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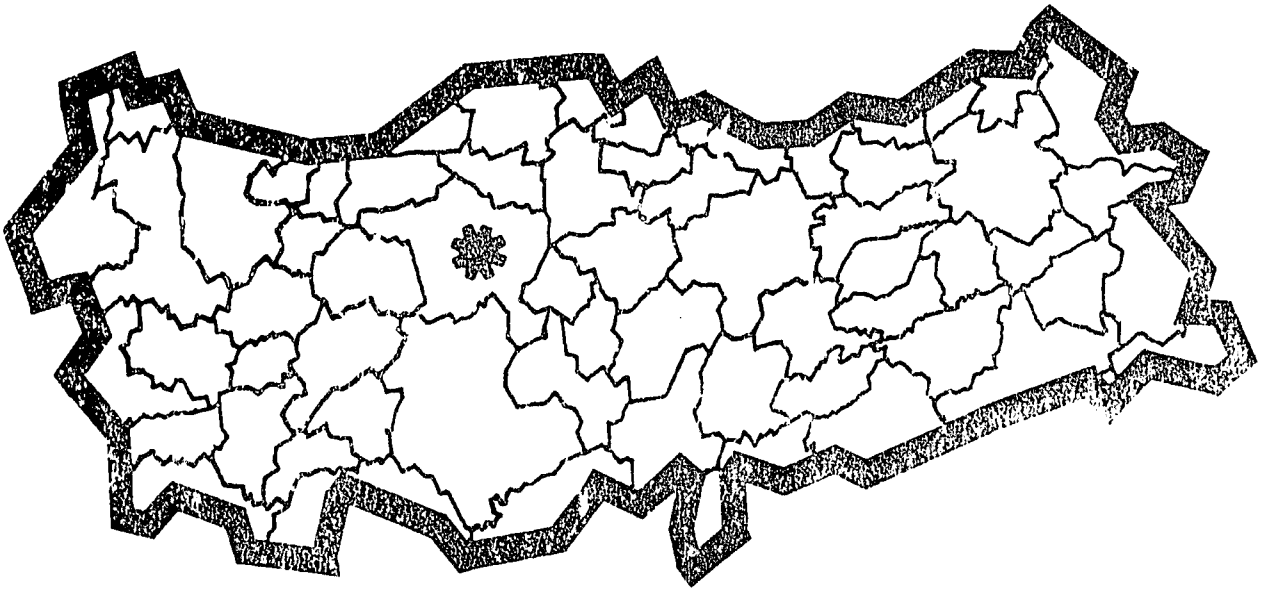
Turkey
A Country Profile



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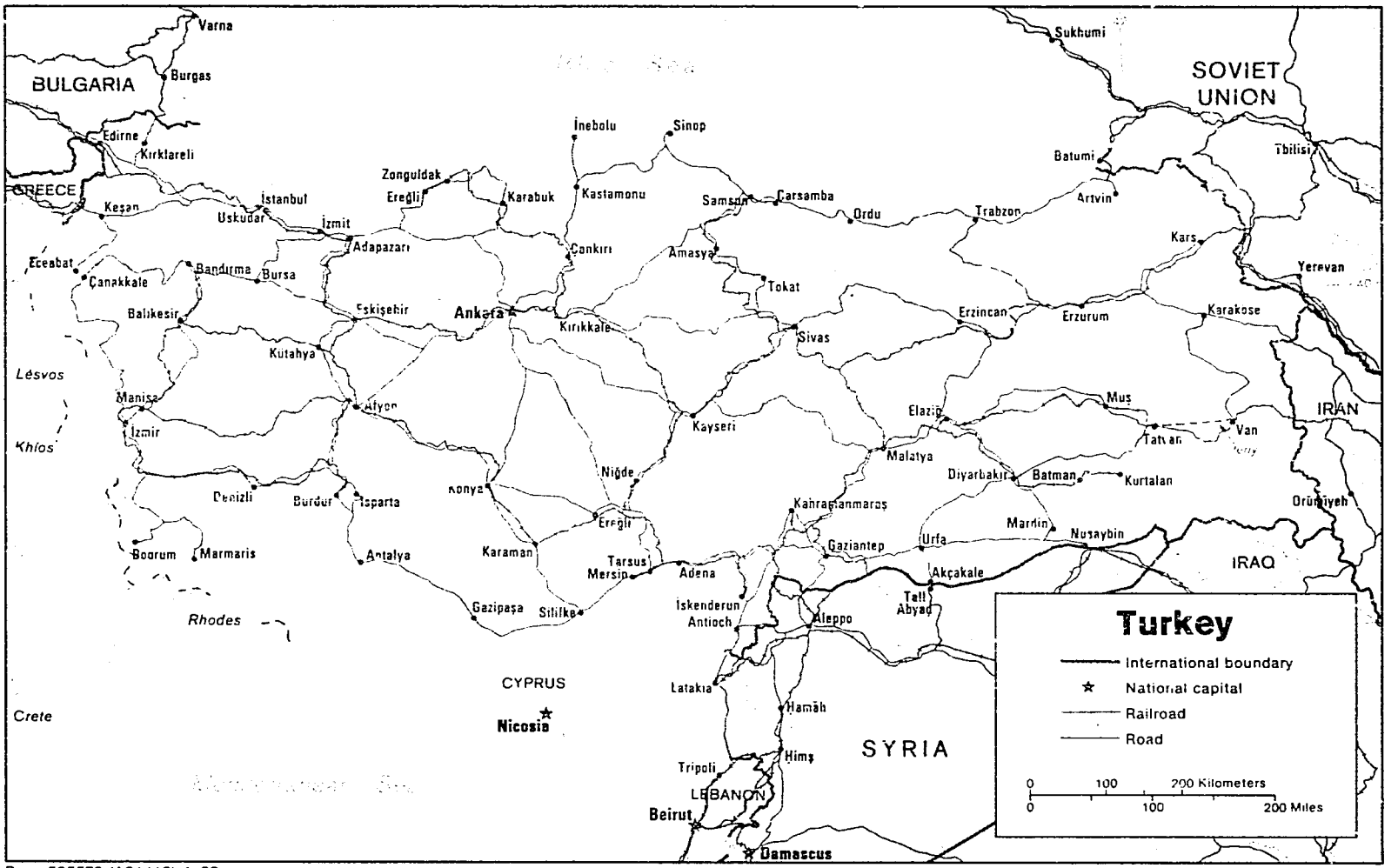
Agency for International Development
Washington, D.C. 20523



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TURKEY: COUNTRY PROFILE

prepared for

The Office of U.S. Foreign Disaster Assistance
Agency for International Development
Department of State
Washington, D.C. 20523

by

Evaluation Technologies, Inc.
Arlington, Virginia
under contract AID/SOD/PDC-C-2112

The profile on Turkey is part of a series designed to provide baseline country data in support of the planning and relief operations of the Office of U.S. Foreign Disaster Assistance (OFDA). The content, scope, and sources have evolved over the course of the last several years, and no doubt will continue to do so. The relatively narrow focus is intentional. To avoid redundancy, some topics one might expect to find in a "country profile" are not covered here.

If the information provided can also be useful to others in the disaster assistance and development communities, so much the better. Every effort is made to obtain current, reliable data; unfortunately it is not possible to issue updates as fast as changes would warrant. A cautionary note, therefore, to the reader: statistics are indicators at best, and if names and numbers matter, the bibliography will point to a current source.

We invite your comments and corrections. Address these and other queries to OFDA, A.I.D., as given above.

December 1982

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1. General Information

1.1 Geographic Codes

AID Standard	277
State Region	EUR
FIPS	TU

1.2 Country Names

Official	Republic of Turkey
Local	Turkiye Cumhuriyeti
Short	Turkey

1.3 Calendar and Holidays

New Year's Day.....January 1
National Sovereignty and
Children's Day.....April 23
Spring Day.....May 1
Youth and Sports Day.....May 18-19
Freedom and Constitution Day.....May 26-27
Ramadan.....*
Victory Day.....August 30
Feast of the Sacrifice.....*
Republic Day.....October 29

* Dates vary, based on Muslim lunar calendar
Fiscal Year: 1 March - 28 February

1.4 Currency (November 1982)

175 Turkish Lira = US $1.00
100 Kurus = 1 Turkish Lira

Note - Devaluations and varying rates of inflation have caused the exchange rate to fluctuate widely.

1.5 Time Zones

EST + 7; GMT + 2

1.6 US Mission and Staff (September 1982)

Embassy of the United States
110 Ataturk Blvd, Ankara
APO New York 09254
Tel: 26 54 70

Ambassador.....Robert Strausz-Hupe
Deputy Chief of Mission.....Richard W. Boehm
Economic Section.....Alfred J. White
Commercial Section.....Arma Jane Karaer
Political Section.....Jay P. Freres
Military Security Advisor.....Lucian Heichler
Labor Officer.....William J. Meagher
Consul, Consular Section.....Annette L. Veler
Administrative Section.....Nicholas S. Baskey, Jr.
Regional Security Officer.....Mark Sanna
Agricultural Section.....Alfred Persi (resident in Tel Aviv)
Political Affairs Officer.....Marshall K. Berg
Office of the Defense Attache.....Col. Harry G. Rudolph USAF
Military Assistance Advisory Group.....Mg. Eler D. Engleton Jr USA

Consul General - Istanbul
104-108 Mesrutlyet Caddesi Tepebasl
APO New York 09380
Tel: 436200/09

Consul General.....Daniel O. Newberry
Economic Section.....Louis E. Kahn
Commercial Section.....Glenn L. McCurdy, Jr.
Political Section.....Roger L. Hart
Consul, Consular Section.....Rex L. Himes
Administrative Section.....Thomas R. Flesher
Regional Security Officer.....David B. Marshall
Branch Public Affairs Officer (USICA).....David D. Grimland

Consul General - Izmir
386 Ataturk Caddesi
APO New York 09224
Tel: 217104/5

Consul General.....Beauveau B. Nalle
Administrative Section.....Sharon E. Ludan
Branch Public Affairs Officer.....John Hols

Consul - Adana
Ataturk Caddesi
APO New York 09289
Tel: 14702/3, 14818

Principal Officer.....Emil Castro
Political/Economic Section.....Glenn A. Knight
Administrative Section Consul, Consular
Section.....Robert E. Williams

1.7 Sister Cities

Ersin Santa Fe Springs, CA

1.8 Host Mission and Staff in US (August 1982)

Embassy of the Republic of Turkey
1606 23rd Street, N.W.
Washington, D.C. 20008
Tel: 667-6400, 6401

Ambassador.....Sukru Elekdag, Dr.
Minister-Counselor.....Ekrem Guvendiren
Counselor.....Yalim Eralp
Counselor.....Numan Hazar
Second Secretary.....Ugur Dogan

1.9 Treaties and Agreements

Agricultural Commodities
Atomic Energy
Aviation
Defense
Economic and Technical Cooperation
Investment Guaranties
Peace Corps
Surplus Property

1.10 International Organization Membership

ASSIMER, Council of Europe, EC, ECOSOC, FAO, GATT, IAEA, IBRD, ICAC, ICAO, IDA, IEA, IFC, IHO, ILO, IMCO, IMF, IOOC, IPU, ITC, ITU, NATO, OECD,

Regional Cooperation for Development, UN, UNESCO, UPU, WHO, WIPO, WMO, WSG, WTO.

1.11 Travel and Visa Information

Visa not required for stays of up to 3 months. Visa for stay over 3 months is required, 1 entry $3.30; multiple entries $9.90. Check Embassy/Consulate for specific requirements.

