

## **Ethiopia Country Handbook**

This handbook provides basic reference information on Ethiopia, 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 Ethiopia.

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 Ethiopia.

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## Ethiopia



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## KEY FACTS

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**Official Country Name.** Federal Democratic Republic of Ethiopia.

**Short Form.** Ethiopia.

**Local Long Form.** Ityop'iya Federalawi Demokrasiyawi Ripeblik.

**Local Short Form.** Ityop'iya.

**Head of State.** President Girma Woldegiorgis (since 8 October 2001).

**Capital.** Addis Ababa.

**National Flag.** Equal horizontal bands of green, yellow, and red; a light blue disk in its center contains a yellow star with yellow rays emanating outward.

**Time Zone.** UTC (formerly GMT) + 3 hours.

**Telephone Country Code.** 251.

**Population.** 85,237,338 (July 2009 est.)

**Languages.** Amarigna 32.7%, Oromigna 31.6%, Tigrigna 6.1%, Somaligna 6%, Guaragigna 3.5%, Sidamigna 3.5%, Hadiyigna 1.7%, other 14.8%, English (major foreign language taught in schools) (1994 census).

**Currency.** Birr (ETB).



**National Flag**

**Credit/Debit Card Use.** Credit cards have limited usage outside Addis Ababa, and even in the capital, only major establishments accept them. Most accept only VISA. ATMs are limited to major bank branches and large hotels.

**Calendar.** Ethiopian calendar (also known as Ge'ez calendar). Ethiopia uses the Julian solar calendar, which has its roots in ancient Egypt and consists of 12 months of 30 days each and a 13<sup>th</sup> month of 5 or 6 days every 4 years. The Ethiopian calendar runs 7 to 8 years behind the Gregorian (Western) calendar.

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## **U.S. MISSION**

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### **U.S. Embassy**

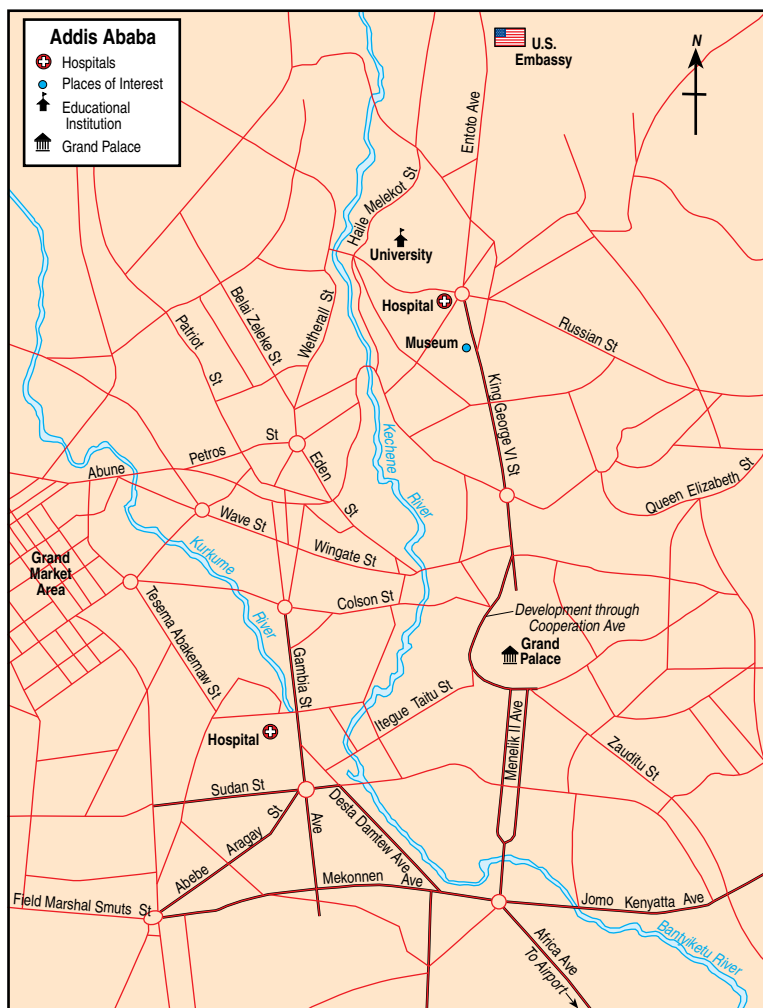
The U.S. Embassy is on Entoto Avenue in Addis Ababa.

<i><b>Location</b></i>	Addis Ababa, Ethiopia
<i><b>Mailing Address</b></i>	Entoto Avenue, P.O. Box 1014, Addis Ababa
<i><b>Telephone Number</b></i>	251-011-517-40-00
<i><b>Fax Number</b></i>	251-011-517-40-01, 251-011-124-2401
<i><b>E-mail Address</b></i>	pasaddis@state.gov
<i><b>Internet Address</b></i>	<a href="http://ethiopia.usembassy.gov/service.html">http://ethiopia.usembassy.gov/service.html</a>
<i><b>Hours</b></i>	Monday through Thursday 0800 to 1130 and 1300 to 1530

### **U.S. Consulate**

The Consular Section of the U.S. Embassy is on Entoto Avenue in Addis Ababa.

<i><b>Location</b></i>	Addis Ababa, Ethiopia
<i><b>Mailing Address</b></i>	Entoto Avenue, P.O. Box 1014, Addis Ababa
<i><b>Telephone Number</b></i>	251-011-124-2424



## U.S. Embassy in Addis Ababa

<b><i>Fax Number</i></b>	251-011-124-2435
<b><i>E-mail Address</i></b>	consaddis@state.gov, consacs@state.gov
<b><i>Internet Address</i></b>	<a href="http://ethiopia.usembassy.gov/">http://ethiopia.usembassy.gov/</a>
<b><i>Hours</i></b>	Monday through Thursday 0800 to 1130 and 1300 to 1530

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## **GEOGRAPHY AND CLIMATE**

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### **Geography**

Ethiopia is a landlocked country with boundaries from latitude 3N to 15N and from longitude 33E to 48E, enclosing an area of 1,127,127 square kilometers (435,186 square miles). Occupying most of the Horn of Africa, the landmass of Ethiopia is roughly three times the size of California. Ethiopia comprises two geographic areas: the cool highlands and the hot lowlands.

The Great Rift Valley divides the highlands into northern and southern parts, and each has corresponding lowlands. The highlands in the northwest are rugged. Erosion has produced steep valleys that are in some places 1,600 meters (5,249 feet) deep and many kilometers wide. In addition, the northwestern highlands are subdivided by the valley of the Blue Nile.

The Great Rift Valley is the most significant geographic region in Ethiopia. The valley is a physical example of the giant fault line that runs from the Jordan Valley in the Middle East to the Zambezi River's tributary in Mozambique. The fault line diagonally bisects the center of Ethiopia and splits the Ethiopian Highlands in half. In Ethiopia, the northernmost part of the rift is marked by the Danakil Depression, which is 115 meters (377 feet) below sea level and one of the hottest places on earth. Also referred to as the Afar Depression (it is located in Afar Region), the Danakil Depression

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## Northeast Africa

is a triangle-shaped basin that stretches into Eritrea. Water from Ethiopia flows to the lowest point in Africa, Lake Asal in Djibouti.

## Land Statistics

**Total Area:** 1,127,127 square kilometers  
(435,186 square miles)

**Water Area:** 7,444 square kilometers (2,874 square miles)

**Coastline:** 0 kilometers, 0 miles (landlocked)  
**Area Comparative:** Slightly less than twice the size of Texas  
**Central Coordinates:** 0800N 03800E  
**Land Usage:** Cultivated: 23%; Inhabited: N/A

## ***Borders***

Ethiopia has a total of 5,328 kilometers (3,311 miles) of continuous land boundaries.

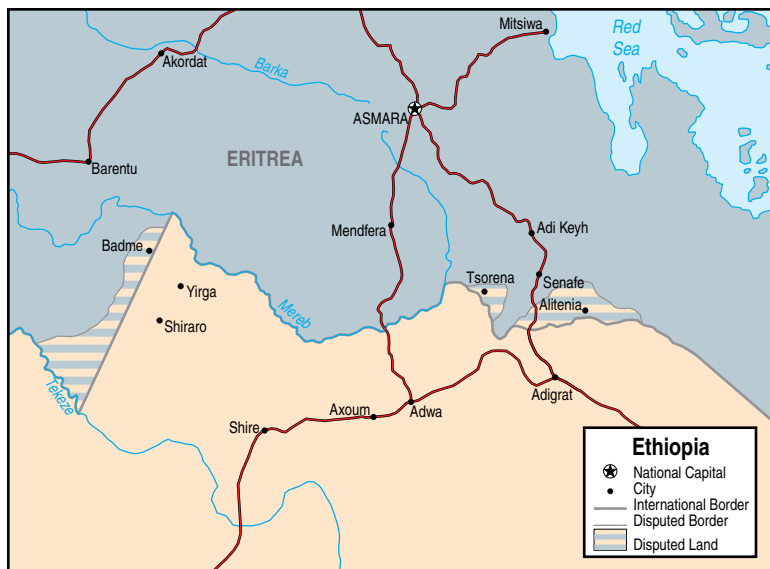
<b>Direction</b>	<b>Country</b>	<b>Length</b>
North	Eritrea	912 km (567 mi)
East	Djibouti	349 km (217 mi)
East	Somalia	1,600 km (994 mi)
South	Kenya	861 km (535 mi)
West	Sudan	1,606 km (998 mi)
Total		5,328 km (3,311 mi)

## ***Border Disputes***

### **Eritrea**

After Eritrea became independent in 1993, the government of Ethiopia claimed the Eritrean areas of Badme and Zelambessa. The border between Ethiopia and Eritrea had been determined through treaties signed in the 1900s between the government of Italy and Ethiopia's former monarchy. The original maps were written in three languages (Amharic, Italian, and English), and the variation in the translations is the main point of contention over the border. When translated into English, the maps written in Italian and the maps written in Amharic use different terms for the same features. These differences have led to confusion over the physical border markers.





## Disputed Land and Borders

Most of the border between Eritrea and Ethiopia is indisputably defined by rivers and tributaries. Treaties between Italy and Ethiopia define the eastern portion of the border as 60 kilometers (37 miles) from the coast and parallel to the Djibouti border. There have been border disputes concerning the small villages of Badme in the west and Tsorena and Zelambessa in the center. The Tekeze River (also known as the Setit) runs along the western portion of the border between Ethiopia and Eritrea and splits into two segments just south of Badme. One leg of the river sharply turns south and flows into Ethiopia; the other tributary flows north until it connects to the Mereb River. Eritrea claims the original border treaties agree on an imaginary straight line drawn from the apex of the fork in the Tekeze, through Badme, north to the Mereb River. In contrast, Ethiopia claims the border from the split along

the northbound tributary. Eritrea's claim places Badme directly on the border, but under the control of Eritrea, while Ethiopia's claim places Badme nearly 4.8 kilometers (3 miles) inside the Ethiopia border and under Ethiopia's control.

Similarly, the two countries disagree over the border near the villages of Tsorena and Zelambessa, specifically with regard to names of local tributaries. Local tribes have different languages and, therefore, different names for the tributaries that run between Ethiopia and Eritrea. This makes it unclear which streams are intended by the Treaty of 1902 to form the border. According to Eritrea, the village of Tsorena is in Eritrea, just north of the border, and Zelambessa is in Ethiopia, just south of the border. Ethiopia claims that both towns are directly on the border. The difference is a matter of a few miles, but results in a loss of land for Eritrea.

In the east, the dispute over the border town of Bure is based on disagreement over distance-measuring methods. Around Bure, the treaty defines the border provisionally as running "parallel to and at a distance of 60 kilometers from the coast," an ambiguous definition as it does not dictate how the 60 kilometers is to be measured. The treaty's recommendation that the border be more precisely delineated was never fulfilled. The countries disagree on where to start measuring 60 kilometers (37 miles) from the coast. The difference is merely a mile, but it is a loss of land for Eritrea.

In 1998, a 2½-year border war began between the two countries, and although hostilities ended under UN auspices, the border is still in dispute. The UN established a 25-kilometer (15-mile) Temporary Security Zone on the Eritrea side of the border and established a military contingent, the UN Mission to Ethiopia and Eritrea, to monitor the border.

Since 2002, neither Eritrea nor Ethiopia has been cooperative with the border demarcation. A virtual demarcation now in place lists 43 points (and their coordinates) that outline the internationally recognized border. Ethiopia has refused to recognize the virtual demarcation. Due to the continued disagreement, maps of the border may vary. The 43 points are listed in Appendix F.

## **The Illemi Triangle**

The Ethiopia/Kenya border was delimited in 1963. The border between Ethiopia and Sudan was delimited in 1902. The combined borders between Ethiopia, Sudan, and Kenya make up the area known as the Illemi Triangle. The area covers nearly 14,000 square kilometers (5,405 square miles) and is administered by Kenya, but claimed by all three countries. The dispute over the territory stems from a series of poorly worded colonial-era treaties written in an attempt to provide freedom of movement for the nomadic Turkana people of the border region. The three countries have been too involved with other priorities in the past couple of decades to resolve the issue.

