistering may be apparent within 72 hours. Early systemic symptoms include headache, nausea, vomiting, dizziness, and a feeling of lassitude, drowsiness, and intoxication. Neurotoxic symptoms include ptosis, profuse viscid saliva, sagging of the jaw, and inability to open mouth. Death can occur as soon as 15 minutes after envenomation.

Transcapian Cobra

Photo not available.

Other Name(s):

Oxus Cobra

Description:

Adult length about 1.8 meters. Background color uniform yellowish, brownish, grayish, or black; may have traces of wide dark crossbands. Belly pale, with two dark bands on neck. Hood mark not present.

Habitat:

Stony, rocky, shrub-covered foothills. In some areas, found at elevations above 3,000 meters.

Activity and behavioral patterns:

Diurnal; most active during evening and early morning. Not generally aggressive. When threatened or cornered, lifts upper body and spreads hood. When biting, holds on and chews savagely. Quick-moving and agile. Lives in holes in embankments, hollows of trees, old termite mounds, ruined buildings, and rock piles. Fond of water. Does not “spit” venom at aggressor.

Venom characteristics:

Primarily neurotoxic. May cause severe local pain and swelling immediately following bite. Symptoms such as weakness, drowsi-

ness, and paralysis of throat may appear less than 1 hour after bite and rapidly progress to respiratory failure and death.

Himalayan Pit Viper

Photo not available.

Description:

Adult length usually 0.7 to 0.9 meters. Background color darkish brown. Dorsal surface with series of dark longitudinal lines interrupted by paler crossbands. Belly white with black and red flecks. Relatively narrow dark stripe extends posteriorly from eye along sides of neck.

Habitat:

Forest and rocky areas in high mountains at elevations from 1,500 to 5,000 meters.

Activity and behavioral patterns:

Nocturnal. Often seen close to hiding place to which it retreats when disturbed. Takes refuge under fallen timber, crevices in or under rocks, beneath boulders, ledges, stones, and fallen leaves. Sluggish and inoffensive; moves slowly from place to place.

Venom characteristics:

Primarily hemotoxic. Symptoms may include immediate burning pain, blood blisters, and edema. Victims generally recover within a few days.

Central Asian Saw-scaled Viper

Photo not available.

Description:

Adult length usually 0.4 to 0.6 meters, maximum of 0.85 meters. Background color grayish, greenish, or yellowish-brown; belly white, speckled with brown or black. Well defined pale continuous undulating line along flanks. Distinctive cruciform white marking on top of head appears like imprint of bird's foot.

Habitat:

Inhabits open scrubby, dry, sandy, and rocky areas.

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

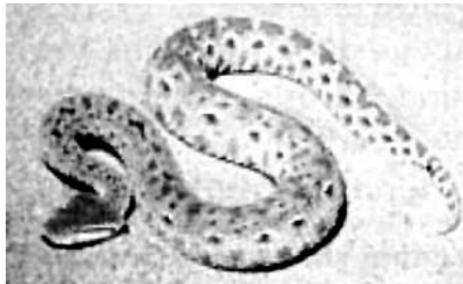
Venom characteristics:

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

McMahon's Viper

Description:

Adult length usually 0.6 to 0.7 meters, maximum of 0.8 meters. Background color reddish brown with lateral rows of dark spots with pale edges. Belly may be uniform or marked with faint irregular spots.



Relatively large broad head with scattered dark flecks and large “butterfly”-shaped scales on snout. Narrow white line runs from above eye to angle of mouth. Base of tail has distinct crossbands; tip unmarked and yellowish.

Habitat:

Rare species. Found almost exclusively on sand dunes at elevations below 1,200 meters.

Activity and behavioral patterns:

Active during twilight and at night. Alert, bad-tempered. Buries itself in sand. Resorts to sidewinding movement when hurried or alarmed. When agitated, hisses loudly, raises head and loop of body well above ground, and strikes with great vigor.