1.12 Ethnic and Sociocultural Groups

Approximately 85% of the population is Turkish. Kurds, Arabs, various Caucasian peoples, Donme (a Jewish sect which converted to Islam), Greeks, Armenians, and Jews constitute smaller minorities.

The most important Turkish groups are Anatolian peasants of Central Asiatic Turkey, Rumelian Turks who immigrated from former Balkan territories, and Turkic tribesmen including Crimean Tartars and Turkomans who live in small scattered communities in Central Asia. The 2-3 million Kurds live mostly in the east and southeast along the borders of Iran and Iraq. The Kurds are the largest ethnic minority and the only group that could possibly pose a threat to national unity.

The approximately half million Arabs live primarily along the Syrian border, especially in Hatag Province; tribal organization is strong. The Caucasian peoples include 70,000 Circassian farmers near Adana, 55,000 Georgians, and 30,000 Laz who are concentrated in the northeast provinces; all are Muslim. The majority of the Donme, Greeks (25,000), Armenians, and Jews (20,000) live in Istanbul where they are engaged in business.

1.13 Languages

Turkish is the official language and is spoken by most of the population as a second if not first language. Others include Kurdish, Arabic, Greek, Armenian, Caucasion languages, and Ladino and Yiddish spoken by the Jewish minority.

1.14 Religions

About 98% of the population is Muslim. Sunni Muslims are the dominant sect, their institutions are administered by, and they receive support from the government. There are between 3-5 million Alevis, a sect of Shiite Islam, who live primarily in the mountains of East Anatolia. Members of

the Christian and Jewish faiths have full legal rights but no government support. Sufism (mystical Islam) and veneration of saints are practiced in more isolated villages and Dervish orders are found in Kurdish areas.

1.15 Education and Literacy

Primary education is free and compulsory; secondary education is free but not compulsory. In 1979 literacy was estimated at 61% of all persons over 5 years of age.

1.16 National Government

On September 12, 1980, a bloodless coup led by General Kenan Evren toppled the government of Suleyman Demirel. Demirel's government had been unable to contain the political violence that had reached almost civil war proportions. A five-man National Security Council headed by Gen. Evren was established and martial law was declared throughout the country. Leaders of the various warring political factions and many suspected terrorists were arrested and tried by military courts. A new, primarily civilian, Council of Ministers was formed; however, new legislation gave extensive powers to the military commanders. A constitutional order of October 1980 states that the Constitution of 1961 is to remain in force until a new constitution is approved, but that the duties formerly carried by the Grand National Assembly will be temporarily assumed by the National Security Council.

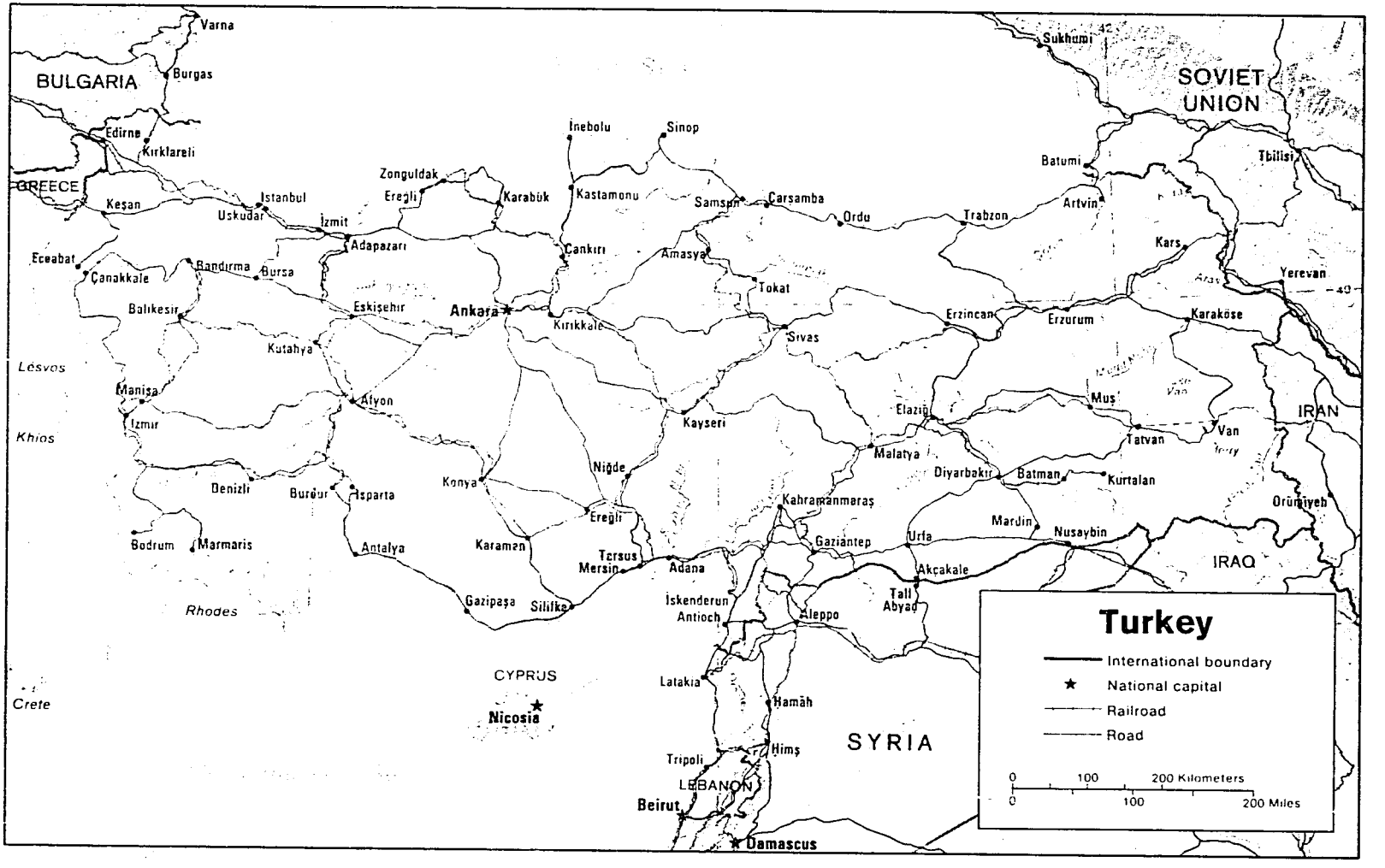
1.17 Regional Administration

Governors head each of the 67 provinces which are further divided into districts and subdistricts. Villages are the smallest political unit, however, they are not part of the formal civil bureaucracy.

1.18 Major Government Figures (October 1982)

Chairman, Natl. Security Council;
Head of State.....Evren, Kenan, Gen.
Mbr. Natl. Security Council.....Celasun, Sedat, Gen.
Mbr. Natl. Security Council.....Ersin, Nurettin, Gen.
Mbr. Natl. Security Council.....Sahinkaya, Tashin, Gen.
Mbr. Natl. Security Council.....Tumer, Nejat, Gen.
Prime Minister.....Ulusu, Bulend, Adm.
Dep. Prime Minister..... .....Baykara, Zeyyat
Min. of Agriculture & Forests.....Ozbek, Sabahattin

Min. of Commerce.....Canturk, Kemal
Min. of Communications & Transportation.....Aysan, Mustafa
Min. of Culture & Tourism.....Evliyaoglu, Ilhan
Min. of Customs and Monopolies.....Bozer, Ali
Min. of Energy & National Resources.....Ilkel, Fahir
Min. of Finance.....Kafacglu, Adnan Baser
Min. of Foreign Affairs.....Turkmen, Ilter
Min. of Health & Social Assistance.....Kilicturgay, Kaya
Min. of Housing & Resettlement.....Samsunlu, Ahmet
Min. of Industry & Technology.....Turgut, Mehmet
Min. of Interior.....Cetiner, Selahattin
Min. of Justice.....Mentes, Cevdet
Min. of Labor.....Esener, Turhan
Min. of Natl. Defense.....Bayulken, Haluk
Min. of Natl. Education.....Saglam, Hasan
Min. of Public Works.....Onalp, Tahsin
Min. of Social Security.....Side, Sadik
Min. of Sports & Youth.....Ozgul, Vecdi
Min. of State.....Baykara, Zeyyat
Min. of State.....Oztrak, Ilhan
Min. of State.....Ozgunes Mehmet
Min. of State.....Ozdas, Mehmet Nimet
Min. of State.....Pasin, Sermet Refik
Min. of Village Affairs & Cooperatives.....Guney, Munir


Turkey
International boundary
National capital
Railroad
Road
0 100 200 Kilometers
0 100 200 Miles
BULGARIA
GREECE
SOVIET UNION
IRAN
IRAQ
SYRIA
LEBANON
CYPRUS
Varna
Burgas
Edirne
Kırklareli
Keşan
Istanbul
Uskudar
İzmit
Zonguldak
Ereğli
Karabük
İnebolu
Sinop
Kastamonu
Samsun
Çarsamba
Ordu
Trabzon
Batumi
Sukhumi
Tbilisi
Artvin
Kars
Yerevan
Karaköse
Erzurum
Erzincan
Sivas
Tokat
Amasya
Çankırı
Kırıkkale
Ankara
Eskişehir
Adapazarı
Bandırma
Bursa
Ecveabat
Çanakkale
Balıkesir
Kütahya
Lesvos
Manisa
Izmir
Khios
Afyon
Denizli
Burdur
Isparta
Konya
Niğde
Kayseri
Elazığ
Muş
Van
Tatvan
Malatya
Diyarbakır
Batman
Kurtalan
Orümiyeh
Kahramanmaraş
Ereğli
Mardin
Nusaybin
Urfa
Gaziantep
Akçakale
Tall Abyad
Bodrum
Marmaris
Antalya
Karaman
Tarsus
Mersin
Adana
Gazipaşa
Silifke
İskenderun
Antioch
Aleppo
Rhodes
Crete
Nicosia
Latakia
Hamäh
Himş
Tripoli
Beirut
Damascus

2. Environment

2.1 Regional Geography

The area of Turkey is 779,452 square kilometers. About 3% of the area, with over 8% of the population lies in Europe. This region, also known as Thrace, is separated from the Asian portion of Turkey by the Bosporus Strait, the Sea of Marmara and the Dardanelles Strait. The Asian part of the country, known also as Asia Minor, Asiatic Turkey, the Anatolian Plateau, and Anatolia, is a large, semiarid plateau. The plateau is rimmed by mountains that isolate much of the interior from the fertile and densely populated coastal areas.

Except for a small area along the Syrian border, Turkey is part of the Alpine-Himalayan mountain belt which was formed by strong volcanic and seismic activity. Seismic faulting is still in progress and, as a result, Turkey is one of the most active earthquake regions in the world (see Disaster Vulnerability and Preparedness, Section 3). Over 80% of the terrain is mountainous (median altitude is 1,128 m) and of little agricultural value (see Agriculture, Section 7). The many mountain ranges provide natural barriers which divide the country into five distinct geographic regions.

Aegean Coastlands - This area comprises European Turkey and the west coast of Asian Turkey. The European sections consist mainly of gently sloping plateau country well suited to agriculture, while the Asiatic lowlands contain almost half the country's agricultural wealth in broad, fertile valleys. Both areas are densely populated.

Black Sea Region - A narrow coastal band running from Zonguldak to Rize contains the only land suitable for cultivation. Otherwise, a steep, rocky coast predominates, limiting access to the interior.

Mediterranean Coastlands - The Mediterranean coastal plains provide fertile soil for agriculture; however, summers are hot and droughts are not uncommon. Away from the coast the land rises sharply into the Taurus mountains.