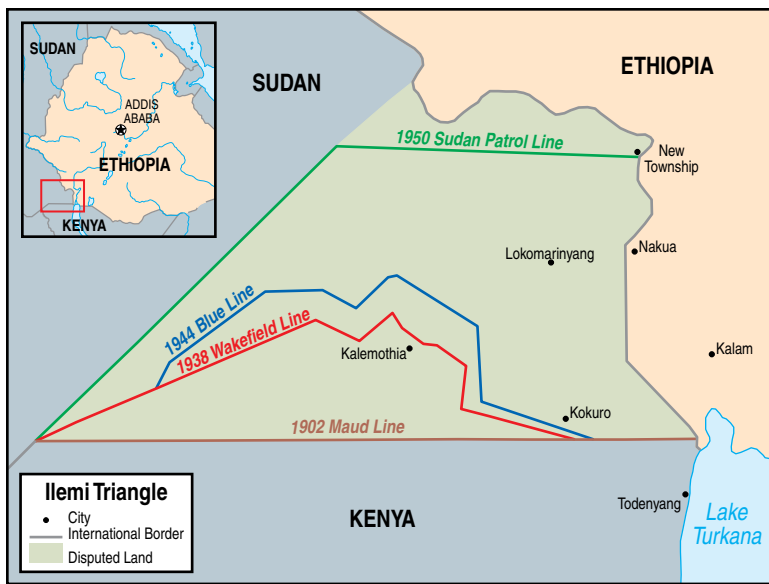
## **Sudan**

Ethiopian and Sudanese border farmers have long contested farmland delineation, particularly in Quara and Metema. In a meeting between the Sudan and Ethiopia governments in late 2008, Ethiopia allegedly ceded land to Sudan. Ethiopia has neither confirmed nor denied reports of Sudanese troops displacing Ethiopian farmers. News of the new boundary settlement along the 1,600-kilometer (994-mile) border surprised and angered many Ethiopians.

## ***Bodies of Water***

### **Rivers**

Ethiopia has nine major rivers, each of which originates in the highlands and flows through deep gorges into the surround-



***Ilemi Triangle Red line, also known as the Wakefield Line, was established by a joint Kenya-Sudan survey team in 1938. Blue line was established in 1944 by the British Office for Foreign Affairs. Sudanese patrol line was established unilaterally by Sudan in 1950.***

ing lowlands. The Blue Nile (in Ethiopia called the Abbai or Abay) is Ethiopia's largest river and the largest contributor to the Nile River Basin, which also includes the Baro-Akobo, Tekeze/Atbara, and Mereb rivers. The Blue Nile and covers 33 percent of the country, flowing through the northern and central parts westward into Sudan. The Awash River is part of the Great Rift Valley basin and flows east through the northern Great Rift Valley. The river ends in saltwater lakes in the Danakil Depression, the lowest point in Ethiopia (-125 meters [-410 feet]). The southern Genale-Dawa and Wabe Shebelle Rivers are part

of the Shebelle-Juba Basin and flow southeast into Somalia. The Omo River empties into Lake Turkana.

Ethiopia's large rivers and major tributaries are below 1,500 meters (4,921 feet). Most of Ethiopia's other rivers are seasonal with the highest levels occurring between June and August. In the dry season, springs provide enough baseflow for small-scale irrigation.

## **Lakes**

Ethiopia has Great Rift Valley lakes, highland lakes, and crater lakes. Most of Ethiopia's largest lakes are in the Great Rift Valley. Great Rift Valley lakes occupy the floor of the valley between the northern and southern highlands. Lake Zway is the valley's only freshwater lake.

### **Major Great Rift Valley Lakes**

<b>Lake</b>	<b>Area</b>	<b>Elevation</b>
Abaya	1,160 sq km (448 sq mi)	1,285 m (4,216 ft)
Chamo	551 sq km (213 sq mi)	1,235 m (4,052 ft)
Awasa	129 sq km (50 sq mi)	1,708 m (5,600 ft)
Zway	300 sq km (116 sq mi)	1,636 m (5,367 ft)
Abijata	205 sq km (79 sq mi)	1,573 m (5,160 ft)
Koka	250 sq km (97 sq mi)	1,590 m (5,217 ft)

Lake Tana (3,600 square kilometers [1,390 square miles] /1,788 meters [5,688 feet] elevation), the largest lake in Ethiopia, is located in the northern highlands. It is the source of the Blue Nile River and contains 37 islands. Heavy rainfall often causes water levels in Lake Tana to rise significantly, creating concerns about overflow. Lakes Hayq, Ardebo, and Ashengie are major highland lakes located near the edge of the western escarpment of the Great

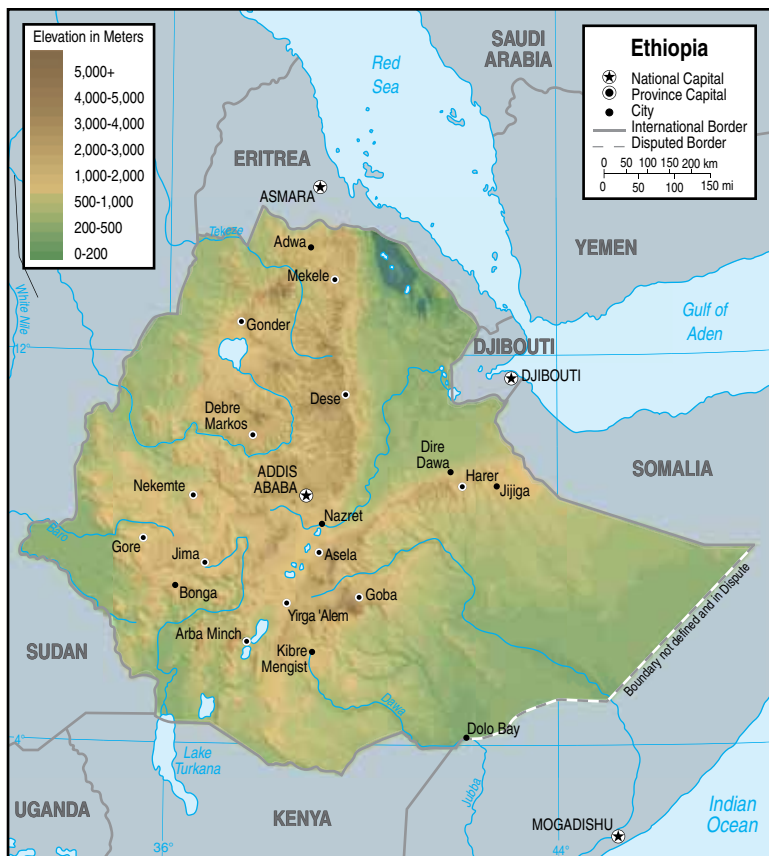
Rift Valley at altitudes between 2,000 and 2,500 meters (6,562 and 8,202 feet). Lake Ashengie is the largest of the three, covering 25 square kilometers (9.6 square miles) with a maximum depth of 20 meters (66 feet).

Several crater lakes (Bishoftu, Aranguade, Hora, Kilotes, and Pawlo) are located at the northwestern edge of the Great Rift Valley near the town of Debre Zeit at an altitude of nearly 1,900 meters (6,234 feet). The lakes lie in volcanic explosion craters produced 7,000 years ago.

## ***Topography***

Ethiopia's varied landforms include rugged highlands, isolated valleys, dense forests, and hot lowland plains. So rugged is Ethiopia's terrain that it has served as a defense against invading armies, isolating the country from the rest of the world. Ethiopia consists of four physiographic regions: the high plateaus, the central highlands, the lowlands, and the Great Rift Valley.

The high plateaus of Ethiopia are formidable natural barriers that have physically set the country apart from its neighbors. At elevations generally between 1,800 and 3,000 meters (5,905 and 9,842 feet), the Ethiopian Plateau, which comprises two-thirds of the country, consists of the northwest and southeast highlands. Both contain several mountain peaks approximately 4,500 meters (14,763 feet) above sea level. Erosion has produced steep valleys that are in some places 1,600 kilometers (5,246 feet) deep and several kilometers wide. Rapid streams in these valleys are unsuitable for navigation. The southeast highlands are mostly flat and arid (semi-desert). The northwest highlands are considerably more extensive and rugged; the valley of the Blue Nile divides these highlands into northern and southern sections.



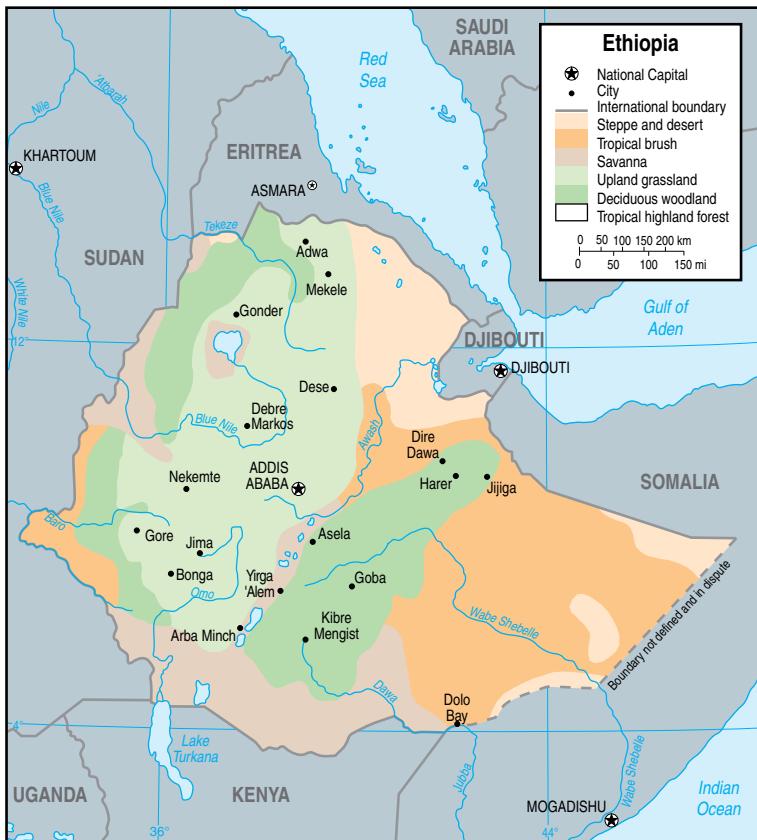
## Topography

The geologically active Great Rift Valley, which is susceptible to earthquakes and volcanic eruptions, runs north and south separating the northwest and southeast highlands. It is dotted with lakes and bounded on the east and west by escarpments. In the north, the valley widens into the Awash River Basin, which contains the Danakil Depression, a desert region 116 meters (380 feet) below

sea level that runs parallel to the Red Sea and consists of salt lakes and a major sinkhole, called the Kobar Sink.

## Vegetation

The flora of Ethiopia varies with elevation and climate. In the lowlands, vegetation is often dense and tropical, except in Danakil



## Vegetation



and the southeastern plains where only indigenous brush and acacia trees live. There are thickly wooded hillsides, particularly through the central highland elevations. In the highlands, bushes and trees are generally scattered in small clusters.

### **Cross-country Movement**

Much of Ethiopia is accessible only by air. Ethiopia's rugged terrain hinders most cross-country travel, even with four-wheel-drive vehicles. Landmines also present significant danger. The center of the country is covered by mountains and high plateaus that are divided by deep gorges and steep valleys. Changes in elevation can be from hundreds to thousands of feet. Most of the primary roads run along the Great Rift Valley from northeast to southwest. Ethiopia's road development has increased in the past decade. Still, driving four-wheel-drive vehicles with heavy-duty suspension is recommended. Many of the roads are simply areas that cut across the hard desert path. During periods of heavy rain, these roads become impassable. The road system radiates in all directions from the capital, Addis Ababa.

### **Urban Geography**

Ethiopia's urban centers are characterized by sprawling slums and unsanitary conditions. The urban poor live in cramped *kebeles* (urban villages) consisting of dilapidated shelters made of plastered wooden walls and tin roofs. Fewer than half of all households in 10 current regional capitals have access to potable water or access to latrines. Less than two-thirds of households in these areas have solid waste collection service.

The capital city of Addis Ababa is surrounded by smaller cities on the rail line and along major roads. The city is divided by elevation into two parts. The oldest, northern portion of the city, called

Arada, is centrally located. Arada has a public square, several small markets, and Addis Ababa University. The second, more contemporary part is Lower Addis Ababa, the commercial district. It has hotels, government buildings, restaurants, shops, museums, a soccer stadium, and a railroad station. It is also the main European and American business district.

Wealthy residential areas in Addis Ababa are southeast of the city near Bole International Airport and southwest of the city near Lideta Airport. The Bole International Airport is at the southeastern end of Bole Road. The most impoverished areas in Addis Ababa are near the central business district. There are slums and shantytowns in the north and northwest at Addis Ketema.