Venom characteristics:

Venom shows strong hemorrhagic activity. Symptoms may include local swelling and inflammation; abdominal pain and distention; and inability to swallow and open the eyes, suggesting possible neurotoxicity. Caused serious envenomation and deaths. No specific antivenin produced.

Sochurek's Saw-scaled Viper

Photo not available.

Description:

Maximum length about 0.8 meters. Background color gray-beige; belly whitish, usually with dark gray spots. Series of pale, dark-edged dorsal spots, which may be connected to form zig zag line. Incomplete undulating pale line along sides. Distinctive gray cruciform pattern on top of head.

Habitat:

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

Activity and behavioral patterns:

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

Venom characteristics:

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

Red-tailed Green Pit Viper

Photo not available.

Description:

Adult length usually 0.5 to 0.6 meters; maximum of 1.1 meters; relatively slender snake. Background color leaf-green; belly uniform pale green with yellow tinge. Prehensile tail usually spotted with brown; looks dry compared to rest of body.

Habitat:

Found in lowlands, low hills, orchards, and plantations.

Activity and behavioral patterns:

Mostly arboreal; frequently comes to ground in search of food.

Venom characteristics:

Potent hemotoxic. Bites uncommon. No fatalities recorded. No specific antivenin produced.

Blunt-nosed Viper

Other Name(s):

Lavantine Viper

Description:

Adult length usually 0.7 to 1.0 meters, maximum of 1.5 meters. Background color generally light gray, khaki, or buff, with double row of opposing or alternating spots from head to tail along back. Belly light gray to yellow, with small dark brown spots; tail pinkish brown.



Habitat:

Wide variety of habitats from marshes and plains at sea level to mountainous areas at elevations up to 2,000 meters. Also semi-desert areas and rocky, hilly country at moderate elevations, with

scattered bushes and adequate water supply. Often near farms and grazing areas.

Activity and behavioral patterns:

Primarily nocturnal. Most active and alert at night, usually very slow-moving and almost oblivious to stimuli when encountered during day. However, temperament unpredictable, and may strike quickly and savagely at any time.

Venom characteristics:

Venom primarily hemotoxic. Envenomation causes sharp pain at site of bite, followed by local swelling and necrosis. Deaths reported.

False-horned Viper

Description:

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



Habitat:

Most often in desert bushes. Sandy, rocky terrain up to elevations of 2,000 meters. Also flat, sandy regions and rocky areas in burrows and crevices; up to 2,000 meters elevation.

Activity and behavioral patterns:

Nocturnal. Sluggish, placid, less likely to bite during day, dangerously active and aggressive at night. When disturbed, hisses loudly

but not particularly vicious. Locomotion characteristically side-winding. Frequently hides in rodent tunnels and underneath rocks.

Venom characteristics:

Venom primarily neurotoxic. May produce few local symptoms such as minor pain, mild tingling of the local area, stiffness; more serious envenomation causes weakness followed by ptosis. Victim will be conscious but cannot respond due to paralysis.

Arthropods

Scorpions

Although scorpions capable of inflicting a painful sting occur, only the following are capable of inflicting a life-threatening sting:

- *Androctonus australis*
- *Mesobuthus tamulus*



Spiders

Although several species of spiders capable of inflicting a painful bite occur, no specific information on life-threatening species is available. However, widow spiders likely occur, based on regional data.

Insects

Paederus spp. are small (usually 4 to 7 millimeters), slender rove beetles that do not look like typical beetles; they have very short wing covers that expose most of their very flexible abdomen. When crushed, their body fluid contains a contact vesicant that will blister skin. The lesions take about a week to heal and the area

remains painful for 2 weeks. The vesicant is extremely irritating if it gets into the eyes; temporary blindness has been reported.

Centipedes

Centipedes capable of inflicting a painful bite exist; however, none of them 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 very noxious fluid that can cause severe blistering upon contact with tender skin; a few are capable of squirting this fluid a distance of at least 2 feet.