Central Plateau - Considered the heartland of Turkey, this arid highland varies in altitude from 600 to 1,200 meters. Wooded areas are found only in the northeast and northwest and cultivation is limited to neighboring river valleys. Most of the region is barren and monotonous. Livestock grazing is the primary economic activity; however overgrazing has caused soil erosion and, in the summer, dust storms are frequent.

Eastern Highlands - This region is characterized by rugged highlands and a severe climate (sometimes called Turkey's Siberia). Many of the mountain peaks are extinct volcanoes ranging from 3,000 to 5,000 meters

in height. Mount Ararat, the highest mountain at 5,166 m., is located at the point where the borders of Turkey, the Soviet Union, and Iran meet (see Mountains, Section 2.3).

2.2 Climate

Aegean - Along the Aegean coastline the summers are hot and dry (August temperatures often exceed 35° C) and the winters mild and wet. Rainfall averages 50 to 75 cm. per annum.

Black Sea - The climate is mild and damp. August is the hottest month with a mean of 21° C. This is the only region with a precipitation surplus throughout the year; average annual rainfall is 250 cm.

Mediterranean - The Mediterranean coast has a generally temperate climate with average precipitation similiar to that found along the Aegean coast. Occasional droughts occur during the hot, dry summers.

Central Plateau - The interior is characterized by a wide range of temperatures. Winters are cold with frost occurring more than 100 days of the year. Daytime summer temperatures are hot (July mean is 20-21° C), nights are generally cool. Average annual precipitation ranges from 25-43 cm. depending on altitude. May is the wettest month, July and August the driest.

Eastern Highlands - Eastern Turkey is a climate of extremes, summers are hot and very dry; winters bitterly cold (-39.6° C was recorded at Kars). The transitional seasons are subject to sudden hot and cold spells.

Average Temperature at Selected weather Stations
(Degrees Centigrade)

Station	Altitude meters	Annual	Jan.	Apr.	July	Oct.
Adana	20	18.7	9.3	17.0	27.6	20.8
Ankara	894	11.8	0.3	11.2	23.1	12.9
Antalya	42	18.7	10.1	16.4	28.2	20.3
Edirne	48	13.5	1.9	12.6	24.6	14.3
Erzurom	869	6.0	8.3	5.1	19.1	8.6
Istanbul	39	14.0	5.4	11.4	23.2	15.6
Izmir	25	17.6	8.6	15.5	27.6	18.4

Station	Altitude meters	Annual	Jan.	Apr.	July	Oct.
Malatya	998	13.7	0.9	13.1	27.3	15.6
Samsun	44	14.4	6.9	11.0	23.2	16.2
Van	1.725	8.8	3.6	7.0	22.0	10.3

Source: Government of Turkey, Statistical Yearbook of Turkey, 1981.

Average Precipitation at Selected Weather Stations (mm)

Station	Annual	Jan.	Apr.	July	Oct
Adana	646.8	111.2	46.7	4.3	39.4
Ankara	367.0	38.1	35.7	13.2	21.7
Antalya	1,068.2	263.7	43.9	1.8	57.7
Edirne	599.3	65.1	47.8	32.3	55.3
Erzurum	460.5	25.7	53.5	29.7	46.7
Istanbul	673.4	90.1	42.3	21.7	63.4
Izmir	700.2	143.2	42.5	1.0	33.2
Malatya	382.6	47.5	50.9	1.8	33.4
Samsun	735.0	81.4	55.9	35.2	72.5
Van	384.0	41.9	57.5	5.5	44.2

Source: Government of Turkey, Statistical Yearbook of Turkey, 1981.

2.3 Mountains

Turkey is a mountainous country except for short stretches of coastal plain and the Anatolian Plateau which extends over much of central Turkey. The plateau slopes generally upward from an elevation of 600 m. in the west to over 2,000 m. in the eastern highlands. The major mountain ranges are the Pontic Mountains which form the northern rim of the plateau and the Taurus Mountains in the south. These ranges run east-west and join together in the east where they attain heights of over 5,000 m. Mount Ararat, the highest peak, is where Noah's Ark is said to have come to rest.

2.4 Waterways

The rivers of Turkey have irregular and shallow beds and seasonal changes in depth, making them unsuitable for navigation. The longest river is the Kizil Irmak, which runs 96 km east of Sivas and reaches the Black Sea at Bafra.

3. Disaster Vulnerability and Preparedness

3.1 Disaster Types

Located on the Alpine Belt of seismicity, one of the world's great seismic belts, Turkey is one of the most earthquake-prone areas in the world. The Alpine Belt runs from Sumatra through the Himalayas, the Caucasus Mountains, and the northern Mediterranean region, and on into the mid-Atlantic Ocean. Although every locality in Turkey is subject to seismic activity, four regions are particularly vulnerable. Over 50% of destructive earthquakes have occurred along the North Anatolian Fault. This fault runs east-west along the northern part of the country and is the source of generally shallow focus earthquakes. The second seismic area is the Dead Sea fault zone which extends from Syria in a northeast direction to join the Anatolian Fault near Bingol. The third area is in the western portion of the country where a series of depressions running east-west cause mid-focus quakes. The fourth earthquake zone is located near Mugla in the southwest and runs into the Mediterranean in a southwesterly direc- tion. Thus over 90% of the country, containing 95% of the total popula- tion is located in earthquake zones. In addition, approximately 98% of industrial enterprises and 90% of the country's dams are located in seismically active areas.

Turkey is also subject to drought, particularly along the Mediterranean coast and in the Central Plateau regions, floods, landslides, rock erosion and avalanches, and severe snow storms in the eastern highlands.

3.2 Disaster History

Devastating earthquakes in Turkey date back to the beginning of recorded history. Since 1900, over 700 earthquakes with a magnitude greater than 4.0 on the Richter Scale have struck Turkey, occurring most frequently between March and May.

Summary Disaster History

Disaster	Location	Date	No. Killed	No. Affected
Earthquake	W. Turkey	67/07/22	86	225,213
Earthquake	E. Turkey	67/07/26	97	13,500
Earthquake	W. Turkey	67/07/30	1	
Polio Epidemic	Countrywide Ex East	68/04/00	98	1,975
Air Accident	SW Coast	68/10/12	66	
Earthquake	W, Alasehir	69/03/28	53	
Earthquake	Kutahya	70/03/28	1,086	

Disaster	Location	Date	No. Killed	No. Affected
Earthquake	Binjol, Erzincan to N	71/05/22	878	60,000
Snowstorm	Istanbul	72/02/04	30	
Flood	Silopi	74/11/19	33	
Earthquake	Lice	75/09/06	2,500	50,000
Earthquake	Denizli	76/08/19	3	
Earthquake	USSR Border	76/03/25	1	
Malaria Epidemic	Nationwide	77/08/00		100,000
Earthquake	NE Provinces	76/11/24	3,921	150,000
Earthquake	Elazig Province	77/03/25	30	
Malaria Epidemic	Nationwide	78/00/00		
Fire	Ankara	78/05/12	32	
Train Crash	Ankara	79/01/04	56	
Train Crash	Ankara	79/01/09	30	
Oil Spill	Bosporus	79/11/00	50	
Flood	C, S Anatolia	80/03/00	75	50
Explosion	Near Ankara	80/11/24	97	60,000

Source: OFDA Disaster History on file in Washington, D.C. Covers 1900 to the present.

Monthly Occurrences of Earthquakes in Turkey
(1900 Through 1974)*

	Richter Magnitude					Total And Percentage By Month
	4	5	6	7	8	
January	21	10	3	0	0	34 (4.8%)
February	31	9	1	1	0	42 (5.9%)
March	65	16	2	2	0	85(11.9%)
April	67	18	5	1	0	91(12.7%)
May	82	13	10	2	0	107(15.0%)
June	43	7	4	0	1	55 (7.7%)
July	43	20	5	0	0	68 (9.5%)
August	45	14	5	1	0	65 (9.1%)
September	41	14	5	0	0	60 (8.4%)
October	33	8	3	0	0	44 (6.2%)
November	24	6	1	1	0	32 (4.5%)
December	26	3	1	2	0	32 (4.5%)
Total	521	138	45	10	1	715 (100%)

*Calculated from data provided by National Geophysical and Solar Terrestrial Data Center. Earthquake parameters: 36.0-42.2N and 26.0-44.8E. As cited in The Lice Earthquake in Southeastern Turkey: A Geography of the Disaster, by William A. Mitchell.

3.3 Host Country Disaster Plan

Responsiblity for disaster affairs is shared by the various government ministries. Each ministry should have a central unit which coordinates disaster preparedness and relief activities within its own sector. In addition, the Disaster Act of 1959 established a General Directorate of Natural Disasters under the Ministry of Housing and Reconstruction. Under this law the Directorate has the authority to establish emergency operations centers at any government level, coordinate overall activities and, if necessary, shift qualified personnel from other ministries in the case of a major emergency.

The General Directorate is divided into the following main departments:

Department of Communications - responsible for the establishment and operation of emergency communications, in coordination with the Ministry of Communications and Transportation.

Department of Identification and Planning - responsible for post-disaster assessment and mapping, planning, and implementation of rehabilitation projects.

Department of Machines and Equipment - responsible for equipment operation, repair, and logistics in cooperation with the Department of Warehouses.

Department of Warehouses - responsible for food and other logistical affairs.

There are also departments of Administrative Affairs, Funds and Finance, and Personnel. In the case of a severe disaster, an additional central disaster Coordination Council might be established to coordinate the activities of the General Directorate of Natural Disasters, other government ministries (Interior, National Defense, Finance, Public Health, Education, Labor and Rural Affairs, Foreign Affairs) and the Red Crescent Society.

At the provincial level, the Governor is responsible for establishing and regulating a permanent Provincial Salvation and Aid Committee. This committee is responsible for all provincial disaster activities and is composed of the following members: the Governor, Major, Gendarmerie Commander, Civil Defense Secretary, Chief of Police, chief medical officer, Director of Public Works, chairman of the regional Red Crescent Society, regional construction director, Commander of the Garrison, Director of Agriculture and Forestry, and the Director of Veterinary Medicine. Disaster relief activities coordinated by the Salvation and Aid Committee include search and rescue, communications and transportation, health and sanitation, provision of food, water, clothing, and shelter, restoration of utilities, and rehabilitation activities.

Please note - The government disaster relief organization described above was current as of the mid-1970s. However, because Turkey has a stable civil bureaucracy, there is little reason to believe that the organizational structure would have changed appreciably since then.

3.4 Red Crescent Society

Turkey has a large, well organized Red Crescent Society known as KIZILAY. As soon as the Red Crescent National Headquarters is notified of a disaster situation, an Emergency Relief Committee is established and the regional KIZILAY offices are put on alert. The Committee, in close coordination with the General Directorate of Natural Disasters, assesses the disaster situaton, determines the nature and scope of relief to be supplied by KIZILAY, issues instructions to local KIZILAY units, and channels information to the League of Red Cross Societies (LORCS). Red Crescent activities in the initial relief phase of a disaster can be summarized as follows:

Shelter and clothing - Tents, blankets, and clothing are sent from the Society's Central Warehouse in Etimesgut, Ankara, and local depots to the disaster victims. Transportation is provided by the Society or in conjunction with the Armed Forces in the case of a large disaster.

Food - Food is provided through mobile kitchens set up near the disaster site. Following the initial rescue phase, the Society may continue to provide uncooked foodstuffs to the victims.

Medical care - Depending on the extent and impact of the disaster, KIZILAY dispatches one of their several mobile emergency hospitals. These are supplemented by ambulances and mobile clinics. The hospitals, with personnel, equipment, and supplies are kept ready for immediate service.