Addis Ababa, located below the Entotto Mountains, covers 222 kilometers (137 miles) and is the largest and most populated city in Ethiopia (2.25 million). The mix of towering mountains and the deep chasms they create adds to the diversity of the climate and vegetation in the area north of Addis Ababa.

Addis Ababa's architecture is a mix of old buildings in the Italian style, modern offices and apartments, Western-style villas, and mud-walled tin-roof dwellings. Streets are built on a grid pattern running north-south and east-west. Seven diagonal roads connect to seven circular plazas on the city's transportation network. Ethiopia's government renamed all the streets in Addis Ababa in 2005. Churchill Avenue, the main north-south corridor in Addis Ababa, was renamed Gambia Street. Gambia Street connects Arada to the southern portion of Addis Ababa. The roads in Addis Ababa are busiest at dusk, when cattle and goats are driven from fields to their owners' homes in the city.

Merkato, often called the Grand Market Area, is east of Arada and is potentially the largest market in Africa. Merkato is busiest on



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### **Women Shopping at Market**

Saturdays, when farmers, merchants, and tourists from all over the country are most likely to be there. Most of the foreign embassies, including the U.S. Embassy, are located northeast of Arada along Entoto Avenue.

Dire Dawa is 20 kilometers (12 miles) off the road to Harer in eastern Ethiopia. From Djibouti, Dire Dawa is a major city along the route to Addis Ababa. The city has a strong French influence due to its proximity to the former French colony of Djibouti. The wide boulevards and the infrastructure in Dire Dawa were modeled after large French cities, which makes Dire Dawa very different from all other cities in Ethiopia.

### **Climate**

Ethiopia's temperatures range from equatorial desert to cool steppe. In Ethiopia, the southwest receives the most rainfall, with

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an average annual rainfall of 2,200 millimeters (87 inches). The amount of rainfall decreases to less than 200 millimeters (8 inches) throughout the Danakil Depression, the lower Awash River Basin, and eastern Ogaden. Highland plateaus, which cover more than half of Ethiopia, are surrounded by arid and semi-arid lowlands. The highlands receive large amounts of rain and serve as the watershed for the surrounding lowlands.

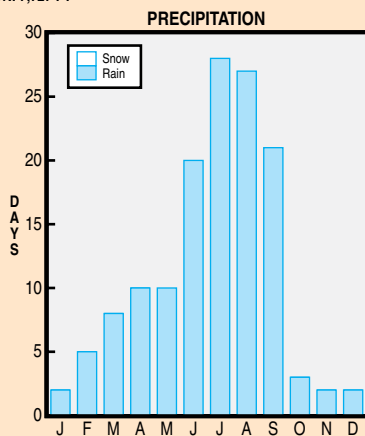
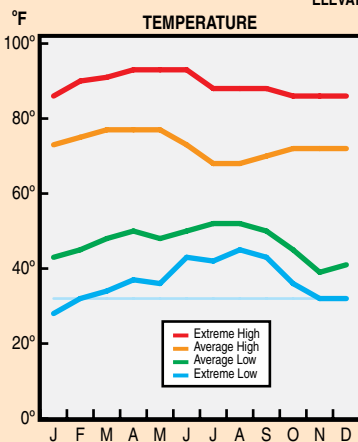
Ethiopia has three general climatic zones: tropical in the south and southwest, cold to temperate in the highlands, and arid to semi-arid in the northeastern and southeastern lowlands.

- The tropical zone, below 1,800 meters (5,905 feet), has an average annual temperature of 27°C (81°F) and an average annual rainfall of less than 500 millimeters (19.7 inches).
  - The subtropical zone, which includes most of the highland plateau and lies between 1,800 and 2,400 meters (5,905 and 7,874 feet) above sea level, has an average temperature of 22°C (72°F) and an annual rainfall ranging from 500 to 1,500 millimeters (19.7 to 59 inches).
- Above 2,400 meters (7,874 feet) is a temperate zone with an average temperature of 16°C (61°F) and an annual rainfall between 1,200 and 1,800 millimeters (47 and 71 inches). The main rainy season occurs from mid-June to September, followed by a dry season that may be interrupted in February or March by a short rainy season.
- The eastern lowlands are much drier with a hot, semi-arid climate. Rainfall occurs during April, May, July, and August, and the hottest months are February and March.

Nighttime temperatures may fall to near or below freezing in the mountains, particularly during the dry season. Occasionally, snow may fall on the highest peaks, but there are no permanent snowfields.

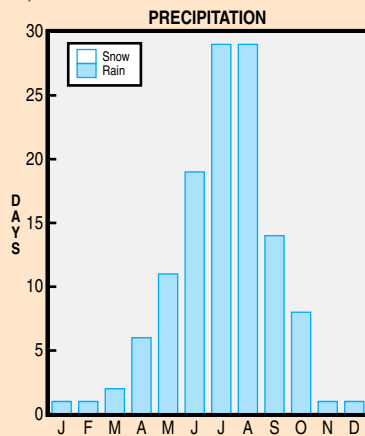
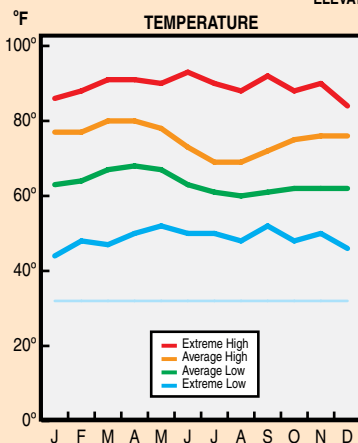
# ADDIS ABABA

ELEVATION: 7,727 FT



# GONDER

ELEVATION: 6,513 FT

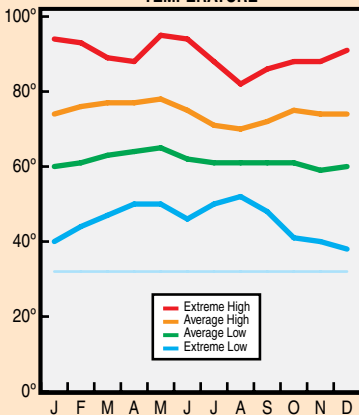


## Addis Ababa and Gonder Weather

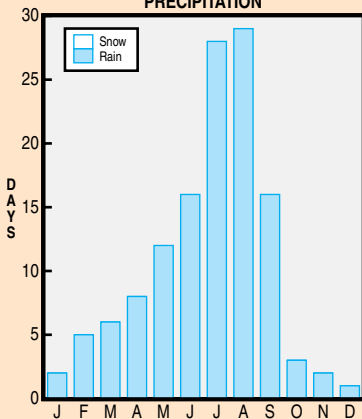
# HARER

ELEVATION: 6,155 FT

## TEMPERATURE



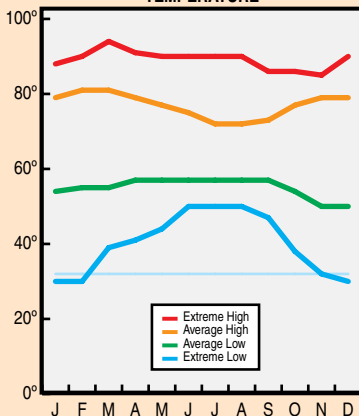
## PRECIPITATION



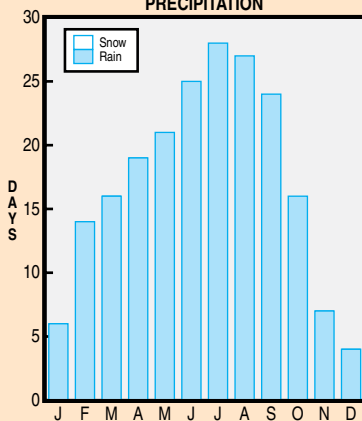
# JIMA

ELEVATION: 5,499 FT

## TEMPERATURE



## PRECIPITATION



## Harer and Jima Weather

## ***Precipitation***

In western Ethiopia, it can rain anytime between April and September, but the heaviest rains fall during July and August. Eastern Ethiopia has a short wet period from April to May and heavy rains in July and August. The Great Rift Valley has an average annual rainfall of 600 millimeters (23.6 inches); half this rainfall occurs between July and September. The western foothills of the rift escarpment experience an average annual rainfall of 800 to 1,000 millimeters (31.5 to 39.4 inches).

Monsoon winds blow west to southwest during the rainy season (winds blow northeast during the dry season). More than 1,000 millimeters (40 inches) of rain falls in the highlands, and as much as 1,500 to 2,000 millimeters (60 to 80 inches) of rain falls in the western parts of the country. Thunderstorms are frequent in the western parts of the country, occurring almost daily during the rainy season; throughout the region, there are more than 100 thunderstorms a year.

## ***Phenomena***

Intense rainfall causes flooding along the Awash River and in the lower Baro-Akobo and Wabe-Shebelle river basins, damaging crops and infrastructure. Dikes have been built as a temporary measure.

Droughts are common and are occurring with increasing frequency. Ethiopia has had 30 major droughts in the past 9 centuries; 13 were severe, affecting hundreds of thousands of people.

## ***Environment***

Ethiopia's long history of agricultural productivity has flourished from fertile, volcanic soils. However, drought, overgrazing, deforestation, and poor agricultural practices have begun to erode the

soil. Despite the erosion, agriculture accounts for 40 percent of Ethiopia's GDP and 90 percent of its export earnings; the country's chief export is coffee.

Major environmental issues in Ethiopia are deforestation, overgrazing, soil erosion, desertification, water pollution, and urban air pollution. In the central highlands, population growth, increased crop cultivation, and increased livestock grazing cause deforestation and soil erosion. In the south and southwest, deforestation is the result of resettlement, commercial farming, and fire. Despite repeated soil and water conservation campaigns, significant amounts of productive soil are lost every year to water and wind erosion. As Ethiopia's population increases, the nation relies more on its forests for fuel, hunting, agriculture, and housing construction, all of which accelerates deforestation.

Throughout Ethiopia, wetlands are used for livestock grazing, particularly during the dry season. In recent decades there has been a noticeable change in the wetland's characteristics, caused by livestock increases, fodder shortages, and expanding agriculture demands. Some wetlands have been transformed into rough grazing land.

Ethiopia's poor industrial and domestic waste disposal policies are causing water pollution in urban centers such as Addis Ababa, Mojo, and Debre Zeit. Toxic substances from sugar, textile, and tannery factories are dumped into rivers. Organic waste also contaminates Ethiopia's water.

Air quality has sharply declined in Addis Ababa and other major urban centers in Ethiopia because of an increase in motor vehicle use. Ethiopia developed the Conservation Strategy of Ethiopia (CSE) in 1989 and began seriously addressing environmental problems in the early 1990s, implementing The Environmental Policy of Ethiopia in 1997.



The area thought to be highest in mineral potential is in the west and southwest, particularly in Wollega, Illubabor, and Kaffa; however, the area is largely inaccessible because much of it is covered by rain forest. Exploration for petroleum was carried out with some success in the Bale region.

Hydroelectric power has great potential for the generation of electricity in Ethiopia. Several plants are already in operation along the Awash River. Developers are planning to put additional sites with both geothermal power provision and irrigation potential along the Blue Nile River.

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## **INFRASTRUCTURE**

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### **Transportation**

#### ***General Description***

Ethiopia's transportation sector is deficient: many towns lack access to all-weather roads; its commercial rail service infrastructure is negligible; and most of its airfields have unpaved runways that are vulnerable to weather damage. Ethiopia has no direct access to maritime port facilities and must rely on Djibouti and Somalia port facilities to handle its vessel traffic as Eritrea ports are not open to Ethiopia. Public transportation is unpredictable and dangerous.

#### ***Roads***

Ethiopia has 42,429 kilometers (26,364 miles) of roads, of which 5,515 kilometers (3,427 miles) are paved. As of 2007, 64 percent of asphalt roads were in good condition. More than half the country's gravel and rural roads are in poor condition. On average, a villager must travel 13 kilometers (8 miles) to reach an all-weather road. The Ethiopia Roads Authority (ERA) is working to expand, reha-

bilitate, and upgrade road conditions under Phase III of the Road Sector Development Program. ERA expects the road network to measure 135,554 kilometers (84,230 miles) upon completion.

During the rainy season (June to September), roads may become impassable due to flooding. Ethiopia experiences numerous earthquakes and volcanic eruptions, some of which may affect road



## Transportation Network

travel. Roads are economically vital to counter the lack of sufficient rail lines and domestic seaports. The road network transports 95 percent of passenger and freight traffic.

Pedestrians tend to cross the street at inappropriate places or walk along roads, paying no attention to traffic. Drivers should watch for stray livestock, wild animals, potholes, unlit vehicles, and false checkpoints. Outlying roads do not have lanes, road markings, or safety lights; road conditions are poor.

Driving is dangerous outside urban areas. Aggressive driving, armed robbery, banditry, carjacking, and speeding are serious problems. Tactics used by armed groups and terrorists include using false checkpoints, using explosive devices, and ambushing vehicles.