Plants

Sneezewort

Other Name(s):

Milfoil, yarrow, sneeze-weed, nosebleed

Mechanism(s) of toxicity/injury:

Phytophotodermatitis (from drinking a tea made from the leaves) and direct contact dermatitis due to the essential oils in all parts of the plant. Can result in vesicles, bullae, and even ulcers in particularly sensitive individuals.



Comments:

As many as 85 northern temperate (52 European) species are included in the genus, yarrow being the best known. Contain alkaloids and are sources of medicinals; widely cultivated as ornamentals. *A. millefolium* an erect perennial herb with rhizomes, white to pinkish flowers. Named for the hero of legend, Achilles, who was supposed to have used the plant to heal the wounds of his soldiers. Will cause an unpleasant flavor in milk if eaten by dairy cattle.

Milkweed

Other Name(s):

Crown flower

Mechanism(s) of toxicity/injury:

Sap with extremely irritating effect on the eyes; also causes an allergic type contact vesicant skin reaction.

Comments:

Poisonings have resulted in death.



Gomboge Tree

Photo not available.

Other Name(s):

Garcinia

Mechanism(s) of toxicity/injury:

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.

Mexican Poppy

Other Name(s):

Prickly pear, argemony.

Mechanism(s) of toxicity/injury:

The entire plant contains alkaloids—sanguinarine, berberine, protopine, and various isoquinolone and dihydrosanguinarine alkaloids (can be transmitted through milk). Has caused “epidemic dropsy” (vomiting, diarrhea, glaucoma, abdominal swelling) in India through the seeds contaminating home-grown grains. Prickles cause irritation of the skin.



Comments:

Found in arid areas.

Coffeeberry

Other Name(s):

Alder buckthorn, common buckthorn, cascara.

Mechanism(s) of toxicity/injury:

The fresh bark of the buckthorn is recognized as a particularly strong laxative. There are reports of deaths in children after ingesting buckthorn berries.



Comments:

Cascara bark is source of American cascara. Of low relative toxicity, requires chronic use to result in chronic diarrhea and/or mel-

nin pigmentation of the mucous membranes of the colon. Freshly prepared cascara products contain anthrones and can lead to severe vomiting and intestinal cramping. The bark should be stored for at least a year before use or detoxified by heating (in air) to reduce the presence of anthrones.

Rattlepod

Other Name(s):

Rattlebox, rattleweed; chillagoe, horse poison.

Mechanism(s) of toxicity/injury:

Contain pyrrolizidine alkaloids (monocrotaline, heliotrine, retrosine); can kill. Low-level ingestions can cause lung damage; high levels will damage the liver. Some species have caused toxicity through the contamination of flour or when incorporated in teas.



Comments:

The fruits are inflated dehiscent legumes (pods) with parchment-like walls; the ripe seeds come loose within the pods and rattle when shaken. The flowers are pea-like. Found in open woods, roadsides, margins, sandy soils and fields.

Gnidia

Photo not available.

Other Name(s):

Yellow heads, woolly-headed.

Mechanism(s) of toxicity/injury:

Shrubs or small trees with extremely irritating resin. The root and flower of many species are strongly purgative—is the source of the

drug radio. Some species have been shown to contain mezereine (irritant resin) and daphnine (an alkaloid).

Comments:

Genus includes 140 species found in tropical and southern African to Arabia, and from Madagascar to western India and Sri Lanka.

Mole Plant

Other Name(s):

Caper spurge, Mexican fire plant, milkweed; red spurge, poison spurge, cat's milk, wartwort, sun spurge; candelabra cactus; Indian spurge tree, milkweed, pencil tree, pencil cactus, rubber euphorbia.



Mechanism(s) of toxicity/injury:

Herbs, often with colored or milky sap, irritate the eyes, mouth, and gastrointestinal tract, and many cause dermatitis by direct irritation. 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 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:

Genus contains 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.