Storage services - The Society sets up temporary storage facilities in the disaster area to ensure continuity of relief supplies. Temporary depots and relief teams are also established at important airfields to take delivery of relief commodities supplied from abroad.

Auxiliary services - The Red Crescent assists the Public Health authorities to prevent epidemics in the stricken area, provides victims with potable water by means of mobile water purification units, and furnishes the area with electricity.

In addition to providing disaster relief, KIZILAY also engages in preparedness activities. The Society maintains a Central Warehouse at Etimesgut, Ankara; five transit depots in Istanbul, Manisa, Afyon, Adana, and Erzurum; and 20 hospital depots in various regions of the country. Tents, blankets, clothing, foodstuffs, medical supplies, mobile hospitals, mobile kitchens, water purification units, and portable power

generators are stored in these depots. A large number of the tents used during disasters are manufactured at the Central Warehouse. The Society also has a fleet of trucks to ensure quick delivery of emergency supplies. In addition to stockpiling goods, the Red Crescent recruits and trains relief personnel.

Red Crescent Society
Genel Mudurlugo, KIZILAY - Ankara
Tel: 17 27 40

3.5 Voluntary Agencies

Caritas
Comite Caritas de Turquie
Cathedral of the Holy Spirit
Pangalti Olcek Sok, No. 82
Istanbul

Catholic Relief Services
Kalipci Sokak
146/2 Tesvikivi
Istanbul
Cable: TESVIKIVI
Tel: 47 72 09

3.6 International Organizations

At the specific request of the Government of Turkey, the United Nations Development Program (UNDP) will coordinate international relief activities. The World Health Organization (WHO) works with and through UNDP when included in disaster relief. The League of Red Cross Societies (LORCS) works directly with KIZILAY. There is no resident LORCS representative in Turkey.

UNDP
197 Ataturk Bulvari
PK 407
Ankara
Cable: UNDEVPRO
Tel: 26 54 85

4. Population

4.1 National Demographic Characteristics

Total population, 1980 Census:	44,736,956
Population density per sq. km.:	56
Average annual growth rate, 1980:	2.2%
Urban population, 1977:	45%
Age distribution:	0-14 years (39.1%)
	15-64 years (56.4%)
	65 years and over (4.5%)

4.2 Regional Distribution

Population distribution is closely related to climate and soil conditions with the highest densities in European Turkey and along the Aegean and Black Sea coasts. These areas account for about 25% of the land area, but are inhabited by about 44% of the population. The vast central region (62% of total area) supports only about 42% of the population, while on the Mediterranean Coast and southeast Anatolia, the proportion of land (13%) to population (12%) is almost even.

Population and Density by Province, 1980

Province	Total Population	Area sq. km	Density
Adana	1,485,743	18,428	81
Adiyaman	367,595	7,871	47
A. Karahisar	597,516	14,435	41
Agri	368,009	11,458	32
Amasya	341,287	5,730	60
Ankara	2,854,639	31,684	90
Antalya	748,706	22,252	34
Artvin	228,997	8,210	28
Aydin	652,488	8,281	79
Balikesir	853,177	14,957	57
Bilecik	147,001	4,527	32
Bingol	228,702	8,911	26
Bitlis	257,908	6,674	39
Bolu	471,751	11,199	42
Burdur	235,009	7,152	33
Bursa	1,148,492	11,027	104
Canakkale	391,568	10,347	38
Cankiri	258,436	9,138	28
Corum	571,831	13,271	43

Province	Total Population	Area sq. km	Density
Denizli	603,338	12,244	49
Diyarbakir	778,150	15,400	51
Edirne	363,286	6,252	58
Elazig	440,808	9,866	45
Erzincan	282,022	12,165	23
Erzurum	801,809	26,564	30
Eskisehir	543,802	13,781	39
Gaziantep	808,697	8,234	98
Giresun	480,083	7,644	63
Gumushane	275,191	11,154	25
Hakkari	155,463	9,885	16
Hatay	856,271	5,798	148
Isparta	350,116	8,706	40
Icel	843,931	16,187	52
Istanbul	4,741,890	5,722	829
Izmir	1,976,763	12,738	155
Kars	700,238	19,261	36
Kastamonu	450,946	13,699	33
Kayseri	778,383	17,050	46
Kirklareli	283,408	6,550	43
Kirsehir	240,497	6,650	36
Kocaeli	596,899	3,658	163
Konya	1,562,139	49,175	32
Kutahya	497,089	12,083	41
Malatya	606,996	12,308	49
Manisa	941,941	13,749	69
K. Maras	738,032	15,563	47
Mardin	564,967	12,879	44
Mugla	438,145	13,173	33
Mus	302,406	8,697	35
Nevsehir	256,933	5,660	45
Nigde	512,071	14,749	35
Ordu	713,535	6,563	109
Rize	361,258	4,328	83
Sakarya	548,747	5,015	109
Samsun	1,008,113	10,281	38
Siirt	445,483	12,462	36
Sinop	276,242	6,109	45
Sivas	750,144	29,515	25
Tekirdag	360,742	6,469	56
Tokat	624,508	10,470	60
Trabzon	731,045	4,938	148
Tunceli	157,974	8,676	18
Urfa	602,736	19,615	31
Usak	247,224	5,580	44

Province	Total Population	Area sq. km	Density
Van	468,646	19,797	24
Yozgat	504,433	14,037	36
Zonguldak	954,512	9,038	106

Source: Government of Turkey, Statistical Yearbook of Turkey, 1981.

4.3 Urban Areas

Urbanization has progressed at a rapid rate. Istanbul, the coun- try's largest city, has doubled its size since the 1950s, leading to the growth of "gecekondus", slums or shantytowns (literally, "built or roofed by night"). Other provinces with large metropolitan centers (Ankara, Izmir, Adana) have also experienced large population growth.

Population of Urban Areas
(1980 estimates)

Ankara*	2,316,333	Samsun	210,628
Istanbul*	3,033,810	Mersin	203,300
Izmir*	776,954	Elazig	199,982
Adana	664,435	Erzurum	198,356
Bursa	431,844	Diyarbakir	191,795
Gaziantep	394,640	Malatya	185,104
Eskisehir	311,300	Antalya	177,228
Konya	302,454	Urfa	174,304
Kayseri	264,565	Sivas	165,938
Izmit	225,094	Kahramanmaras	165,418

* Excluding suburbs

Source: The Europa Yearbook, 1981-82.

5. Health, Nutrition, and Housing

5.1 Health Overview

In 1979, the most frequent cause of death was heart disease. Malignant neoplasms, tuberculosis and other respiratory diseases (bronchitis, emphysema, asthma), diabetes, and enteric diseases were other common causes of death. The Ministry of Health and Social Welfare (MHSW) has responsibility for providing medical care and preventive health services. Medical care services include examination, diagnosis, treatment, and rehabilitation. Preventive health services cover improvement of community sanitary conditions, education in basic health care, nutrition, and population planning, and the control of communicable diseases. Control activities, all conducted by MHSW, focus on five diseases: tuberculosis, trachoma, syphilis, leprosy, and malaria.

Tuberculosis (TB) - Administration of BCG vaccine is conducted through a system of mobile treatment units, regional TB laboratories, and TB control dispensaries organized under five regional TB control commissions.

Trachoma - Data on trachoma, a communicable eye disease especially prevalent in the eastern, southeastern, and southern provinces, are collected monthly by control committees. Trachoma dispensaries and hospitals have been established in provincial and district centers.

Syphilis - Most common in larger cities and the regions of Bolu, Ordu, Sivas, Malatya, Adiyaman, Gaziantep, and Erzurum. Control teams are composed of a bacteriologist, a laboratory director, and specialists. Patients are obligated to receive treatment at least once a week.

Leprosy - Leprosy is particularly prevalent in the east and southeast. Dispensaries have been established in all regions where the disease is reported.

Malaria - Malaria control is administered jointly by the Turkish Government, WHO, and UNICEF. Control activities reach the village level where control officers are authorized to visit homes in search of unreported cases.

Number of Cases and Deaths from Infectious Diseases, 1980

Disease	No. Cases	No. Deaths
Infectious Hepatitis	12,409	43
Measles	8,618	217
Leprosy	3,844	38
Infant Diarrhea	3,517	17
Scarlet Fever	2,079	4
Whooping Cough	1,520	9

Disease	No. Cases	No. Deaths
Typhoid Fever	1,423	9
Meningitis	509	45
Paratyphoid	508	6
Dysentery	473	1
Anthrax	469	1
Brucellois	186	-
Poliomyelitis	182	7
Diphtheria	86	8

Source: Government of Turkey, Statistical Yearbook of Turkey, 1981

5.2 Vital Statistics

Birth rate per 1,000 population	34 (1979)
Death rate per 1,000 population	10 (1979)
Life expectancy at birth	61 years (1978)
Infant mortality per 1,000 live births	32 (1981)

5.3 Health Facilities

Health care delivery is effected through a four-tiered system under the direction of the Ministry of Health and Social Welfare. The first level is the "health house," established at the village level under the supervision of a midwife, which provides basic preventive and maternal-child care. The second level is the health unit which generally has three health houses under its direction. The health unit has at least one specialist or general practitioner who is also the principal health officer of the area. Group hospitals, established only in district and provincial centers with 7 to 30 health units constitute the third level. The highest level is comprised of the provincial directorates of health, public health commissions (including communicable disease control, population planning, and maternity and child health), and specialized hospitals.

Government Medical Institutions, 1980

Type	Number
In-patient	
Hospital	536
Health Center	291
Out-patient	
Government Physicians Office	242
Dispensary and Infirmary	20
Health Unit	1,827

Type	Number
Health House	6,594
Dispensary	326
Maternity and Child Health Center	62
Branch	63
Dispensary	65
Station	445
Total	10,471

Source: Government of Turkey, Statistical Yearbook of Turkey, 1981

There are 99,117 beds in the 827 in-patient facilities. In 1980 there were 6,335 pharmacies.

Note - For detailed listings of the number of medical institutions and pharmacies by region, see the 1981 Statistical Yearbook of Turkey.

5.4 Health Personnel

Total Health Personnel, 1980*

Category	Number
Specialist	16,699
Practitioner	10,542
Dentist	7,077
Registered Nurse[1]	26,880
Health Technician[2]	11,664
Midwife[3]	15,880
Pharmacist	11,578

* Data includes all health personnel working in public and private sectors.

1 Also includes nurses and assistant nurses.

2 Includes those who have graduated from health colleges, schools for health technicians, and health departments of village schools.

3 Includes village midwives.

Source: Government of Turkey, Statistical Yearbook of Turkey, 1981.

The countrywide average of population per physician is 1,642:1. The Istanbul and Ankara regions have the greatest number of physicans, 8,215 or 1:700 population, and 5,816 or 1:785, respectively. The Central

Plateau area around Konya has the fewest doctors per population (281 or 1:7,381), while the far eastern region near Van has the fewest physicians in actual numbers (165 or 1:7,176).

Note - A breakdown of health personnel by region is available in the 1981 Statistical Yearbook of Turkey.

5.5 Diet

Wheat is the basic food staple in the Turkish diet, supplying more than two-thirds of the population's caloric intake. Most of the wheat is consumed as bread (both white and dark grain), ranking Turkey as one of the highest bread consumers in the world. Other cereals commonly eaten are rice, maize, and some rye. The Turkish people consume a wide variety of vegetables and fruits, the most common being eggplant, tomatoes, peppers, onions, peas, beans, potatoes, citrus fruits, peaches, apricots, figs, dates, and apples. Lamb, beef, and chicken are frequently eaten; fish is eaten in coastal areas although it is expensive. The principal dairy products include white and yellow cheese, milk, yogurt, and sweet puddings. Beer, wine, raki (strong alcohol), mineral water, fruit juices, soda, and a yogurt drink are the most commonly consumed beverages. Vegetable oils are used, mainly from sesame, olives, and butter.