**Donkey Roaming the Streets**

Driving along the roads near Ethiopia's border regions with Eritrea, Kenya, Somalia, and Sudan is particularly dangerous, as the threat potential may be higher in these locations than it is elsewhere.

Landmines may pose a danger for drivers traveling on dirt roads in remote areas, particularly along the security zone separating Eritrea and Ethiopia. Incidents generally involve newly laid mines on recently cleared roads.

Vehicles travel on the right side of the road. Stuck and abandoned vehicles are commonplace during the rainy season. In many areas, roads may be passable only with four-wheel-drive vehicles. Accident rates are high.

Taxis and car hire services are available in urban areas. Blue and white shared taxis offer cheaper fares; neither use meters. Instead, fares are negotiated; passengers should agree on a price before departing. Private and public bus service is available throughout Ethiopia.

## ***Rail***

Ethiopia has one railroad, which uses narrow gauge (1 meter [3.2 feet]) line. It is 681 kilometers (423 miles) long and connects Addis Ababa with the port of Djibouti. Ethiopia and Djibouti own and operate the line, which is in bad condition. Hoping to reduce its reliance on Djibouti, Ethiopia reached an agreement with Sudan in 2001 to build a rail link to Port Sudan (1936N 03714E). The project will require a substantial amount of time and money (US\$1.5 billion) to complete.

Travelers should not travel by rail, as terrorists sabotage, bomb, and derail trains. Train schedules are unreliable and delays are

frequent. Rail bridges between Dire Dawa and Djibouti are also in need of repair.

Between 700,000 and 800,000 passengers and up to 250,000 tonnes (275,577 tons) of freight transit the railroad per year. The rail line is not important to Ethiopia's economy, as only a minor portion of passenger and freight traffic uses the system. Light-rail or subway services are not available.

## Air

### Primary Airfields

<b>Airport Name</b>	<b>Coordinates</b>	<b>Elevation</b>	<b>Runway Length x Width meters (feet)</b>	<b>Remarks</b>
<b><i>Arba Mingh</i></b>	0602N 03735E	1,187 m (3,894 ft)	2,795 x 47 (9,170 x 154)	Asphalt
<b><i>Asosa</i></b>	1001N 03435E	1,561 m (5,121 ft)	1,950 x 46 (6,398 x 151)	Asphalt
<b><i>Axum</i></b>	1408N 03846E	2,108 m (6,916 ft)	2,400 x 45 (7,874 x 148)	Asphalt
<b><i>Bahir Dar</i></b>	1136N 03719E	1,821 m (5,974 ft)	3,000 x 61 (9,843 x 200)	Concrete, asphalt, and bitumen-bound crushed rock
<b><i>Bole Intl</i></b>	0858N 03847E	2,334 m (7,657 ft)	3,800 x 45 (12,467 x 148)	Asphalt
			3,700 x 45 (12,139 x 148)	Asphalt
<b><i>Dire Dawa Intl (joint civil and military)</i></b>	0937N 04151E	1,167 m (3,829 ft)	2,679 x 45 (8,789 x 148)	Asphalt

<b>Airport Name</b>	<b>Coordinates</b>	<b>Elevation</b>	<b>Runway Length x Width meters (feet)</b>	<b>Remarks</b>
<b><i>Gambella</i></b>	0807N 03433E	540 m (1,772 ft)	2,514 x 45 (8,248 x 148)	Concrete
<b><i>Gode</i></b>	0556N 04334E	254 m (833 ft)	2,288 x 35 (7,507 x 115)	Concrete, asphalt, and bitumen-bound crushed rock
<b><i>Gonder</i></b>	1231N 03726E	1,994 m (6,542 ft)	2,780 x 45 (9,121 x 148)	Asphalt
<b><i>Jima</i></b>	0739N 03648E	1,703 m (5,587 ft)	2,000 x 50 (6,562 x 164)	Asphalt
<b><i>Lalibella</i></b>	1158N 03858E	1,958 m (6,424 ft)	2,435 x 53 (7,989 x 174)	Asphalt
<b><i>Lideta (military)</i></b>	0900N 03843E	2,362 m (7,749 ft)	1,170 x 20 (3,389 x 66)	Asphalt
<b><i>Mekale</i></b>	1328N 03932E	2,257 m (7,405 ft)	3,604 x 43 (11,824 x 141)	Asphalt

International airlines with regular service to Addis Ababa include Air France, British Airways, Djibouti Airlines, Kenya Airways, and Lufthansa. Ethiopia Airlines provides domestic and international flights. Its domestic routes cover all the main population centers. International direct routes cover many African, Asian, European, and Middle Eastern cities. Washington, DC, is Ethiopia Airlines' only U.S. destination.

Ethiopia has 84 airfields, 15 of which were paved as of 2007. Three of the paved runways are longer than 3,047 meters (10,000 feet); 21 unpaved runways are shorter than 914 meters (3,000 feet).

Aircraft attempting to land on or take off from many of these runways frequently have to navigate around obstacles on runways, terrain features, birds, livestock, and wildlife.

The Ethiopia Civil Aviation Authority is responsible for establishing air transportation regulations. The U.S. Federal Aviation Administration has assessed Ethiopia's Civil Aviation Authority as being compliant (Category 1) with International Civil Aviation Organization's safety standards. The Ethiopian Customs Authority is responsible for protecting air travel by screening cargo, baggage, and travelers.

## Maritime

### Primary Ports

Port Name, Coord.	Berthing	Anchor Depth	Pier Depth	Remarks
<b><i>Djibouti (Djibouti)</i></b> , 1136N 04308E	Vessels more than 152 m (500 ft) in length	6.4–7.6 m (21–25 ft)	6.4–7.6 m (21–25 ft)	Channel depth: 9.4–10.7 m (31–35 ft)
			Oil terminal: 9.4–10.7 m (31–35 ft)	
<b><i>Berbera (Somalia)</i></b> , 1027N 04501E	Vessels more than 152 m (500 ft) in length	11–12.2 m (36–40 ft)	9.4–10.7 m (31–35 ft)	Channel depth: 9.4–10.7 m (31–35 ft)
			Oil terminal: 7.9–9.1 m (26–30 ft)	
<b><i>Sudan (Sudan)</i></b> 1936N 03714E	Vessels more than 152 m (500 ft) in length	20.1–21.3 m (66–70 ft)	7.9–9.1 m (26–30 ft)	Channel depth: 23.2+ m (76+ ft)
			Oil terminal: 9.4–10.7 m (31–35 ft)	

Ethiopia has no significant navigable waterways; most rivers are seasonal; the water levels are highest between June and August.

Boulders, small islands, and other obstacles make navigating rivers extremely difficult, even with light watercraft.

Most large lakes are navigable by light watercraft. Lake Shala is the deepest, at 226 meters (741 feet).

Ethiopia's largest lake, Lake Tana, contains 37 islands. Ferry services to these islands is available, and the lake is navigable year-round.

Ethiopia had a fleet of nine merchant vessels as of December 2008: one roll-on/roll-off vessel and eight cargo ships. Dugout canoes, inflatable rafts, kayaks, and *tankwa* (papyrus boats) are common sights in navigable lakes and rivers.

## Utilities

### ***Electricity***

Ethiopia has one of the world's lowest rates of access to modern energy technology, and relies primarily on wood, crops, and animal waste to supply its energy needs. According to the World Bank, 12 percent of Ethiopians have access to electricity (2 percent of rural residents and 86 percent of urban residents). Hydropower is the backbone of the energy sector, and as such, energy is in short supply during droughts.

Eight hydropower dams account for more than 85 percent of Ethiopia's 767 megawatts of grid-based generating capacity. Six of the eight plants were built prior to 1988; the oldest was built in 1964. Five additional hydropower sites with a combined capacity of 3,125 megawatts are under construction. Two of those sites, Tekeze (300 megawatts) and Gilgel Gibe II (480 megawatts), are expected to double the national capacity. The aim is



to increase capacity to 9,000 megawatts by 2018, with surplus power exported to neighboring Kenya, Djibouti, and Sudan. Another goal is to improve the efficiency of existing energy resources, since energy loss is 19.5 percent compared to the international average of 13.5 percent.

Electricity in Ethiopia is delivered in 220 to 240 or 110 volts (depending on location), alternating at 50 cycles per second. Outlets accept three types of plugs: type D with three round pins, type J with three round pins (one offset), and type L with three parallel pins.

## ***Water***

Ethiopia has one of the lowest water supply and sanitation coverage levels in the world. Budget resources combined with other aid have not been sufficient to improve coverage, and user fees for service are often too low to provide for adequate maintenance of facilities.

Ethiopia's water resources are unevenly distributed. More than 80 percent of Ethiopia's surface water comes from one of the four river basins in the west and southwest regions: (Abay [Blue Nile], Tekeze, Baro-Akobo, and Omo-Gibe). River basins in the east and central regions make up the remainder of Ethiopia's surface water, but this region has 60 percent of the nation's population. Coverage reached 52.5 percent in 2007 (82 percent urban and 46.5 percent rural), up from less than 30 percent in 2002.

Many people travel long distances to search for water from boreholes, springs, ponds, streams, and rivers. Water from rivers and other undeveloped sources is often unsafe and unreliable. Even in urban centers, the supply and quality of water is inadequate and unreliable.

## **Sanitation**

Ethiopia's sanitation infrastructure is nearly nonexistent. According to the World Health Organization, 8 percent of the rural population has access to improved sanitation coverage, 2 percent has access to shared coverage, 16 percent has access to unimproved coverage, and 74 percent has no coverage, leaving people to use open areas (open defecation). Urban residents fare better at 27 percent improved, 35 percent shared, 27 percent unimproved, and 11 percent no coverage.

The quality of facilities (mostly latrines) is poor. More than 50 percent are considered structurally unsafe, and 50 percent are unhygienic. Public sanitation services such as public toilet facilities, sludge (seepage) collection, and related environmental health services are generally inadequate and do not meet demands. Addis Ababa is the only town with a sewerage system, but it is small.

## **Communication**

Ethiopia's government controls the communication assets in Ethiopia. All television and radio stations are state owned, but two private commercial radio stations have run broadcast tests, as of late 2007. Communication assets include radio, television, internet, satellite, print publications, fixed and mobile telephones, and post offices. Microwave radio; open-wire; HF, VHF, UHF radio communication services; and satellite contribute to the domestic telecommunications system. The fixed-line telephone system is adequate, but travelers should expect service interruptions. Cellular services are expanding, but they are currently only available in urban centers.

Ethiopia's laws provide for freedom of expression and press, but government actions against individuals, organizations, and media limit this freedom. All media outlets practice self-censorship

to avoid government intimidation, fines, confinement, or forced closure. Foreign and private media is also pressured to practice self-censorship. Such actions of pressure include harassment, threats, physical abuse, prosecution, and restricting journalists' access to information. The government also monitors internet activities, particularly those of journalists, editors, and publishers. Ethiopia's Ministry of Information occasionally denies press accreditations to journalists.

## **Radio**

Ethiopia has nine radio stations: eight AM stations and one short-wave (SW) station (as of 2005). Radio Ethiopia, Radio Fana, and Voice of Tigray Revolution are three of Ethiopia's main AM, FM, and SW radio stations. Broadcast languages include Oromigna (Afan Oromo), Afar, Amharic (Amarigna), Arabic, English, French, Somali (Somaligna), and Tigrigna. Sheger Radio and ZAMI are private commercial radio stations. Sheger broadcasts music and entertainment programs, while ZAMI broadcasts news and talk shows.

Voice of America (VOA), BBC World Service Radio, and Radio France Internationale (RFI) are international broadcasts available through shortwave radio. VOA broadcasts many programs in Oromigna, Amharic, English, and Tigrigna. A variety of programs and stations are also available in English on BBC Radio. RFI broadcasts programs in English and French through SW radio and satellite. Frequencies vary according to the time of day.

Radio is a very significant medium because much of the population is illiterate and/or has limited access to electricity, or is unable to afford television. Ethiopia has 184 radios per 1,000 inhabitants (2001).

## Major Stations

*Radio Ethiopia (684 AM, Metu; 855 AM, Harer; 873 AM, 990 AM, 97.1 FM, Addis Ababa)*

*Radio Fana (1080 AM, 98.1 FM, 6110 SW, 6940 SW, 7210 SW, Addis Ababa, Afar, Oromia, Somali)*

*BBC Radio (6005 SW, 7375 SW, 9410 SW, 9750 SW, 11945 SW, 12035 SW, 15420 SW, 17640 SW, 21470 SW)*

*Radio France Internationale (7315 SW, 9790 SW, 9805 SW, 11700 SW, 11995 SW, 13680 SW, 15605 SW, 21620 SW)*

*Voice of America (9320 SW, 9485 SW, 9860 SW, 11520 SW, 11675 SW, 11905 SW, 13870 SW)*

*Voice of Tigray Revolution (5950 SW, 5980 SW, 6170 SW, 9650 SW)*

## Programming

N/A

Entertainment, information, news, talk

Business news, entertainment, music, news, sports, talk

Information, music, news, sports

Entertainment, music, news, sports, talk

N/A

## Television

Ethiopian Television (ETV) is the only domestic television network; it is state owned. Broadcasts are in Amharic, English, and other local languages. Programs offered include films, documentaries, talk shows, news, and music TV. ETV Channel 1 broadcasts 8 hours per day Monday through Friday and more than 16 hours on weekends. ETV Channel 2 is Ethiopia's only regional free-to-air channel; it is located in Addis Ababa.