Croton

Other Name(s):

Ciega-vista, purging croton.

Mechanism(s) of toxicity/injury:

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



Comments:

Purging croton is a woolly-haired annual herb, or evergreen bush, or small tree with smooth ash-colored bark, yellowish-green leaves, small flowers, and fruit.

Chigger Flower

Photo not available.

Other Name(s):

Butterfly milkweed, milkweed, scarlet milkweed, blood-flower, redhead, cotton bush.

Mechanism(s) of toxicity/injury:

Several toxic cardiac glycosides. Vomiting, stupor, weakness; dangerous to children if eaten in quantity. Convulsions and coma before death. The sap is irritating.

Comments:

Erect perennial herbs with a milky sap; have been used to treat warts.

Heliotrope

Other Name(s):

Cherry pie, scorpion's tail, Indian heliotrope.

Mechanism(s) of toxicity/ injury:

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).

Cat Gut

Photo not available.

Other Name(s):

Harvey, lozane, yarrow conalli, goat's rue, cat gut.

Mechanism(s) of toxicity/injury:

Causes dermatitis and is systemically toxic. Some species are used as medicinals. (*T. lupinfolia* is used for abortion and suicide in southern Africa).

Comments:

400 seasonal tropical species, cultivated as cover crops and “green manure” in Africa. Fish poison is made from the roots of some species.

Jimsonweed

Other Name(s):

Thorn-apple, stinkweed, Devil's trumpet.

Mechanism(s) of toxicity/injury:

The whole plant is toxic. 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.” Has a quickly fatal potential.



Comments:

Originally called Jamestown weed because of the historic mass poisoning of soldiers sent to quell “Bacon’s rebellion” in 1666; they ate the seeds because of a severe food shortage.

Fetid Nightshade

Other Name(s):

Black henbane, insane root.

Mechanism(s) of toxicity/injury:

Old well-known medicinal and deadly poison (hyoscyamine, atropine) with many uses in many cultures. tropane alkaloids in the seeds (in a pod); has resulted in death; dermatitis (low risk); has killed.



Comments:

Erect, hairy annual with coarse, hairy stems 1-5 feet tall, native to Europe. Found in “weed communities” along roadsides on nutrient-rich sandy soils and loam. Dirty yellow flowers with violet veins. Fruits are a capsule with many black seeds (can be confused with the poppy plant seeds).

Castor Oil Plant

Other Name(s):

Castorbean

Mechanism(s) of toxicity/injury:

Used to make a feed supplement; a lectin (ricin—also classed as a toxalbumin), which is a highly toxic chemical, and some low-molecular weight glycoproteins with allergenic activity have resulted in serious poisoning.



Factors making this a high-risk plant threat are:

- Attractive nuts with a hazelnut-like taste.
- Highly toxic ricin is present in high concentration; 2-6 SEEDS CAN BE FATAL.

- Ricin is stable in the presence of gastric enzymes.
- The seeds are used to make necklaces, requiring the boring of a hole through the seed, resulting in a break in 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—nausea, vomiting, diarrhea.

Comments:

The seeds of this ancient plant have been found in Egyptian graves dating as far back as 4000 BC. Cultivated worldwide for 6,000 years for producing castor oil.

Candle Plant

Photo not available.

Other Name(s):

Fireweeds, candle plant, dusty-miller, fleawort, ragwort, groundsel.

Mechanism(s) of toxicity/injury:

Many alkaloids known to be toxic to stock. Seneciosis is a name given to a disease (caused by pyrrolizidine alkaloids) marked by liver degeneration and necrosis. The whole plant is poisonous; deaths have been reported. Most poisonings due to use in herbal teas. Causes Budd-Chiari syndrome. See *Heliotropium* spp. and *Crotalaria* spp. These toxins can also produce pulmonary disease. Milk from animals that have grazed on these plants and honey made by bees that collected the nectar contain the alkaloids.