The average daily per capita food intake of the Turkish people is 98 grams of protein and 3,250 calories (110% of WHO recommendation).

5.6 Nutritional Deficiencies

Preschool age children are affected by protein-energy malnutrition (PEM), iron deficiency anemia (15% of the preschool age population), and, rickets (5%). Goiter and scurvy have been reported in the northern coastal areas along the Black Sea.

5.7 Rural Housing Construction

Rural construction practices and the quality of construction varies widely between and within regions depending on the availability of local materials and skilled labor. There are four basic types of construction used in rural home building: stone and brick masonry, adobe, timber frame, and a mixture of the preceding. Most rural houses are two-story. The ground floor accomodates the family's animals, while the people live on the upper story which is reached by an exterior staircase. The living area generally consists of 2-4 rooms (3-4 meters square) arranged symmetrically around a large storage hall. Other than cupboards and

built-in benches, there is little furniture. There is no kitchen and the women cook at any one of several fireplaces which are also used for heating. Indoor plumbing of any sort is rare.

Traditional houses are usually well built and last for several generations. The most basic type has walls built of stone and mud with a few vertical pole supports. The roofs or ceilings usually have a layer of mud, stone, or earth to insulate against cold winters. The first floor interior is generally made entirely of wood while the second story consists of timber framing with horizontal wood strips nailed to vertical posts and filled in with a mortar of lime, mud, or adobe with straw fibers.

In some regions, timber framing is the predominant construction type. Walls consist of vertical, horizontal, and diagonal wooden slats. Spaces between the slats are filled with small stones and mud or adobe to provide insulation. A more sophisticated timber frame construction utilizes sawed lumber. This allows posts to be fitted together, and braces provide greater lateral strength. Stone infills are mortared together with lime or mud.

Increasingly in rural areas, a more modern brick and timber house is being built. The brick walls are held together by a horizontal, cast-in-place concrete tie beam and the timber roof is supported by steel-reinforced concrete corner posts.

5.8 Urban/Modern Construction

Most urban housing as well as modern public buildings in rural areas are of engineered construction consisting of steel-reinforced concrete frames with stone or brick infill walls. According to the Disaster Act, all new government and private buildings, and those requiring major repair, alteration or expansion located in disaster-prone areas must be constructed in conformance with the provisions of the Turkish Standards and the General Technical Specifications of the Ministry of Public Works.

6. Economy

6.1 Overview of Economy

During the period of the 1960s and early 1970s, Turkey experienced fairly steady economic growth, with the GNP averaging between a 6.6 and 7.0% increase annually. By 1977, however, a number of factors contributed to bringing the economy to a standstill, rendering Turkey virtually bankrupt. In 1979, the economy grew only 0.7% and 1980 showed no improvement. The rate of inflation was as high as 100% at times, unemployment levels reached 20%, and the industrial sector was operating at less than half capacity.

There are a number of causes of this economic crisis, many of which stem from poor management of the economy, brought about by several years of political instability. In recent years the indus- trial sector (25% of the GDP), of which half is state-owned, has operated well below capacity. Volume output of most manufactured goods has either declined or remained constant, principally due to the severe shortage of foreign exchange, which made it impossible for businesses to obtain the raw materials and commodities needed for production. Additionally, Turkey is extremely dependent on oil imports. Recent years of sharply higher oil costs resulted in higher trade deficits. Turkey has in- creasingly relied on foreign aid to finance its deficits, yet it has been unable to meet annual debt service requirements. Several years of these problems resulted in a cycle that left the country nearly bankrupt by 1977. Foreign exchange transfers for all goods except strategic materials ceased and many governments imposed an embargo on exports to Turkey, while foreign banks refused to advance any more loans.

Since 1977 the Turkish government has negotiated with the International Monetary Fund (IMF), the World Bank, and foreign governments to obtain loans and export credits, and reschedule its existing debt. Several austerity programs including the devaluation of the Turkish lira, and introduction of measures to increase interest rates, raise prices of state-traded goods, and promote foreign investment have been initiated. At the end of 1980, Turkey's medium and long term debt outstanding was $15.3 billion, its short term debt was $2.4 billion, and debt arrears were $1.9 billion.

Since the economic revival plan launched in 1980 and the military takeover of that year, the inflation rate has declined to about 40% (1981), industrial production has increased, and unemployment is down to 15% (1981). Furthermore, the GNP increased by 3.4%. Political stability, if maintained, is expected to increase both national and international confidence, and result in improved investment prospects. The new government has also introduced new programs aimed at controlling inflation and reducing public spending, and has reorganized state-owned economic enterprises.

6.2 Balance of Payments

Since 1947, Turkey's current account has been negative, equalling 5.4% of GDP in 1980. The deficit reflects the country's heavy dependence on oil imports. In recent years oil imports alone have equalled more than 100% of total exports. Export growth has slowed in recent years, and total exports actually declined in 1977 and 1979 due to a fall in agricultural exports. Turkey's persistent trade deficit is partly offset by a new surplus in workers' remittances from abroad ($2.1 billion in 1980) and tourism and transit dues. Despite these surplus items, Turkey's deficit is almost completely financed by the massive inflow of foreign aid.

In 1981, the current account deficit was down to $2.0 billion, less than 4.0% of GDP. This improvement reflects a decline in the trade deficit brought about by a significant acceleration in export growth.

6.3 Industry

The most important manufacturing industries are those involved in the processing of primary sector products: textiles and apparel, food and tobacco, and minerals and wood. The areas which enjoyed the greatest rates of growth during the period of 1967-79 were chemicals (14%), engineering products (12%), non-metallic minerals (11%), and wood products (10%). Private sector manufacturing, accounting for 68% of manufacturing value added, is, on the whole, comprised of small (less than 50 workers) and medium size (50-200 workers) establishments. By contrast, large establishments are the norm in the public sector. In general, Turkish industry, particularly the more technical (chemicals, machine assembly), suffers from the problem of uneconomically small sized establishments. The Istanbul area has the highest number of industrial establishments (42% of the total), followed by the Marmara, Izmir, and Ankara regions.

6.4 Exports

Agricultural products, primarily hazelnuts, cotton, and tobacco, account for over 50% of Turkish exports (see Agricultural Exports, section 7.7). Processed agricultural products (cotton yarn, cloth, dried fruit) account for 25%; industrial items (automotive products, cement, glass), 10%; and mining products (chrome ore, boron), 5.7%. Traditionally the EEC, and in particular, West Germany, was the largest recipient of Turkish exports, providing markets for 90% of cotton yarn exports, 80% of cotton fabrics, 98% of T-shirts, and virtually all exports of blouses. However, the EEC's market share of Turkey's indus-

trial exports has declined from 50% in 1977 to 43% in 1980. This is due to the relative stagnation of textile exports and the rapid growth of exports to Middle Eastern markets. Accounting for 45% of total exports in the first nine months of 1981, the major Mid-East exports markets are Iraq, Libya, Iran, and Syria, while the principal commodities include processed food, textiles and clothing, automotive products, cement, and glass.

6.5 Imports

During the 1970s imports increased rapidly, reflecting higher prices, particularly for oil, greater volume as the economy expanded, and a more liberal imports policy based on improved foreign exchange earnings. Imports are primarily related to investment or production. Approximately 85% of total imports fall into one of four groups: machinery and equipment, transport equipment, fuel, and base metals. Most of the remaining imports are raw and semifinished products for use in industrial manufacturing. Imports (primarily oil) from nearby Middle Eastern countries increased substantially in the 1970s; other suppliers include West Germany, the United States, the Soviet Union, and Japan.

7. Agriculture

7.1 Overview of Agriculture

In the late 1970s, agriculture accounted for 23% of the GDP and employed 54% of the labor force. Although a variety of soils and agroclimatic zones give Turkey the potential to produce a wide array of crops, in fact, the sector is highly specialized. In 1980, 71% of the cultivated area was devoted to cereals, of which wheat and barley accounted for 85%. None of the other crops accounted for a substantial part of total cultivated land. Mostly industrial crops, they include sugarbeet, oil seeds, cotton and tobacco with 9% of cultivated area; olives and grapes with 8%; fruits and nuts, 7%; vegetables, 4%; pulses, 3%; and tea, 1%.

Between 1962 and 1979 agricultural production grew at an average annual rate of about 3%. A major push towards modernization, as well as credit subsidies and a strong price support system, contributed to the development of agriculture, even though the overall development strategy followed by the government until January 1980 discriminated against agriculture in favor of industry. Within the agricultural sector, however, import substituting crops were benefited at the expense of export crops, and large-scale government subsidies for credit, machinery, fertilizer, and water encouraged the expansion of capital-intensive projects and inefficient resource use. Nevertheless, the prospects for Turkish agriculture are good. Provided that appropriate policies are followed (a major restructing of agricultural policy began in 1980), the country's considerable land and labor resources, favorable climate, and proximity to expanding markets, should permit rapid growth of production and exports in the future.

7.2 Agricultural Regions and Land Use

Turkey is divided into nine agricultural regions. The dominant cropping patterns or agricultural activities in these regions are as follows:

Region		Activities
I	Central North	Cereals, rice, vegetables, pulses, fruits, tubers
II	Aegean	Olives, grapes, cotton, tobacco, pulses, tubers, vegetables
III	Marmara	Sunflowers, rice, roots, sugarbeets

Region		Activities
IV	Mediterranean	Cotton, cereals, citrus, rice, vegetables, pulses
V	North East	Fodder, wheat, tubers, pulses, livestock
VI	South East	Fodder, cereals, tubers, pulses, vegetables, grapes, livestock
VII	Black Sea	Hazelnuts, tea, rice, tobacco, sugarbeets
VIII	Central East	Fodder, cereals, fruits, tobacco, sugarbeets
IX	Central South	Cereals, sugarbeets, grapes, pulses, tubers, vegetables, livestock

The bulk of arable land and the greater part of farm labor are employed in producing cereal crops. Grains are produced in most regions of the country, generally without irrigation. Under rain-fed conditions, cereal crops are usually alternated with a year of fallow to allow moisture to accumulate in the soil. Most grain producers are small or subsistence farmers. Producers consume about half of their crop; the other half is marketed through commercial channels.

Cultivated Area by Major Crops

Crop	Area (000 ha)	% of Area
Cereals and Pulses	14,054	71
Wheat	9,350	47
Barley	2,700	14
Corn	563	3
Rice	69	-
Pulses	585	3
Other	787	4
Industrial Crops	1,856	9
Sunflower	406	2
Sugarbeet	275	1
Cotton	675	3
Tobacco	299	2
Tea	53	--
Other	148	1

Crop	Area (000 ha)	% of Area
Fruits	2,870	14
Hazelnuts	430	2
Citrus	73	-
Grapes	760	4
Olives	800	4
Others	807	4
Vegetables	786	4
Fodder	300	2
Total Cultivated Area	19,866	100

Source: World Bank, Turkey: Industrialization and Trade Strategy, Volume II, 1982.

7.3 Crop Production

Because most grain production is dependent on rainfall for moisture, production levels vary considerably. Yields of industrial crops (particularly cotton) are generally above international averages due to heavy government support and the widespread application of modern practices. Cultivation of fruits, nuts, and vegetables contributes approximately one-third of the value added by crop production, although it accounts for only 14% of the cultivated land area.