Satellite television from South Africa and from ArabSat satellite service providers is available, but only the elite can afford

it. Many Ethiopians cannot even afford to purchase a television. Satellite service is available by subscription. BBC World, CNN, MTV, SABC, and Sky TV are satellite channels. Four percent of Ethiopian households own a television, according to the World Bank (as of 2006).

### **Primary Television Stations**

### **Location**

*ETV, Channel 1*

National

*ETV, Channel 2*

Addis Ababa

## ***Telecommunication***

Ethiopian Telecommunications Corporation (ETC), a telecommunications monopoly, is a state-owned company offering fixed and wireless telephone services. ETC also offers internet service through its internet service provider, Ethiopian Telecommunications Agency (ETA). The current backbone infrastructure uses microwave, open-wire, radio, and VSAT technology.

The telephone system is inadequate. Ethiopia has one of the lowest teledensities in Africa. One percent of Ethiopians subscribe to land-line telephone services, and less than 2 percent use mobile phones. ETC's goal is to expand the telecommunications infrastructure to rural areas through digital, satellite, wireless, and fiber-optic technologies. Major obstacles to telecommunication expansion in rural areas are high initial costs, geography, and remoteness. Telephone service interruptions are common, particularly during the rainy season. Pay phones are available in urban centers.

ETC also offers cellular phone service using GSM technology. SMS (text messaging) is available. ETC has roaming agreements with numerous international companies in Africa, the Americas, Asia, Europe, and the Pacific. Other roaming partners include U.S. service providers AT&T and T-Mobile USA. Network coverage is

available in Ethiopia's large urban centers, but is limited or absent elsewhere. Satellite phones are more reliable, but they are expensive.

### **Ethiopia Telecommunication Statistics**

<i>Total telephone subscribers</i> (2007)	2,088,600
<i>Telephone subscribers per 100 inhabitants</i>	2.5
<i>Main telephone lines</i>	880,100
<i>Main telephone lines per 100 inhabitants</i>	1
<i>Mobile users</i>	1,208,500

### **Internet**

Internet access is available mainly in Addis Ababa, but is also available elsewhere. Connectivity is slow and disruptions are frequent. The public accesses the internet at internet cafes, public libraries, schools, and universities. Internet access is available through one internet service provider: the state-owned company ETC.

Technologies such as VSAT, dial-up, and DSL are available; dedicated internet connections are not available. Satellite internet is not available for personal use. A Chinese telecom company is helping ETC upgrade its network with 3G technologies, which will include wireless internet capabilities.

ETC and the ETA control all access to the internet. People can generally express their views through the internet, but there are strict limitations. There are reports that the government monitors and blocks political opposition websites, diaspora group activity, news sources, domestic online magazines, human rights group activity, and websites that criticize the government. Popular blogging websites are also blocked. The ETA requires internet cafes to record the personal information of individual users along with web logs; lists go to law enforcement.

## Ethiopia Internet Statistics

<i>Total Internet hosts</i> (2008)	128
<i>Hosts per 10,000 inhabitants</i> (2008)	<1
<i>Users</i> (2007)	290,850
<i>Users per 100 inhabitants</i> (2007)	0.35
<i>Total number of personal computers (PCs)</i> (2007)	531,840
<i>PCs per 100 inhabitants</i> (2007)	0.64
<i>Internet broadband per 100 inhabitants</i> (2007)	0

## Newspapers and Magazines

Major English-language daily newspapers are *Addis Zemen*, the *Daily Monitor*, and the *Ethiopian Herald*. *Addis Zemen* and the *Ethiopian Herald* are state-owned newspapers; *Addis Admass*, *Addis Fortune*, *Addis Tribune*, *Capital*, and the *Daily Monitor* are privately owned. *Addis Fortune* and *Capital* are business newspapers. *Helm* is a quarterly English-language Ethiopian publication focusing on art, culture, entertainment, and fashion. The *Sub-Saharan Informer* is a weekly English-language Pan-African newspaper that is available in Ethiopia.

The *International Herald Tribune*, *Newsweek*, and *Time* are international publications that are available in Addis Ababa. Other international publications include English- and French-language newspapers that are available at hotels and newsstands. International publications are available. Finding newspapers and other publications printed in English outside Addis Ababa may be difficult because of the low literacy rate and the remoteness of many areas.

Publication	Politics	Lang.	Freq.	Web Address
Addis Admass	N/A	Amharic	Weekly	<a href="http://www.addisadmass.com">www.addisadmass.com</a>
Addis Fortune	N/A	English	Weekly	<a href="http://www.addisfortune.com">www.addisfortune.com</a>

<b>Publication</b>	<b>Politics</b>	<b>Lang.</b>	<b>Freq.</b>	<b>Web Address</b>
Addis Tribune	N/A	English	Weekly	www.addistribune.com
Addis Zemen	Pro-govt	Amharic	Daily	N/A
Capital	N/A	English	Weekly	www.capitalethiopia.com
The Daily Monitor	N/A	English	Daily	N/A
The Ethiopian Herald	Pro-govt	English	Daily	N/A
The Reporter	N/A	Amharic	Biweekly	www.ethiopianreporter.com (Amharic version)
		English		en.ethiopianreporter.com (English version)

## ***Postal Service***

The official name of the postal service is Ethiopian Postal Service. The postal service provides postbox rentals, courier services, and money orders. Ethiopia had 1,387 post offices as of 2006. Fewer than 1 percent of the population has home delivery. In urban areas, mail delivery and collection occurs twice per day; it averages five times per week in rural areas. The postal system is reliable. DHL, EMS, and TNT provide international delivery services; FedEx and UPS contract services through domestic couriers.

## ***Satellites***

Ethiopia has access to three Intelsat satellite earth stations: one in the Atlantic Ocean and two in the Pacific Ocean. The satellite systems are for voice communications, radio, internet, and television broadcasts. Most of Ethiopia is rural and has no telephone landlines. There are no connections to submarine cables because Ethiopia is landlocked. Ethiopia's geography and the remoteness of many areas are also obstacles for laying underground cables.



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## CULTURE

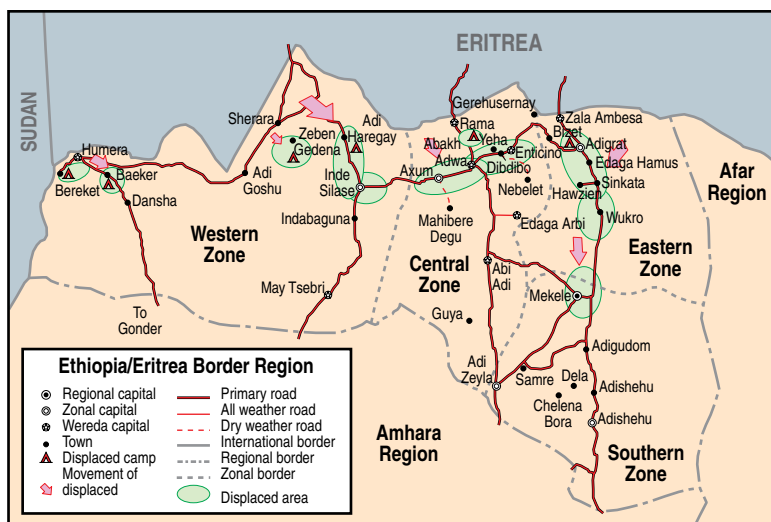
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### Statistics

<i>Population</i>	85,237,338 (July 2009 est.)
<i>Population growth rate</i>	3.21% (2009 est.)
<i>Birth rate</i>	43.66 births/1,000 population (2009 est.)
<i>Death rate</i>	11.55 deaths/1,000 population (July 2009 est.)
<i>Net migration rate</i>	-0.02 migrant(s)/1,000 population (2009 est.)
<i>Life expectancy at birth</i>	Total population: 55.41 years Male: 52.92 years Female: 57.97 years (2009 est.)
<i>Population age structure</i>	0 to 14 years: 46.1% 15 to 64 years: 51.2% 65 years and older: 2.7% (2009 est.)
<i>Date of the last census</i>	A population and housing census was conducted in 2007

### Population Patterns

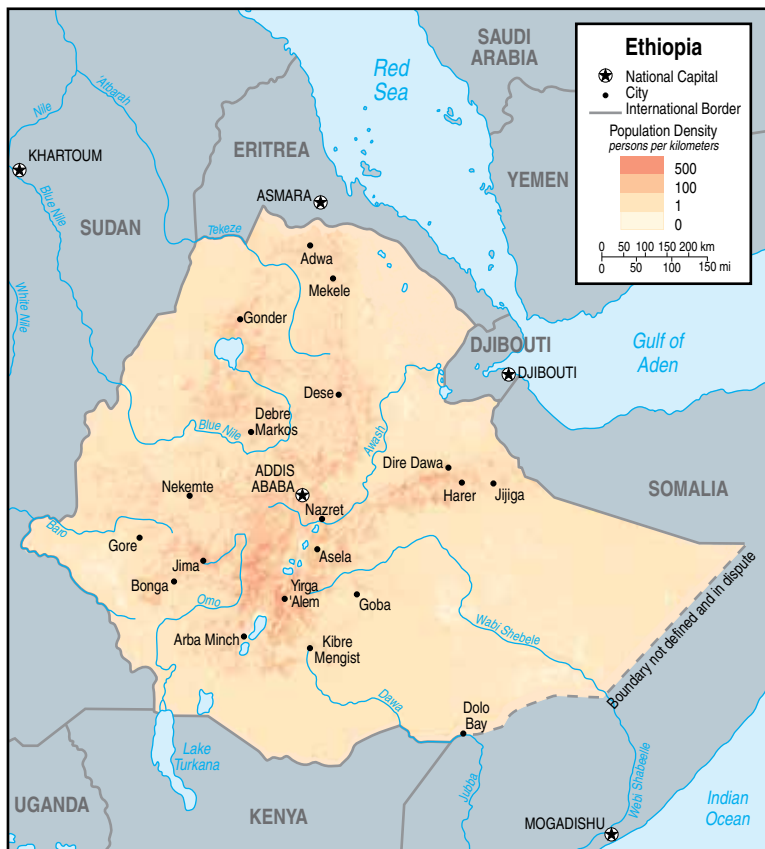
Ethiopia is predominantly rural. According to the 2007 census, 84 percent of Ethiopia's population lives in rural areas. Nearly 37 percent (27.1 million) of the population lives in the regions of Oromia, which is the largest state in Ethiopia. The next largest populations are in the states of Amhara with 23 percent (17.2 million); Southern Nations, Nationalities, and Peoples Region (SNNP) with 20 percent (15 million); Somali 6 percent (4.4 million); and Tigray with 5.8 percent (4.3 million). Addis Ababa, the capital city, accounts for only 3.7 percent (2.7 million) of the population. The remaining regions each represent less than 9 percent of the population.



## Displaced Population

Population density is highest in the highlands, which run through central Ethiopia along the Great Rift Valley and stretch north to the border with Eritrea. The highlands have a population density of 65 people per square kilometer (169 per square mile) according to the 2007 census. Urban settlements cover less than 0.5 percent of Ethiopia's land area. Urban population density is 2,820 people per square kilometer (7,306 per square mile). Addis Ababa has the highest population density, with more than 5,100 people per square kilometer (13,300 per square mile).

Internal displacement is significant. Ethnic clashes and regional conflicts force many to seek shelter elsewhere in Ethiopia. Conflict between Ethiopia and Eritrea has displaced many Ethiopians, who have not yet resettled. Displacement to and from neighboring countries is substantial. Refugees from Eritrea, Somalia, and Sudan are seeking safety in Ethiopia. Nearly 15,000 Ethiopian refugees



## Population Density

are reported to be living in Kenya as of 2007. Between 200,000 and 250,000 Ethiopians are refugees. Most are in the Gambella, Oromiya, and Somali regions, which also suffer from ethnic conflicts. Droughts, famine, floods, and landslides are among other contributing factors to migration patterns.

## ***Population of the Major Cities in Ethiopia***

<b>City</b>	<b>Coordinates</b>	<b>Population (2007)</b>
Addis Ababa	0900N 03845E	2.7 million
Bahir Dar	1160N 03738E	220,300
Dire Dawa	0935N 04152E	343,000
Gonder	1236N 03728E	207,000
Nazret (Adama)	0832N 03916E	222,000

## **Population Density**

The exact number of ethnic groups in Ethiopia is unknown, but anthropologists speculate it is between 60 and 80. According to the 2007 census, the largest ethnic groups are the Oromo (34.5 percent), Amhara (27 percent), Somali (6.2 percent), Tigray (6 percent), Sidama (4 percent), Guragie (2.5 percent), and the Welaita (2.3 percent). The Oromo, Ethiopia's largest ethnic group, is dominant in central and southern Ethiopia. The Amhara and Tigray generally reside in the north, the Afar resides in the north-east, and the Somali resides in the southeast.