Comments:

One of the largest genera (number of species) of seed plants. Found mainly in temperate areas and tropical mountains worldwide.

Barbados Nut

Other Name(s):

physic nut, purging nut, pinon, temparate

Mechanism(s) of toxicity/injury:

Fruit has two or three black, oily, pleasant tasting, poisonous seeds (also toxic roots and leaves) containing a plant lectin which, in contrast to many of the toxic lectins, causes toxicity rapidly (has caused death - severe toxicity can follow ingestion of a single seed); also has intensely cathartic oils (some have used the oil for lamps, etc.); has caused fatal intoxication. Bark has been used as a fish poison. Also a skin irritant (hairs), as are all euphorbs.



Comments:

170 species of warm and tropical northern American trees or shrubs, usually with red flowers. Naturalized worldwide. Fruit is a three-sided capsule in many species.

Digitalis

Photo not available.

Other Name(s):

Digitalis purpurea, foxglove, fairy bells, lady's thimbles, lion's mouth, digitalis.

Mechanism(s) of toxicity/injury:

The entire plant contains irritant saponins and numerous digitalis glycosides.

Comments:

A tall-growing evergreen with hairy leaves and trumpet-shaped flowers. Sucking the base of the flowers for the sweet taste or

drinking water from vase in which they were placed has caused many poisonings. Fatalities have also occurred from mistaking the plant for other herbs for tea.

English Yew

Other Name(s):

Ground hemlock, American yew, Japanese yew.

Mechanism(s) of toxicity/injury:

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



Comments:

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

Stinging Nettle

Other Name(s):

Roman Nettle, Dog, Small, or Stinging Nettle.

Mechanism(s) of toxicity/injury:

Brushing against the plant shears off a protective cap from specialized silicaceous stinging hairs, allowing skin puncture. After puncture, an irritant liquid is released that can contain several pro-inflammatory mediators including alkaloids, histamine, acetylcholine, and 5 hydroxytryptamine. These



stinging nettle substances cause the immediate reaction after a nettle sting. The term "urticaria," describing the characteristic skin eruption, is derived from the genus name. Thought to be a defense against browsing animals; usually does not involve a hypersensitivity reaction. Stinging can persist at the site for more than 12 hours after clinical features of urticaria have disappeared. This persistence of symptoms is due to secondary release of inflammatory mediators, or persistence of implanted hairs.

Comments:

Genus of 30 species, usually perennial, single-stalked herbs less than 0.3 meter (1 foot) in height, found mainly in northern temperate areas. The tender tips are used as a leafy vegetable in some locales; simmering in water renders the stingers ineffective.

Opium Poppy

Mechanism(s) of toxicity/injury:

Fruit is toxic. A crude milky resin exudes when unripe seed capsules are cut. Eating the unripe fruit has killed. IS THE SOURCE OF OPIUM (lethal dose estimated at 0.2 grams).



Comments:

Large annual herbs, rarely shrubs, with milky or watery sap. Fruit is a capsule or a nut. 45 genera, 700 species, mostly distributed in the northern subtropic and temperate areas.

Belladonna

Other Name(s):

Nightshade

Mechanism(s) of toxicity/injury:

Berries, leaves, and roots contain tropane alkaloids that can cause death from anticholinergic poisoning.



Comments:

Perennial plants to 3 feet high. Native to Eurasia and north Africa.

Lily-of-the-Valley

Photo not available.

Mechanism(s) of toxicity/injury:

Contain more than 20 cardiac glycosides (e.g., convallatoxin). Quickly fatal potential. Has caused death; children are attracted to the pretty flowers and bright berries, have been poisoned from drinking water from a vase in which flowers were kept. Has been mistaken for wild garlic and made into soup. Used as an arrow poison in Africa.

Comments:

Dried roots used in many medicinals, particularly in Russia.

Notes

Notes