Crop Production, 1980

Crop	Production (000 tons)	Yield (kg/ha)
Cereals		
Wheat	16,500	1,829
Rye	525	1,185
Barley	5,300	1,893
Oats	355	1,802
Maize	1,240	2,126
Millet	22	1,466
Rice	143	2,750
Pulses		
Broad beans	52	1,733
Peas	7	2,333
Dry beans	165	1,460
Wild vetch	30	968

Crop	Production (000 tons)	Yield (kg/ha)
Lentils	195	1,023
Chick peas	275	1,145
Industrial Crops		
Opium capsule	14	707
Anise	4	626
Cotton (lint)	500	744
Sugarbeet	6,766	25,689
Tobacco	234	1,018

Source: Government of Turkey, Statistical Yearbook of Turkey, 1981.

7.4 Harvesting Dates

Crop	Harvest Period
Wheat	June - August
Rye	June - August
Barley	June - July
Oats	June - July
Maize	August - September
Millet	July - August
Rice	September - October
Sugarbeets	August - October
Potatoes	July - September
Onions	July - August
Peas	May - June
Dry beans	September
Chick peas	July - August
Lentils	July - August
Grapes	
Fresh	July - November
For raisins	August - September
Oranges	November - March
Figs	July - September
Olives	November - January
Groundnuts	September - October
Cottonseeds	September - December
Sesame seed	August - September
Sunflower seed	August - September
Tea	May - September

Crop	Harvest Period
Tobacco	July - August
Cotton	September - November
Hemp	August - September

Source: FAO, World Crop Harvest Calendar.

7.5 Livestock

Turkey has 21 million hectares of pastures, which support one of the largest animal populations in Europe and the Middle East. This includes 64 million sheep and goats, 16 million cattle and buffalo, 2.5 million horses, donkeys, and mules, and 55 million poultry. However, World Bank projections indicate that growth in production will not keep pace with domestic demand, not to mention expansion of livestock exports. Although a program to upgrade herds through cross-breeding by artificial insemination has been implemented, limiting factors include a shortage of available feed and the lack of an effective animal health program.

7.6 Agricultural Imports

Turkey is generally self-sufficient in foodstuffs, though small amounts of edible oil and sugar are imported. Coffee imports were banned in 1979 to offset reduced export possibilities for the domestic tea crop.

7.7 Agricultural Exports

Turkey has become self-sufficient in cereals and pulses. Exports of pulses have gained importance while wheat export levels are uneven (due more to inappropriate export policies than inadequate supplies). Tea exports have declined as have those of cotton. Hazelnuts continue to be the country's most important agricultural commodity export. Except for citrus fruits which have increased relatively little, exports of other fruits (melons, grapes, apples, dried fruit) and vegetables (particularly tomatoes, fresh or paste) have increased considerably. The reported exports of live animals have not increased; however, this is probably due to poor recording of smuggled animals, whose numbers are reportedly on the increase. Exports of meat are small as are those of fresh and canned fish.

8. Transportation and Logistics

8.1 Transportation Overview

Because of the rugged terrain, construction of an efficient transport system has been difficult. The network now extends to all major provincial centers, but some rural areas, especially in the east, do not have access to transportation facilities. Until recently, the system had generally been adequate in relation to the geographic distribution of the population. However, due to rapid population growth in the large urban centers caused by increased rural-urban migration, the transport systems in these areas are becoming overburdened.

Until the late 1940s, major emphasis was placed on developing the railway network. However, because of the rugged topography, the emphasis gradually switched to road transport which can negotiate much steeper gradients. Today roads constitute the main transport mode and account for the majority of freight and passenger movement. Coastal sea and air transport account for a very small portion of either traffic.

8.2 Road Network

Turkey's road system consists of approximately 232,000 km of which 60,761 km are state and provincial roads. The remaining 171,240 km are village roads. Municipal, agricultural, and forestry roads are not reflected in these totals. State and provincial roads are primarily two lane, varying between 6-10 meters in width between the shoulders. Most of the village road system is single lane of no specific standard.

A substantial portion of the road network is suffering from severe traffic congestion (both in total volume and the percentage of overloaded heavy vehicles). Considering the weak structural strength of much of the state road system, the prevailing heavy traffic volumes are likely to lead to major road failures in the next several years. The congestion and poor roads cause high vehicle operating and maintenance costs as well as frequent traffic accidents. Fuel shortages and a lack of spare parts have aggravated the situation.

Village roads are the responsibility of the Infrastructure Directorate (YSE) of the Ministry of Village Affairs. The current village road network of 171,240 km includes 40,000 km which would be considered in good condition, 30,000 km in poor condition and in need of reconstruction, and about 100,000 km of unmaintained tracks. The YSE is divided into 8 regional divisions which, in cooperation with local authorities, are responsible for the construction, improvement, and maintenance of village roads. Because the people recognize the contribution of rural roads to rural development, local participation in road works is strong.

8.3 Surface Miles

Adana													
363	Afyon												
305	198	Ankara											
122	485	426	Antakya										
354	183	381	475	Antalya									
627	280	350	749	423	Balikesir								
527	180	251	649	350	100	Bursa							
488	139	336	610	181	241	316	Denizli						
346	710	587	331	700	930	830	835	Diyarbakir					
726	426	421	848	597	277	287	495	1009	Edirne				
593	822	624	523	893	965	865	960	301	922	Erzurum			
433	111	156	554	282	194	95	242	736	340	779	Eskisehir		
588	281	577	704	452	243	143	413	865	144	848	196	Istanbul	
643	289	457	765	337	132	232	155	990	356	1082	301	375	Izmir
462	320	160	584	503	434	333	458	621	461	572	305	317	Kastamonu
211	383	203	333	464	546	446	507	385	624	467	351	480	Kayseri
19	151	162	341	226	408	308	270	565	555	705	214	410	Konya
267	566	424	251	621	762	655	705	163	845	268	562	701	Malatya
82	463	265	610	646	586	486	602	525	614	430	422	470	Samsun
332	473	303	400	586	629	529	615	310	700	346	435	556	Sivas
615	689	492	620	868	812	712	828	402	840	203	648	696	Trabzon
594	931	789	577	947	1122	1022	1070	254	1210	264	927	1065	Van

8.4 Railway

The state-owned Turkish railway network comprises about 8,200 km of mainly standard single gauge line. It provides access to most major towns and links the European system (via the Bosporus ferry) to those of Iran, Iraq, and Syria. There is also a direct line to Bulgaria (Pehlivankoy to Edirne). Work on a new direct rail link between Ankara and Istanbul, cutting the distance from 577 km to 414 km, which was expected to have been completed by 1986 has recently been postponed due to a reduction in the 1981 investment program. Rail travel is slow because of winding tracks which detour to include widely scattered towns or circumvent mountains. Turkiye Cumhuriyeti Deviet Demiryollari Isletmesi (TCDD) operates all railways and connecting ports.

8.5 Ports

Istanbul and Izmir are the country's primary ports, Istanbul handling the bulk of the country's imports and Izmir the bulk of its exports. On the Black Sea, 25 ports make possible the coastal movement of passengers and goods. Coal and iron are shipped from the ports of Zonguldak and Eregli, tobacco from Samsun, and nuts from Giresun; Trabzon serves as an

outlet for the agricultural products of northeastern Turkey. The shipments are mainly to Istanbul for redistribution and export. On the Aegean and Mediterranean coasts, major cotton and mineral shipments are handled by the ports of Mersin and Iskenderun and, on a lesser scale, by Izmir and Antalya.

Bandirma

Coordinates: Lat. 40° 1' N; long 27° 58'E. On south side of Sea of Marmara and about 63 miles from Istanbul.

Approach: Two long entrance channels lead from Bandirma Bay to harbor. Northern channel leads 2 km from rocks. Southern channel is dangerous owing to rocks, and vessels passing through channel must avoid Argi Pedro Rocks at S part of Moxa island, 1.6 km. Good anchorage in roads about 370 m off entrance to harbor in depth up to 12.8 m. There are also suitable anchorages within breakwater area.

Weather: N winds prevail in the area and cause high seas. The 198 m breakwater protects against harbor winds, which are violent at times.

Accommodation: South Mole has depths of 6.1 to 6.7 m alongside. Vessels up to 4000 dwt can berth. Loading and discharging carried out by lighters; no cranes, vessels use own gear. Ships anchor with both anchors and secure stern to outer end of northern breakwater with stern facing SSW. These facilities may no longer be available after completion of New Harbor. In new harbor three berths available, but no shore cranes are yet operational. One berth is 285 m long with 10.06 m depth; second berth is 130 m long of which 115 m is 7.92 m. deep and 15 m is 6.55 m deep; third berth is 100 m long with 5.49 m to 6.70 m depth. Special regulations, copies of which should be obtained by vessels proceeding to Bandirma, are in force for anchoring, berthing alongside mole and for vessels carrying inflammable or explosive cargoes.

Cranes: Five shore cranes and other loading/discharging facilities will be put into operation; at present there are no such facilities.

Bunkers: Coal and oil available.

Shiprepairs: Minor repairs can be effected.

Pilotage: In the New Harbor it is compulsory to employ a pilot and tug boats in and out of the harbor.

Iskenderun

Coordinates: Lat. 36° 39'N; long 36° 10' E. Transit port to Iraq, Iran, Afghanistan, and all Arab countries.

Approach: Ships can enter roads at anytime, without pilot. Anchorage should not be less than 600 to 800 m from the breakwater where quarantine control is performed and where depth ranges from 15 to 25 m.

Weather: Sudden and very strong winds called Yarikkaya blow from February to May; they are so severe that vessels which are at anchor must leave their anchorage point. These winds may last a very short time or a few hours. Even vessels moored alongside should strenghten their position. When the Yarikkaya blow very hard, shore cranes stop operating.

Accommodation: Jetty, 509 m long and protected by breakwater accommodates two 20,000-t vessels max length 185 m. Max 10-21 m depth. Vessels can also berth at the Inner Port, an extension of the jetty. There are three quays consisting of four berths 170 m long with 8-53 m depth. These quays are able to handle 12,000-15,000 grt vessels. Height of quays from water line, 2-45 m.

Storage: Warehouses with approx 27,268 sq. m capacity.

Cranes: Four 6-t electric shore rail cranes, two on each side of the jetty, and nine electric shore cranes of 3 and 5-t lifting capacity on the quays of 342 m and 153m; a 25-t lifting capacity crane on independent quay of 170 m. One mobile crane of 25-t capacity and 10 mobile cranes (rubber wheeled and pulled) ranging from 2 to 7-t lifting capacity. Also six fork lift trucks of 1 to 5-t capacity. Pier is equipped with rail spur and cargo may be loaded or discharged directly to or from rail wagons. Cargo may also be lightered from the roadstead. Approximately 16 lighters and pontoons of 300-t capacity available. No floating crane available unless in exceptional circumstances. Upon agreement, a floating crane may be hired from the operating company at the Iron and Steel Foundry port 24 km distant for heavy lifts up to 60 t.

Provisions and water: Available from lighters.

Ore and Bulk Cargo Handling Facilities: Grain silo on jetty 20,000-t capacity can deliver 300 t/h to vessels berthed at the quay by conveyor belt.

Bunkers: Fuel oil is supplied only against advance payment in free foreign exchange direct to the agents of the vessel.

Development: Installation of telephones on quay, a water house, a floating crane and two 10-t cranes. Proper ro/ro handling facilities planned. Construction of a new port in addition to the present one is seriously contemplated.

Towage: Four tugs available round the clock of 300 hp, 700 hp, 970 hp, and 1200 hp.