Most linguistic affiliations among the ethnic groups are based on languages that belong to the Afro-Asiatic language family: Cushitic, Ethio-Semitic, and Omotic. Cushitic speakers are generally located in central Ethiopia, stretching north, south, and east. The Afar, Oromo, Sidama, and Somali languages belong to the Cushitic group. Ethio-Semitic speakers generally live in the highlands of central and northern Ethiopia. The Amhara, Silte, and Tigrigna languages belong to the Ethio-Semitic group. Omotic speakers are in the far southwest along the Omo River. The largest group of Omotic speakers is the Welaita (Welamo). While most Ethiopians speak Afro-Asiatic languages, some in the west and southwest along the border with Sudan speak languages from the Nilo-Saharan language family.

## Society

Most Ethiopians are poor and are aware of the economic and political difficulties preventing the country from moving forward. Most understand that political parties, many of which are ethnically based, are hindering the development of a strong national identity. Ethnic tensions and militant movements affect national cohesion. Government-demarcated land boundaries, not recognized by tribes, divide ethnic groups.

Although Amharic is the national language, regional languages are becoming more significant as local governments exercise their freedom to choose their own language for administration. Ethiopia's diverse society comprises strong ethnic loyalties that resist the major ethnic influences. Other major influences on society are The Ethiopian Orthodox Church and Islam.

Marriages, births, and deaths are significant events in Ethiopian society. Christian mothers go to their mother's home with their newborn. Newborn boys will stay at their grandmother's home with their mother for 40 days; girls stay for 80 days. Babies are baptized after the 40- or 80-day period. Following the baptism, the baby's family rolls the baby on top of a piece of fresh *injera* (Ethiopian flat bread), believing this guarantees a rich life for the baby.

Marriage traditions in Ethiopia vary between groups. Some marriages are arranged. Although this practice is losing popularity, families still have influence regarding spouse selection. The groom's family pays a dowry to the bride's family. The amount is not fixed; it varies according to wealth. Weddings take place at houses of worship or in a *takelil* ceremony. During the *takelil*, the bride and groom agree never to divorce. Brides join their husband's family. Weddings are elaborate family events that last up to 3 days.

When a death occurs in a Christian family, men and women grieve by wailing and pulling at their hair. Christian families host a wake for several days before the funeral and burial. Muslims bury their dead within 24 hours of death. The body is wrapped in a white shroud and buried with the head facing Mecca. The Muslim call to prayer is recited and members of the funeral party throw dirt into the grave while reciting from the Qur'an. The grave is then filled and the ceremony leader recites other prayers.

A significant public tradition in Ethiopia is the Christian celebration of *Meskel*, which commemorates the 4<sup>th</sup> century finding of the cross on which Jesus Christ was crucified.

## ***People***

The Oromo and Amhara are the largest ethnic groups in Ethiopia. Most Ethiopians live in rural areas and farm small agricultural plots.



**Funeral Procession** (*courtesy of traveladventures.org*)

## **Male-to-female Ratio**

<i>At birth</i>	1.03 male(s)/female
<i>Under 15 years</i>	1.00 male(s)/female
<i>15 to 64 years</i>	0.96 male(s)/female
<i>65 years and older</i>	0.75 male(s)/female
<i>Total population</i> (2009 est.)	0.97 male(s)/female

## **Oromo (Central)**

The Oromo inhabit most of central Ethiopia. They are the largest ethnic group, accounting for 34.5 percent of the population, but they have never maintained political power. The Oromo claim to be oppressed and exploited; a lack of political representation has resulted in Oromo separatist movements.

## **Amhara**

The Amhara live mainly in the northwest. They are the dominant ethnic group and now inhabit many areas. Their dominance led to the adoption of Amharic as the national language. Political dominance was maintained with the help of the Tigray who also resided in the north. Resistance to the Amhara's dominance has resulted in separatist movements, particularly among the Oromo. The Amhara make up 27 percent of the population.

## **Somali**

The Somali inhabit the eastern regions of Ethiopia. They make up 6.2 percent of the population and are predominately Muslim. The Oromo and Somali languages belong to the Cushitic group. Ethiopia and Somalia fought a border war in 1964 and a conflict from 1977 to 1978 over the Ogaden Region of Ethiopia, which is inhabited mostly by ethnic Somalis. Somali separatist movements operate from the Somali territory and continue to create domestic

and regional tensions. In response to domestic attacks carried out by Somali separatist movements in 2007, security forces restrict deliveries of food aid and commercial traffic to the Somali Region.

## **Tigray**

The Tigray come from the northern regions of what is now the state of Tigray, which they share with the Amhara. The Amhara and Tigray speak languages belonging to the Ethio-Semitic group. The Tigray make up 6 percent of the population. The main political group in Ethiopia, the Ethiopian People's Revolutionary Democratic Front (EPRDF), consists of mostly Amhara and Tigray.

Ethiopia's government recognizes 64 ethnic groups: a list of the largest ethnic groups is as follows:

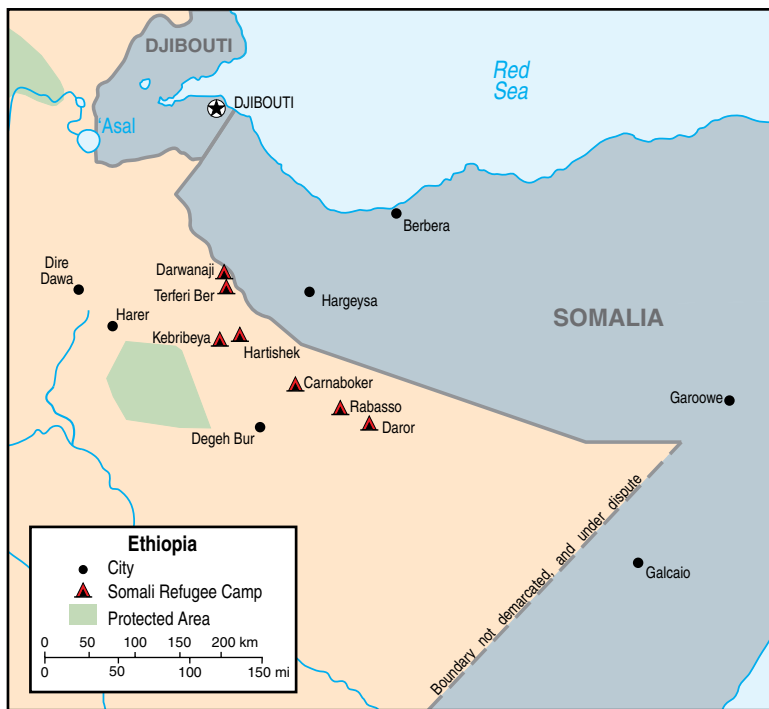
### **Major Ethnic Groups**

<b>Group</b>	<b>Population</b>	<b>Location/Region</b>
Amhara	19.9 million	Addis Ababa, Afar, Amhara, Benishangul-Gumuz, Dire Dawa, Gambella, Oromia, Tigray, SNNP
Guragie	1.9 million	Addis Ababa, Oromia, SNNP
Oromo	25.5 million	Amhara, Benishangul-Gumuz, Oromia, Somali
Sidama	3 million	SNNP, Oromia
Somali	4.6 million	Dire Dawa, Oromia, Somali
Tigray	4.5 million	Addis Ababa, Tigray
Welaita	1.7 million	Oromia, SNNP

## **Refugees**

More than 380,000 refugees have been in Ethiopia, including 200,000 Somalis, 55,000 Sudanese, 3,000 Djiboutians, and about 5,000 Kenyans who fled ethnic strife in northeastern Kenya in mid-1993. Aid from the United Nations High Commissioner for





## Primary Somali Refugee Camps

Refugees (UNHCR) to the refugees in Ethiopia includes significant financial and development assistance. The UNHCR maintains 14 camps in Ethiopia.

The Somalis mainly arrived in 1988–1992, fleeing civil war and famine. Others arrived in late 1994, following renewed inter-clan clashes. Recent fighting in northwest Somalia is a major obstacle to the repatriation of Somali refugees, though a pilot project involving 10,000 refugees from camps around Jijiga and Aware is planned.

The Sudanese fled their country because of famine and civil war. The number of Sudanese refugees is increasing because of ongoing fighting in Sudan. Most of the refugees are Nilotic Sudanese of the Nuer, Dinka, and Shiluk ethnic groups. With no peace foreseen, it is unlikely that the refugees will return to Sudan soon. In mid-1993, up to 18,000 Afar refugees from Djibouti fled to northeastern Ethiopia after ethnic clashes and civil war; their exact number has never been determined. A peace agreement signed in Djibouti in 1994 was anticipated to pave the way for eventual repatriation, but the refugees have yet to return.

There are approximately 11,000 internally displaced people around Addis Ababa and an additional 25,000 near Dollo, the tri-border of Ethiopia; Kenya; and Somalia, including 10,000 people in Gode.

## ***Social Hierarchy***

Ethiopia's social hierarchy has resulted in four groups: high-ranking lineages, low-ranking lineages, caste groups, and slaves. In some cases, one's ethnicity also determined one's social standing, marriage prospects, and employment opportunities, and made some ethnic groups slaves to others. The social hierarchy is not as strong as it once was, but it is still influential in rural areas. Some jobs carry more prestige than others do. Ethiopians consider jobs such as leatherworking, metalworking, and pottery making to be of low social standing.

## ***Family***

The typical family structure includes the father, mother, children, and extended family. Some adult male siblings (and their families) live together in a common space provided by the family patriarch. Living with extended family is common in rural areas. Some fam-



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### Ethiopian Woman and Child

ilies have servants. Extended family and servants help with raising children when both parents work outside the home. Rural children begin helping with chores at home at an earlier age than children in urban areas do.

Men, particularly Muslims, can have more than one wife (polygamy). Males tend to marry at a later age than do females. Many marriages in rural areas are still arranged; however, in urban areas individuals usually choose their own partners. Couples either marry in their respective houses of worship (church, mosque, synagogue, temple) or conduct a *takelil*. A *takelil* is a ceremony in which a bride and groom agree never to divorce. Brides join the husband's family.

*Debo* and *iddir* are traditional forms of social welfare systems. *Debo* is communal sharing of work. Farmers having difficulties

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## Ethiopian Children

may invite neighbors over to help in return for food and drink. The *iddir* provides aid for people in the same neighborhood or occupation and between family and friends during emergencies. The head of each family contributes money monthly to the *iddir*. *Iddirs* are also used for community development.

## ***Roles of Men and Women***

Ethiopia has a patriarchal society. Men are the leaders in society and in their households. Men dominate the job market and are responsible for heavy agricultural work, such as cultivating, harvesting, tilling, woodcutting, and herding livestock.

Women are primarily responsible for light harvesting and brewing beer, buying and selling items in the market, cooking, cleaning, laundry, and fetching water and wood. Women generally work at



### **Oromo Men Working in Southern Ethiopia**

home and are in charge of daily household responsibilities. Women are also responsible for child care, including meeting educational and medical needs. Although men are the authority figures in the household, women and extended family members may discipline children. Women have fewer economic opportunities than men have. Women are economically dependent on male relatives and have little influence in family and community matters. Tradition prevails over some legal rights for women, such as inheritance and property rights. Female-headed households are more marginalized and poorer than male-headed households.

Women have legal equality and are part the workforce, but they are poorly represented at higher levels in all careers and continue to face discrimination in the workplace. Women have higher levels of unemployment, and women's salaries are significantly less than those of their male counterparts are. Discrimination against

women is less common in urban areas than in rural areas. Women held only 21 percent of lower Parliament seats and 19 percent of upper Parliament seats as of May 2007. Three of the 14 members of the Supreme Court were women. Ten percent of Ethiopians working in the government at the ministerial level were women.

Women also face discrimination at home. Domestic violence is pervasive. It is estimated that nearly 79 percent of women suffer from domestic violence. Societal pressure, values, and a limited infrastructure prevent women from reporting marital violence and rape. The government takes little action against domestic violence. Often domestic violence is not reported, investigated, or prosecuted because authorities do not consider it a serious justification for divorce. Sexual harassment is widespread, and laws against sexual harassment are rarely enforced. Child abuse is also widespread, particularly among girls.

Children become adults at age 18. The minimum legal age for marriage is 18 for both males and females. Universal suffrage is granted at 18 years of age. Males and females are eligible for voluntary and obligatory military service at age 18. The minimum age for employment is 14, and regulations ensure that those under the age of 18 have limited work hours and are prohibited from working in hazardous conditions.

## **Education and Literacy Rates**

Primary education is universal and free but not compulsory. It lasts for 8 years from age 6 to age 14. Basic education is the first cycle of primary school, and general education is the second cycle.

Secondary education is from ages 14 through 18 and is divided into two cycles: general secondary education (ages 14 to 16) and preparatory secondary education (ages 16 to 18). Students may

enroll in technical school, vocational school, or a university after completing general secondary education.