Pilotage: Two pilot boats, two service boats, and two mooring boats available.

Airport: Adana Airport, 140 km from Iskenderun.

Working hours: 0700-1600 and from 1600-2400. Change of shift at 1600. Lunch break at 1200 and dinner break at 2000. Work ceases on Friday at 1700 until 0700 Monday but overtime work possible. Compulsory for vessels already berthed.

Izmir, Smyrna

Coordinates: Lat. 38° 25' 40" N; long 27° 9' 10" E

Approach: Ships can enter Izmir roads at any time without pilot and anchor in front of Old Port breakwater.

Accommodation: Port divided into two parts: (a) Old Port Sheltered. Max 7.31-92 m depth. Vessels are moored by stern and operate at anchor; loading/unloading operations are performed by lighters; three medium size vessels can operate simultaneously. Three other small coasters less than 500 grt can be berthed alongside wharves, (b) Alsancak (Alsandjak) Port. Five quays of lengths 250 m, 342 m, 372 m, 223 m, and 75 m, consisting of 11 berths with following drafts:

Berths	(m)
Nos 1,2 and 3	9.14
Nos 4 and 5	9.75-10.06
No 6	8.53
Nos 7, 8 and 9	9.75-10.06
Nos 10 and 11	7.31-7.92

Nine vessels can operate alongside quays simultaneously and when passenger berths are free, three other vessels can also operate but they must be shifted with or without notice when these berths are needed by passenger, hospital or war ships. At Alsancak Port there is a conveyor system owned by the Soil Products Office (Toprak Mahsulleri Ofisi). This delivers between 2500-3000 t in a full 24-h day. The system is connected to a 32,000-t capacity silo. 20 pontoons over 4000-t total capacity. On both sides of the Alsancak Pier there are double railway lines.

Storage: Warehouses of 20,000 sq. m and open storage area of 45,000 sq. m are available.

Cranes: The port is equipped with four 3-t and two 5-t cranes on rails. Also available, mobile cranes: two of 3-t, three of 3-5-t, four of 5-t, one of 10-t, two of 20-t, one of 45-t, one of 60-t lifting cap, one floating crane of 50-t lifting capacity which operates only during day time.

Provisions: Fresh provisions, plentiful.

Water: Fresh water available ex-barge of 200-t capacity or alongside pier ex-valves.

Container and Ro/Ro Facilities: Ro/ro facilities on "T" shaped quay. Containers only handled if ship has own equipment for loading/discharging as proper container handling facilities not yet satisfactory. Storage area available.

Tanker Terminals: One berth in front of Turan Shipyard, length 164-6 m, 9.14 m depth. Night berthing possible. Water and bunkers available.

Bunkers: Normal grades of oil available. Supplied either by a motor truck of 10-20-t capacity or by a bunker barge of 100-t capacity. Agents should be notified of specifications of bunkers 48 hr in advance of delivery.

Development: An extension of the port is now under construction. When completed eleven additional vessels may work simultaneously.

Shiprepairs: All types of repairs may be effected by shipyard owned by Turkish Maritime Bank.

Towage: Compulsory. Four tugs, service and mooring boats always available.

Pilotage: Pilot not compulsory in Gulf, but compulsory in harbor. Not compulsory when passing Pelikan spit. Agents should have 24-hours notice if Gulf Pilot required.

Airport: Cigli Airport 25 km from Izmir.

Local Holidays: Eves of Sheker Bairam and Courban Bairam are half holidays.

Working Hours: Daily from 0800-1700 and from 1800-0200. Break at 1200 for lunch and change of shift 1700-1800. Overtime compulsory for vessels already operating.

Samsun

Coordinates: Lat. 41° 19' N; long 35° 21' E. Largest port on the Black Sea about 626 km from Istanbul and 253 km from Trabzon.

Approach: The port of Samsun is entered between two breakwaters, the northern mole of 1,580 m length and eastern mole of 3,176 m length. Width of entrance is 300 m and depth of water is 11.9 m.

Weather: Port protected from W and NW, NE winds. N and NW winds cause storms between November and March.

Accommodation: Good anchorage outside harbor, 12-15 vessels can find shelter inside harbor. One quay 956 m long with 6.5-11 m alongside, where four 10,000-t vessels can berth.

Storage: Four warehouses with total area of 13,400 sq. m and open storage space of 12,000 sq. m. Grain silos have total capacity of 34,000 t.

Cranes: Eighteen cranes of various capacities.

Provisions and Water: Available.

Bunkers: Coal only; fuel oil not obtainable.

Towage: Tugs available. Service operated by Port Administration of Turkish State Railways.

Pilotage: Compulsory for all foreign vessels.

Working Hours: General cargo, 0800-2400 in two shifts; bulk cargo, round the clock in three shifts.

8.6 Secondary Ports

Sea of Marmara	Black Sea	Mediterranean	Aegean Sea
Gemlik	Giresun	Alanya	Fatsa
Gulf of Izmit	Hopa	Antalya	Kusadasi
Derince	Eregli	Dortyol	Marmaris
Hereke	Ordu	Fethiye	
Izmit	Rize	Finike	
Tutunciftlik	Sinop	Mersin	
Yarimca	Trabzon		
	Unye		
	Zonguldak		

8.7 Shipping

National Companies:

Denizcilik Bankasi T.A.O. (Turkish Maritime Bank): Genel Mudurluk, Karakoy, Istanbul. Four maritime establishments operate passenger, cargo and ferry-boat lines on inter-city, coastal, Adriatic, Aegean, and Mediterranean Sea routes; four Port Administrations offer loading, unloading, transfer, and warehousing facilities; five shipyards and dry docks have repair and construction facilities for ships up to 20,000 tons; international concerns such as ship salvage and coastal security; other assets include 17 ships and 68 ferries.

D.B. Demiz Nakliyati T.A.S (D.B. Turkish Cargo Lines): Findikli, Meclisi Mebusan Cad. 93-97, Istanbul. Regular liner services between Turkey and Mediterranean, Europe, Black Sea, and U.S. Atlantic and Gulf ports; 37 dry cargo ships, 14 bulk/ore carriers, 11 tankers.

Private Companies:

Denizcilik Anonim Sirketi: Meclisi Mebusan Caddesi, Findikli Han Kat 4, Findikli, Istanbul. Tanker owners and shipbuilders up to 8,000 t.d.w., repair and dry-docking at company's shipyard in Istanbul; 2 tankers.

Koctug Denizcilik Isletmes: DI, Bankalar Caddes, Bozkurt-General Han Kat 5, Karakoy, P.K. 844, Istanbul; cargo services to and from Europe, North Africa, and the U.S.A.; 7 cargo vessels.

Marmara Transport A.S.: Yenicarsi Sok. Vakif Han No. 20, Kat. 3 Galatasaray, Istanbul; ship-building; 2 slipways, capacity 12,000 d.w.t.; output 20,000 d.w.t.; tanker services; 2 tankers.

8.8 Airports

There are airports for scheduled international and internal flights at Yesilkoy (Istanbul), Esenbogo (Ankara), and Adana, while international charter flights are handled by Antalya and Cigli (Izmir). Sixteen other airports handle internal flights only:

Airfields	Longest Rwy. Diameter (ft.)	Surface	Elevation (ft.)
A. Karahisar	9,840 x 98	Concrete	245
Balikesir	9,809 x 142	Concrete	331
Bandirma	9,809 x 147	Asphalt	167
Bursa	4,593 x 105	Concrete	332
Diyarbakir	4,209 x 138	Concrete	28
Elazig	5,610 x 131	Asphalt	2,961
Erzincan	5,800 x 137	Concrete	3,792
Erzurum	12,500 x 98	Asphalt	5,761
Gaziantep	9,186 x 147	Concrete	2,313
Kayseri/Erkilet	10,321 x 93	Concrete	3,452
Konya	11,290 x 140	Asphalt	3,385
Malatya/Erhac	10,988 x 150	Asphalt	2,827
Samsun	5,315 x 148	Concrete	531
Sivas	12,500 x 98	Concrete	5,222
Trabzon	5,154 x 98	Concrete	144
Van	8,530 x 148	Concrete	5,474

Note - For up-to-date information consult latest issue of weekly International Notams, International Flight Information Manual, and/or ICAO's Air Navigation Plan for appropriate region.

ADANA/Civil

Runway Characteristics

Location Coordinates	Elevation M/ Temp C	NR/Type	Slope %	Aircraft Length M	CL	Aircraft Strength (1,000 kg)	Fuel/ Octane
36°59'01"N 35°16'51 E	19 34.9	05/23 N-INSTR	NA	DC9-30 2320 2750	A	DC9-30 AUW 45 SW 45	NA

Remarks: alternate aerodromes - Beirut Intl.

Aids: LR, LTX, LB, LO, MD, MC, MT, MS, MFD, MTX, MO.

ANKARA/Esenbogo

Runway Characteristics

Location Coordinates	Elevation M/ Temp C	NR/Type	Slope %	Aircraft Length M	CL	Aircraft Strength (1,000 kg)	Fuel/ Octane
40°07'28"N 32°59'35"E	953 25.2	03/21 PA-I	0.23	B707-300C 3752 3752	A	B707-300C AUW 135 B747 SW 45 AUW 286	100JX

Remarks: alternate aerodromes - ATHINAI/Athinai, Beirut Intl., ISTANBUL/Yesilkoy, NICOSIA/Nicosia, THESSALONIKI/Thessaloniki.

Aids: ILS 03-I, RVOR, RL, LPA 03-I, LSA 21, LVA 21, LR, LTX, LB, LO, MD, MC, MT, MTD, MS, MFD, MTX, MO, H123, L4, 7,9. No Telex.

ANTALYA/Antalya

Runway Characteristics

Location Coordinates	Elevation M/ Temp C	NR/Type	Slope %	Aircraft Length M	CL	Aircraft Strength (1,000 kg)	Fuel/ Octane
36°54'56"N 30°47'49"E	50 30	18/36	NA	DC9-22 2990 2990	A	DC9-22 AUW 49 LCN43h51	NA

Remarks: alternate aerodromes - ANKARA/Esenbogo, ISTANBUL/Yesilkoy.

Aids: ILS, RVOR, LVA, LR, LTX, LO, MD, MC, MTX, MO.

ISTANBUL/Yesilkoy (Two Runways)

Runway Characteristics

Location Coordinates	Elevation M/ Temp C	NR/Type	Slope %	Aircraft Length M	CL	Aircraft Strength (1,000 kg)	Fuel/ Octane
40°58'36"N 28°48'55"E	33 25.1	18/36 PA-II 06/24 PA-II	0.58 0.37	DC8-62 3000 B707-130 2300	A A	B747 AUW 323 B707-300C AUW 146 B747 AUW 283 LCN1001 43 LCN631 52	100JX

Remarks: alternate aerodromes - ANKARA/Esenbogo, ATHINAI/Athinia, Beirut Intl., IZMIR/Cigli, NICOSIA/Nicosia, RODOS/Paradisi, THESSALONIKI/Thessaloniki.

Aids: ILS 36-II, RDME, RVOR, RL, LPA, LVA, LAV, LR, LC, LTD, LTX, LB, LO, MD, MC, MT, MTD, MS, MFD, MTX, MO, H99, L6, 7, 9. No Telex.

IZMIR/Cigli

Runway Characteristics

Location Coordinates	Elevation M/ Temp C	NR/Type	Slope %	Aircraft Length M	CL	Aircraft Strength (1,000 kg)	Fuel/ Octane
38°30'43"N 27°00'39"E	5 29.4	17/35 N-INSTR	NA	B707-300 2360 2744	A	B707-300 AUW 117 LCN70189	NA

Remarks: alternate aerodromes - ANKARA/Esenbogo, ATHINAI/Athinai, ISTANBUL/Yesilkoy.

Aids: LR, LTX, LB, LO, MD, MC, MT, MTD, MS, MTX, MO. Stopway 17 & 35-305.

Key

INSTR - Instrument Approach Runway
N-INSTR - Non-Instrument Runway

Radio Aids

ILS - Instrument Landing System
DME - Distance Measuring Equipment
VOR - VHF Omni-Directional Range
RL - Radio Locator

Lighting Aids

PA - Precision Approach Lighting System
SA - Simple Approach Lighting System
VA - Visual Approach Slope Indicator System
AV - Abbreviated Approach Slope Indicator System
R - Runway Edge, Threshold & Runway End Lighting
C - Runway Center Line Lighting
TD - Runway Touchdown Zone Lighting
TX - Taxiway Lighting
B - Aerodrome or Identification Beacon
O - Obstruction Lighting

Marking Aids

D - Runway Designation Markings
C - Runway Center Line Markings
T - Runway Threshold Markings
TD - Runway Touchdown Markings
S - Runway Sidestripe Markings
FD - Fixed Distance Markings
TX - Taxiway Center Line & Holding Position Markings
O - Obstruction Markings

Additional Lighting

1. Portable Runway Lights (electrical)
2. Boundary Lights
3. Runway Flood Lights
4. Low Intensity Runway Lights
5. Low Intensity Approach Lights
6. High Intensity Runway Lights
7. High Intensity Approach Lights
8. Sequenced Flashing Lights
9. Visual Approach Slope Indicator (VASI)

8.9 Aircraft Entry Requirements

All private and non-scheduled commercial aircraft overflying or landing for commercial or non-commercial purposes must obtain prior permission from the Ministry of Communications, Department of Civil Aviation, Ulastirma Bakanligi, Sivil Havacilik, Genel Mudurlugu, Istasyon, Ankara (telegraphic address: CIVILAIR ANKAR/Telex: 42220 CAD TR) at least 5 days prior to departure.

All requests must include (a) name of the operating company, (b) type of aircraft and registration marks, (c) date, time, and place of departure, (d) complete route of flight, (e) date, time and airport of arrival in Turkey, (f) purpose of flight, (g) number of passengers and type and amount of cargo, (h) any other information that may be used by the Department of Civil Aviation.

8.10 Special Notices

1. Aircraft landing in Turkish territory without having obtained prior approval will be detained at the airport of first landing and the provisions of existing regulations shall be applied.

2. In the case of transit flights without permission over Turkish territory, military authorities may take whatever action they deem appropriate.

3. If the permission granted for an overflight is not utilized on the date for which it was granted, a new permit must be obtained.

8.11 Airlines

Turk Hava Yollari A.O. (THY), Cumhuriyet Caddesi 199-201, Harbiye, Istanbul, operates an extensive internal network with flights from Ankara and Istanbul to Athens, Beirut, Brussels, Copenhagen, Frankfurt, Geneva, Jeddah, London, Milan, Munich, Nicosia, Paris, Rome, Tel Aviv, Tripoli, Vienna, and Zurich. Turk Hava has a fleet of 3 Boeing 707, 5 Boeing 727, 9 DC-9, 2 DC-10, 3 F-28.

Turkey is also served by the following foreign airlines: Aeroflot (U.S.S.R.), Air France, Alia (Jordan), Alitalia, Ariana (Afghanistan), Austrian Airlines, Balkan (Bulgaria), British Airways, CSA (Czechoslovakia), Cyprus Airways, El-Al (Israel), Iran National, Iraqi Airways, JAT (Yugoslavia), KLM (Netherlands), Kuwait Airways, LOT (Poland), Lufthansa (Federal Republic of Germany), MALEV (Hungary), MEA (Lebanon), Olympic (Greece), Pan Am (U.S.A.), PIA (Pakistan), Sabena (Belgium), Saudia, SAS (Sweden), SIA (Singapore), Swissair, and TAROM (Romania).

8.12 Air Distances

From Ankara to:	Statute Miles
Antalya	251
Athens (Central)	522
Baghdad Intl.	782
Beirut Intl.	456
Boston Intl.	5,020
Brindisi	791
Brussels Nat.	1,554
Bucharest (Otopeni)	465
Budapest (Ferihegy)	850
Cairo Intl.	697
Damascus Intl.	502
Erzurum	443
Frankfurt (Main)	1,364
Geneva A/P	1,410
Islamabad	2,241
Istanbul (Yesilkoy)	228
Izmir (Cigli)	338

From Ankara to:	Statute Miles
Jeddah Intl.	1,337
Kuwait Intl.	1,126
London (Heathrow)	1,770
New York (J.F.K.) Intl.	5,205
Paris (Orly)	1,609
Rome (Ciampino)	1,074
San Francisco Intl.	1,638
Sofia	527
Tehran (Mehrabad)	1,042
Tel Aviv Intl.	572
Van	563
From Istanbul to:	
Izmir (Cigli)	206
Jeddah Intl.	1,477
Kuwait Intl.	1,342
London (Heathrow)	1,560
Malta (Luqa)	851
New York (J.F.K.) Intl.	5,000
Paris (Orly)	1,392
Rome (Ciampino)	842
Salzburg	908
Singapore A/P	5,379
From Istanbul to:	
Sofia (Vrajdebna)	303
Tel Aviv Intl.	706
Vienna (Schwechat)	778
Washington Nat.	5,212

9. Energy and Communications

9.1 Overview of Energy

The emphasis on modernization and industrialization in recent years is directly linked to the increased use of imported petroleum. Oil imports jumped from $200 million to $3.6 billion in 1980. In fact, the resource drain caused by massive oil imports is the prime cause of the recent adverse balance of payments situation. In response to this "energy crisis," the GOT is emphasizing a policy based on a combination of energy resource development and "management" of energy demand without penalizing economic growth.

Except for oil and gas, Turkey is relatively well-endowed with conventional energy resources. The most important indigenous sources are hydropower and lignite. At the present, only about 10% of the hydropower potential has been developed, and lignite production in 1979 was 14.5 million tons, or less than 0.5% of proven reserves. On the other hand, proven reserves of petroleum would barely suffice for one year's consumption and known natural gas and uranium reserves are equally limited.

The energy outlook for the 1980s is relatively promising. The GOT has increased investment in the sector, and if successful, by 1990, the current programs could achieve increases in the production of lignite (13-15% per annum), hydropower (8-11% per annum), and oil. Programs for fuelwood and biomass are still at the initial stages of development.

Energy Reserves

Energy Source	Unit
Hydropower	100,000 GWh p.a. (..)
Lignite	4,140 m tons (7,343)
Hard Coal	186 m tons (1,366)
Petroleum	17 m tons (..)
Bituminous Shale	340 m tons (2,000)
Asphaltite	0.55 m tons (53)
Uranium	2,300 tons U308 (4,600)
Thorium	380,000 tons Th02 (380,000)

Note: Figures are of proven reserves (total resources, including probable and possible resources, are shown in parentheses).

Source: World Bank, Turkey: Public Sector Investment Review, Volume II, 1981.

9.2 Electric Power

To meet growing demand, generating capacity was increased nearly four times between 1965 and 1980, rising from 1,490 MW to 5,284 MW. Of the additional capacity, 48% is hydropower, the remainder thermal. Prior to 1975, most of the installed thermal power stations were oil-fired; since 1975, all have been lignite-fired.

There have been growing shortfalls of electricity supply, totaling 2,175 GWh (8% of requirements) in 1980. Electricity imports (via interconnections with Bulgaria and the USSR) have become increasingly important in closing the gap between supply and demand; in 1980 they accounted for 5% of total supplies. Power shortages are likely to continue in the short term, although their size is difficult to predict. Reasons for the shortages include the increased proportion of hydropower stations in the system which depend on adequate annual precipitation, and plant breakdowns (particularly at thermal plants) caused by the lack of maintenance and spare parts. The government has undertaken an ambitious development program to increase installed capacity; however, projections which call for a total additional capacity of 18,000 MW by 1990, are based on what are probably optimistic assumptions about the growth of the Turkish economy during the 1980s.

9.3 Lignite and Coal

All consumed lignite is domestically produced, but hard coal production failed to keep pace with demand and about 0.5 million tons had to be imported in 1979. Production of lignite has also not kept pace with demand, resulting in extensive rationing since the winter of 1979. About 68% of hard coal is consumed by industry (primarily for producing steel), 19% by thermal power plants, and the remainder by households and the transportation sector. In the case of lignite, households are the biggest consumers (40% of total consumption, 1979), followed by thermal power plants (39%), industry (20%), and transportation (1%).

9.4 Petroleum

Consumption of crude oil and petroleum products more than doubled between 1970 and 1977, rising from 7.4 to 16.9 million tons, but subsequently declined by 15% to 14.3 million tons in 1979. The decline reflected shortages of foreign exchange and the country's inability to pay for imports. Turkish crude oil production which reached a peak of 3.6 million tons in 1969 has since declined to 2.3 million tons (1980). This trend is associated with decreased exploration efforts and has necessitated more imports of crude oil. Imports now account for 85% of the country's petroleum requirements.

9.5 Fuelwood

About 26% of the country's area is classified as forest land. This is broadly divided into high forests which produce industrial timber and fuelwood, principally as a byproduct, and low or coppice forest which produces fuelwood and a small amount of mine timber. Forest productivity is below potential because of the high proportion of inaccessible, overmature, and in some cases, degraded, non-productive forests. Over 50% of forest wood is used for fuel (domestic heating and cooking), and it constitutes the sole source of domestic energy for approximately 35% of the rural population (8 million people) who are among the lowest income group in the country.

9.6 Radio Network

Turkiye Radyo Televizyon Kurumu (T.R.T.): Nevzat Tandogan Cad./ No. 2., Kavaklidere, Ankara. Controls Turkish radio and television services.

There are local radio stations in Adana, Ankara (3), Antalya, Bursa, Cukurova, Diyarbakir, Edirne, Erzurum, Eskirehir, Gaziantep, Hakkari, Istanbul, Izmir (2), Kars, Trabzon, and Van.

Voice of Turkey - foreign service. Ankara: SW 100 kW, SW 250 kW (3). Eleven daily short-wave transmissions in the following languages: Arabic, Bulgarian, English, French, German, Greek, Persian, Romanian, Serbo Croat, Turkish, Urdu.

There is also educational radio for schools and a station run by the Turkish State Meteorological Services. The American Forces have their own radio and television service. In 1979, 4,279,958 licensed radio receivers were in use.

9.7 Telephone System

The postal, telephone, and telegraph facilities of Turkey are operated by the General Directorate of Posts, Telegraph and Telephone (PTT), a state economic enterprise under the jurisdiction of the Ministry of Communications. While the existing facilities are constantly being upgraded, the intercountry telephone system is inadequate to meet demand. Urban areas are served by automatic as well as by manually operated switchboards. Rural areas are served by a separate telephone system linking rural gendarmerie posts. In 1980, Turkey had 1,147,782 telephones in use.

International telephone service is available by cable between Turkey and the principal cities of Europe and the United States. The CENTO

microwave telecommunications system links Turkey with Iran and Pakistan. Telegraph service is available to all parts of Turkey, and radiograms and cablegrams are accepted for all countries.

9.8 Television

Television services, operated by Turkiye Radyo Televizyon Kurumu (T.R.T.), originate from Ankara. Programs are transmitted seven days a week and average 50 hours a week. In 1980, 3,343,308 licensed television receivers were in use.

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