Students earn a diploma or certificate upon completion of advanced training in technical and vocational programs such as agriculture, engineering, and technology. Universities offer 3- to 5-year programs leading to a bachelor's degree. Schools of teaching and nursing educate students in 1- to 3-year specialized courses.



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**Ethiopian College Students**

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Master's degree students complete an additional 2 years of study. Doctoral degrees require on average 3 years of further study.

Many families, particularly rural families, cannot afford to send their children to school because the families lack the funds to provide basic school necessities. Other issues include a lack of teachers and schools, and the length of travel required to reach schools in some rural areas may be excessive.

Ethiopia's government funds the education system. Several non-governmental organizations (NGOs) provide assistance. Religious organizations have schools, but the law forbids religious instruction in school. English is taught in secondary and tertiary schools and is becoming more prevalent.

Ethiopia is working with international organizations to improve enrollment rates and attendance, particularly in rural communi-



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**Ethiopian School Children**

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ties. Ethiopia's largest educational issues are lack of schools, materials, and qualified teachers. The literacy rate for adults is 36 percent and the youth literacy rate is 50 percent; both have large disparities between males and females, 27 and 24 percent, respectively, according to UNESCO (2004). Most of the literate population is male.

Students are taught basic reading, writing, and arithmetic in primary school. Students have the option to attend technical and vocational classes during general secondary school. Advanced levels of foreign languages, mathematics, and sciences are taught in secondary school. The variety of subjects taught in some schools is limited by the lack of qualified instructors. Children receive instruction on mine safety; subjects involve the risks concerning landmines, unexploded ordnance, and explosive remnants of war.

### ***Education Enrollment***

<b>Enrollment (2006)</b>	<b>Male</b>	<b>Female</b>	<b>Total Population</b>
Pre-primary	3%	2%	3%
Primary	90%	77%	83%
Secondary	34%	21%	27%
Tertiary	4%	1%	2%

Males outnumber females throughout all levels of schooling. The largest disparity (13 percent) occurs in the primary and secondary educational phases, according to UNESCO. Combined gross enrollment ratio for education is 28.8 percent (2006).

Many children do not attend school; they stay home and help with herding livestock and household chores. Some work as laborers for additional family income. Many children who do attend school do not finish.

Much of their education is attained through Ethiopia's oral literature, which is rich in proverbs and stories. Ethiopia maintains some of the last remaining stories from Biblical literature that are not included in the Bible.

## Religion

Religion is influential in Ethiopian life and culture. The two main religions are Christianity and Islam, practiced by 62.8 percent and 34 percent of the population, respectively. Sixty-nine percent of the Christian population is Ethiopian Orthodox. Most Muslims are Sunni.

Ethiopian Orthodoxy was adopted in A.D. 332 and remains a strong influence. However, other religious groups such as Protestants and Pentecostals (Evangelicals) have gained converts. Other religious



**Mosque**

groups include Baha'is, Catholics, Jehovah's Witnesses, Jews, and Seventh-day Adventists. Some Ethiopians continue to practice traditional indigenous religions.

Orthodox Christianity is the dominant religion in northern and central Ethiopia. The southwest states of Gambella and SNNP have the largest Protestant populations: 70 percent and 55.5 percent, respectively. Islam is the most prevalent religion in the east and southeast states of Afar, Dire Dawa, Harer, Oromia, and Somali. Somali has the highest concentration of Muslims at 98 percent. Islam is practiced by 45 percent of the population in Benishangul-Gumuz state along the western border with Sudan. The largest populations of adherents to traditional religions are in the states of Oromia and SNNP.



**Ethiopian Orthodox Women**



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### **Muslim Woman**

The law provides for freedom of religion, and the government generally respects this freedom; however, occasionally, local authorities violate this right, particularly when religious organizations seek land for churches, mosques, and cemeteries. Ethiopia requires all religious groups to register annually, but it does not enforce such regulations. Ethiopia's constitution requires separation of state and religion. As a result, public and private schools cannot provide religious instruction or teach religion as a course of study. Churches, however, may teach Sunday school, and the Qur'an is taught at mosques. Religious political parties are banned.

Ethiopian society is generally tolerant of all religions. However, isolated incidents of religion-based conflicts have erupted in the past. Tensions exist among Sufi Muslims over Saudi-funded enti-

ties, most of which have Salafi/Wahabi influences. Some differences between Sufi and Wahabi followers are described below.

### ***Sufism (tasawwuf)***

Sufism adherents seek a closer relationship with God through spiritual disciplines. The *dhikr* (exercises) involve reciting prayers and Qur'an passages and repeating names or attributes of God while performing physical movements. Sufism has strong mystical elements. Sufis follow the basic tenets of Islam but do not follow all Orthodox practices. Knowledge is important to Sufi Muslims, who value the role of teachers. Sufis interpret jihad as a fight against one's own flaws in an attempt to reach perfection.

### ***Wahabism***

Wahabism is a subdivision of Salafi, which opposes all practices not sanctioned by the Qur'an. Wahabi Muslims believe Sufis deviate from true Islamic practices, such as in venerating saints or building decorative tombs. Wahabism does not venerate saints. Firm Wahabi followers want to revive the old concept of jihad (holy war) to convert infidels.

### **Recreation**

Soccer is played throughout Ethiopia and is, by far, Ethiopia's most popular sport. Those who cannot afford soccer balls play with improvised versions. Track-and-field events such as long-distance running are also popular. *Gena* (field hockey) and *gugs* (horse racing) are popular traditional sports. Other sports played in Ethiopia are basketball, volleyball, and table tennis. Hopscotch and jacks are popular children's games.

Dancing, singing folk songs, and playing music are popular forms of entertainment at social activities. Traditional Ethiopian music involves instruments such as the *kebero* (drum), *krar* (lyre), *tsenatsil* (rattle), and *washint* (reed flute). Traditional arts include basket and carpet weaving, embroidery, jewelry making, metalworking, pottery, and wood carving.

## Customs and Courtesies

Gestures that are common in the United States but may be offensive in Ethiopia include the following:

- Pointing or beckoning with one finger or a foot; use your entire hand
- Using the left hand to pass items, exchange money, shake hands, or eat
- Keeping one's hands in one's pockets during conversation
- Finger snapping and whistling
- Showing the soles of one's feet

Conversations about politics, the economy, money, private matters, and job details should be avoided. Questions regarding ethnicity and birthplace may be negatively interpreted. Ethiopians enjoy humor; telling jokes is acceptable, but jokes should be kept clean.

Close friends of either gender will greet each other by name, with a kiss on the cheek, and Ethiopians shake hands with everyone they meet. The following are typical greetings meaning *How are you?* in Amharic, Oromigna, and Tigrigna:

### Amharic

<i>Indemin nih?</i>	(males)
<i>Indemin nish?</i>	(females)
<i>Tena yistilin?</i>	(formal greeting for either gender)
<i>Indemin nawot?</i>	(elders and respected individuals)

## **Oromigna**

*Akam jirta?* (either gender)

## **Tigrigna**

*Kamelaha?* (males)

*Kamelehee?* (females)

Greet elders by lowering or bowing your head; this is a sign of respect throughout Ethiopia. Children often bow and kiss elders' knees. Address people by title and given name. *Ato* (Mr.) is a common title for men and *Weizero* (Mrs.) and *Weizerit* (Miss) are common titles for women.

Ethiopians maintain a reasonable distance when holding a conversation. Asking about one's health or family is common. Pocketing hands during a conversation or maintaining prolonged eye contact are considered rude. Touch is also a common part of conversation and conveys trust; however, touching someone of the opposite gender is unacceptable. Trilling one's tongue with a sharp-pitched tone indicates excitement or happiness. Slowly nodding one's head indicates disagreement.

Women should not wear excessive makeup, drink and smoke in public, or wear revealing clothing; men view these as a sign of availability. Women should never agree to visit an unmarried man at his house; this is likely to be misinterpreted.

Suits and ties are standard business clothing for men; women wear dresses or skirts. Traditional white clothing decorated with colorful designs is common in northern and central regions. Some Ethiopians wear headscarves and robes. Wearing shorts or revealing clothing brings extra attention.

Visiting friends is common in Ethiopia. Ethiopians are extremely hospitable. Unplanned visits are common among friends and family. It is proper to remove one's shoes upon entering an Ethiopian's home. Guests are not always shown where to sit, which may be on the floor if visiting a Muslim's home. Guests are offered refreshments and coffee; refusing is considered impolite. Ethiopians serve meals from a communal dish, and it is common to eat from it with one's fingers. Males and females converse separately in some Muslims' homes. Chewing khat, a stimulant, is popular among Muslim males.



**Traditional Clothing**

Public displays of affection are unacceptable, but it is common to see close friends, particularly females, holding hands in public. When giving or receiving gifts, one should extend both hands so as not to seem reluctant or unappreciative.

Most restaurants and hotels add a 10-percent surcharge to the bill. Tipping is common but not required; a small amount is appreciated. When dining at a restaurant, the first person to leave customarily pays the bill. Haggling is acceptable, and even expected, at local markets. Visitors who do not want to haggle can purchase items in town from shops with fixed prices. Foreigners are often charged more than locals are, particularly in marketplaces.



## Cultural Considerations

Ethiopia has large Christian and Muslim populations. Cultural considerations include the following:

- Walking in front of someone who is praying is rude
- Dress codes at religious sites are conservative
- Remove shoes before entering temples, mosques, and homes
- Females are not allowed to enter some holy sites
- Using the left hand is considered unclean
- Payment is expected when taking pictures in some areas; ask and agree with the payment in advance

Initial business meetings are formal but become less formal when friendships develop. Ethiopians often conduct business at the office, over lunch or dinner. Customary business courtesies are important. Business cards are common; presenting one with English-language print will not cause any difficulties in a business setting. Punctuality is important, but reasonable tardiness is understandable.

Normal business hours are Monday through Friday generally between 0800 and 1730. Some businesses may remain open as late as 2000, depending on the type of business and location. Businesses close for lunch. Most businesses are open on Saturdays. Ethiopia authorizes a 2-hour lunch break for Muslims to pray on Fridays. Government office hours are Monday through Friday between 0800 and 1730. Post office hours are Monday through Friday 0800 to 1600 and Saturday 0800 to 1200. Normal banking hours are Monday through Friday 0800 to 1600. Sunday is not a workday.

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## **MEDICAL ASSESSMENT**

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The quality of health care in Ethiopia is among the poorest in Sub-Saharan Africa and far below Western standards. More than 50 percent of hospitals need major repairs or renovation; most have antiquated equipment and experience medical supply shortages. The lack of basic infrastructure for necessities such as electricity and water further worsens the health care situation. The care provided by most medical personnel does not meet Western standards; however, some physicians receive their education in Western hospitals and schools. Nursing and ancillary skills are far below Western standards.

### **Disease Risks to Deployed U.S. Personnel**

The National Center for Medical Intelligence (NCMI) assesses Ethiopia as HIGH RISK for diseases. If basic self-protective measures are not employed, there is a high likelihood of getting sick. Many of the diseases in Ethiopia are serious; some are fatal.

The following is a summary of the main disease risks in Ethiopia, and what can be done to reduce your individual risk of getting sick.

The recommendations below are not a substitute for formal guidance promulgated by unit and higher level commanders who often direct specific force health protection policies. ALWAYS discuss the risks and protective measures listed below with your unit's medical department representative. More detailed information is contained in Baseline Infectious Disease Risk Assessments, produced by NCMI, is available at <https://www.intelink.gov/ncmi/index.php>.

### ***Food- or Waterborne Diseases***

Sanitation is poor throughout the country, including major urban areas. Local food and water sources (including ice) are heavily

contaminated. Eating and drinking on the local economy is likely to cause high rates of diarrhea. To lower the risk of diarrhea and other illnesses:

- Don't drink the tap water; don't use it even to brush teeth. Avoid ice in drinks. Bottled water is safer.
- Avoid food from street vendors or any establishment which does not appear to be clean. Food from tourist-oriented facilities such as hotels and 'higher end' restaurants is generally safer.
- Avoid any uncooked items, including salads or fruits which have been prepared and handled. Fruits you peel yourself are safer.
- Make sure all food is served steaming hot.
- Make sure hepatitis A and typhoid vaccines are up to date (both required by military policy).

## ***Vectorborne Diseases***

Biting insects such as mosquitoes, ticks, and sandflies carry serious diseases, including malaria, dengue fever, and others. Most of these diseases can make you very sick, and some can kill. To lower the risk of these diseases:

- Many disease-carrying insects bite at night. To reduce this, sleep in quarters with window screens. If in the field, sleep under a bed net.
- Use repellents containing DEET on all exposed skin, both day and night. Re-apply every 4 to 6 hours as needed.
- Uniforms and bed nets should be treated with permethrin (which repels and kills insects).
- Blouse or tuck in pant legs into boot tops, to keep ticks from crawling onto and biting the legs.
- If prescribed malaria pills, TAKE THEM exactly as directed. Don't skip doses.

- If you develop a fever, you should seek medical attention. Fever is often the first sign of a serious and potentially fatal infection such as malaria.

## ***Sexually Transmitted and/or Bloodborne Diseases***

Gonorrhea, chlamydia, and other infections may affect a high percentage of personnel who have unprotected sexual contact. The risk of HIV/AIDS is also a major concern, as well as hepatitis B. Prostitutes are particularly high risk for all these infections. To lower the risk of sexually transmitted diseases:

- Avoid sexual contact, particularly with prostitutes.
- If electing to have sexual contact, use a condom. Use it properly, and every time.
- Get vaccinated against hepatitis B (required by the military for Ethiopia).
- ALWAYS follow Command policies regarding interactions with host country nationals, to include interactions with prostitutes.

## ***Water-contact Diseases***

Activities such as wading or swimming in lakes, rivers, streams, or other surface water may result in personnel becoming ill with serious diseases. These bodies of water are often contaminated with bacteria and parasites which can penetrate through the skin, and cause serious diseases (including leptospirosis and schistosomiasis). Prolonged water contact also may lead to development of a variety of potentially debilitating skin conditions such as bacterial or fungal dermatitis. To reduce the risk of water-contact diseases:

- Avoid swimming or wading in lakes, rivers, streams, or other surface waters.
- If exposure is unavoidable, minimize the time in the water.
- Swimming in chlorinated pools is safer.

## ***Respiratory Diseases***

Local populations carry a wide variety of common respiratory infections, including meningitis, influenza, and viral upper respiratory infections ('common cold'). These are spread by close contact. To reduce the risk of respiratory diseases in Ethiopia:

- Get vaccinated against meningococcal meningitis (required by AFRICOM policy).
- Be sure vaccinations against measles, diphtheria, and pertussis are up to date (required by military policy).
- Avoid close contact with people who have a cough, sneezing, runny nose, or other symptoms of respiratory infection.
- Wash hands frequently. Many of the germs which cause respiratory infection are transmitted on the hands, not just through the air.

## ***Animal-associated diseases***

Rabies risk in Ethiopia is among the highest in the world – rabies deaths occur regularly in the local population. Rabies-infected dogs and cats are extremely common, and human infection is usually associated with direct animal contact (bites or scratches). To reduce the risk of rabies:

- Avoid contact with dogs, cats, and other animals
- If bitten or scratched by a dog, cat, or other animal **SEEK MEDICAL ATTENTION FOR RABIES SHOTS**. Rabies is 100 percent fatal in people who do not receive rabies shots after a bite. Proper cleaning of the bite wound by medical personnel is essential.

## ***Medical Capabilities***

Ethiopia has a total of 143 hospitals and 690 health centers, but less than 20 percent of Ethiopians live within a 2-hour walk of

a health care facility. Medical facilities generally do not meet Western standards for cleanliness. Most private facilities provide better health care than public hospitals. The only hospitals recommended for use by U.S. personnel, for stabilization only, are St. Gabriel's Hospital and Hayat Hospital, both in Addis Ababa. Although other private facilities are available, they are considered substandard for stabilization.

Ethiopia imports most pharmaceuticals and all medical supplies and equipment. The country's two pharmaceutical factories produce basic medicines. The Ethiopian Pharmaceutical and Medical Supplies Corporation handles warehousing and distribution of medical materiel.

The blood supply does not meet Western standards. The Ethiopian Red Cross supplies 90 percent of the nation's blood needs, but only 43 percent are made by voluntary, non-remunerated donors. Blood is reportedly screened for HIV, hepatitis B and C, and other sexually transmitted infections. Power shortages and poor refrigeration further compromise the blood supply system.

Amarigna and Oromigna are each spoken by more than 30 percent of the population. English is the major foreign language taught in schools and is understood by most medical personnel.

### ***Medical Facilities***

<b><i>Facility</i></b>	<b>Hayat Hospital</b>
<b><i>Coordinates</i></b>	08-59-40N 038-47-43E
<b><i>City</i></b>	Addis Ababa
<b><i>Location</i></b>	Off the Ring Road, across from the Moenco Toyota dealership

**Telephone** Administrative 251-1-614250  
Emergency 251-1-624488, 251-1-81096

**Type** Private

**Bed capacity** 75

**Capabilities** Medical – dentistry, dermatology, gastroenterology, general; Surgical – cardiothoracic, general; Ancillary – Computed tomography (CT) scanner, emergency room, intensive care unit, ultrasound, urology, X-ray

**Comments** One of the newest hospitals in Addis Ababa. Considered a well-equipped facility, but does not meet Western standards. Recommended by U.S. Embassy for stabilizing patients awaiting emergency evacuation.

**Facility** **Saint Gabriel's Hospital**

**Coordinates** 09-00-30N 038-46-20E

**City** Addis Ababa

**Location** Off Asmara Street, east of Mesket Square

**Telephone** Administrative 251-1-613622  
Emergency 251-1-614400

**Type** Private

**Beds** 44

**Capabilities** Medical – dentistry, dermatology, general; Surgical – general, obstetrics/gynecology, neurosurgery; Ancillary – blood gas analyzer, four intensive care unit beds, laboratory, mammography, two operating rooms with one ventilator, ultrasound, X-ray

**Comments** Not up to Western standards, but best-equipped medical treatment facility in Addis Ababa. Clean, well maintained. Recommended by U.S. Embassy for stabilizing patients awaiting emergency evacuation.

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# HISTORY

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## Chronology of Key Events

<b>Date</b>	<b>Event</b>
<i>1<sup>st</sup> century</i>	Kingdom of Axum emerges
<i>270</i>	Axumites begin producing coins
<i>7<sup>th</sup> century</i>	Rise of Islam and decline of Axum
<i>10<sup>th</sup> century</i>	Zagwe dynasty emerges
<i>1527</i>	Muslims attack Ethiopia
<i>1896</i>	Italy invades Ethiopia; treaty rejected because of misinterpretation
<i>1935</i>	Italy invades Ethiopia, but surrenders in 1941
<i>1962</i>	Eritrea annexed by Ethiopia; sparks a 30-year struggle for independence
<i>1972–1974</i>	Major famine in Ethiopia
<i>1974</i>	Haile Selassie overthrown in military coup; Gen Teferi Benti becomes head of state; new government known as the Derg takes power
<i>1977–1979</i>	Thousands of government opponents die in Red Terror; Somalia invades Ethiopia's Ogaden region; Somali forces defeated with massive help from the Soviet Union and Cuba
<i>1984–1985</i>	Ethiopia struck by worst famine in a decade
<i>1987</i>	Mengistu elected president
<i>1988</i>	Ethiopia and Somalia sign peace treaty
<i>1991</i>	Ethiopian People's Revolutionary Democratic Front (EPRDF) captures Addis Ababa, forces Mengistu to flee the country
<i>1998–2000</i>	Border dispute with Eritrea erupts into armed conflict in 1998 and full-scale war in 1999; cease-fire signed in 2000



<b>Date</b>	<b>Event</b>
<b>2002</b>	Ethiopia, Eritrea accept a new common border, drawn up by an independent commission, though both sides then lay claim to the town of Badme
<b>2003</b>	400 Anuak civilians massacred in Gambella by army.
<b>2004</b>	Resettlement program implemented
<b>2005</b>	Elections marred by violence
<b>2006</b>	Extensive flooding throughout the country; hundreds die, thousands left homeless
<b>2006</b>	Ethiopian troops enter Mogadishu
<b>2007</b>	Ethiopia rejects border line demarcated by the international boundary commission; Eritrea accepts it
<b>2008</b>	Ethiopia's Supreme Court sentences former ruler Mengistu Haile Mariam to death

Ethiopia is one of the oldest countries in the world and the location of the earliest known skeletal remains of human ancestors. Two archaeological discoveries that took place in 1974 and 1994 in the Awash Valley revealed humanlike bones estimated to be 3.2 and 4.5 million years old, respectively. Evidence of more advanced civilizations dating back to 5000 B.C. includes stone tools and cave drawings. Domestication of livestock and early grain cultivation began in the early Bronze Age around 3000 B.C.

Sabeans from southern Arabia began migrating to Ethiopia during the first millennium B.C. They crossed the Red Sea to what became known as Eritrea and joined existing tribes such as the Agew and Sidama in the high plateaus. They also brought a writing system that would later give rise to three of Ethiopia's Semitic languages (Amharic, Tigrigna, and Tigre) and Ge'ez, the language of the Axumites. The Sabeans built palaces and other public buildings using their knowledge of stonework and slowly laid the foundation for the kingdom of Axum, which would emerge in the 1<sup>st</sup> century.

Axum was in the northern province of Tigray near the Blue Nile Basin and the Afar Depression. Gold from the Blue Nile Basin and salt from the Afar Depression, along with access to the port of Adulis on the Red Sea, made Axum a major trade center and a gateway between Byzantium and Persia.

The Axumites began producing coins out of gold, silver, and bronze around A.D. 270. The first coins had images of the ruling kings of the time. The influence of Christianity became evident in the 4<sup>th</sup> century when images of the Christian cross appeared on coins.



**Stele to King Ezana, First Axum Monarch to Embrace Christianity**

The Zagwe dynasty emerged during the end of the 10<sup>th</sup> century and ruled Ethiopia during the 12<sup>th</sup> and 13<sup>th</sup> centuries. The dynasty abolished the monarchy and attempted to eliminate Christianity but failed. Orthodox Christianity reemerged in the late 13<sup>th</sup> century through the Solomonic dynasty and spread throughout the highlands. Tensions between Christians and Muslims continued for more than 200 years until the battle of ad-Dir in 1527, when Muslims attacked Ethiopia. Ethiopia repelled the attack with the help of Portugal.

There was little contact between Ethiopia and Europe for the next 300 years. Britain, France, and Italy did not take an interest in Ethiopia until the mid-1800s. Egypt was Ethiopia's largest enemy

and seized lands in northern Tigray. Intervention by Britain and France stopped Egypt's expansion. When Britain and France withdrew, Italy invaded and took over the ports of Aseb in 1869 and Massawa in 1885 before being driven out by Ethiopian forces. A treaty was ultimately signed that allowed Italy to occupy Asmara; however, Italy interpreted the agreement as giving it a protectorate over Ethiopia. Ethiopia rejected this interpretation and renounced the treaty. The resulting 1896 battle was a clear victory for Ethiopia, which retained its independence. Eritrea, however, remained under Italy's control. Italy invaded Ethiopia again in 1935 but surrendered in 1941. After World War II, the United Nations placed Eritrea under Ethiopia's control.

Haile Selassie I ruled Ethiopia from 1930 to 1974. He is best known for his many reforms and his participation in the Organization of African Unity, now known as the African Union. Selassie annexed Eritrea in 1962, which sparked a 30-year struggle for independence.

Ethiopia experienced a major famine between 1972 and 1974. Nearly 200,000 Ethiopians died. Rising civil discontent resulted in a military coup that deposed Selassie and placed a Marxist, military government in control for the next 17 years. The new government was known as the Derg (committee).



**Haile Selassie Monument**

The Derg used the Soviet Union as an example and censored the press, revoked civil rights, suspended the constitution, and dissolved Parliament. The new one-party state implemented collective farming, confiscated private property, and nationalized foreign-owned companies. Opponents were exiled, imprisoned, or killed.

Mengistu Haile came to power in 1977 with the support of the Soviet Union. He continued the use of violence to stop any resistance. The Red Terror campaign (1976 to 1978) resulted in the deaths of more than 100,000 Ethiopians. Cuba and the Soviet Union also aided Ethiopia in defeating Somalia when it invaded the Ogaden Region in 1977. Famine claimed the lives of another 300,000 Ethiopians between 1983 and 1985. By the mid-1980s, there was strong opposition to Mengistu from the EPRDF; the EPRDF supported democracy.

Mengistu was elected president under a new constitution in 1987; however, when the Soviet Union crumbled (1990 to 1991) and could no longer support Mengistu, rebels took over Addis Ababa and declared Meles Zenawi interim president. Mengistu fled to Zimbabwe. Meles organized local and regional elections in 1992 and 1993. A new constitution was adopted in 1994.

The border dispute with Eritrea erupted into armed conflict in 1998 and full-scale war in 1999. A cease-fire was signed in 2000, and UN observers monitored the withdrawal of Ethiopian troops. A peace agreement providing for an independent commission to establish an official border was signed in late 2000. Ethiopia completed its troop withdrawal in early 2001. The Eritrea-Ethiopia Boundary Commission (EEBC) defined the border in April 2002. Both countries were awarded territory, but Badme was awarded to Eritrea. Both countries initially accepted the EEBC's decision, but a few months later Ethiopia requested a reconsideration of the

ruling. Eritrea refused to accept any new rulings on the boundary. In November 2003 the EEBC met and determined that until one or both countries modified their position there was nothing more the commission could do to resolve the dispute. Ethiopia struggled with its own internal problems. What began as the army's attempt to root out armed Anuak groups responsible for attacks on migrants from other parts of Ethiopia turned into the massacre of more than 400 Anuak civilians in Gambella in December 2003. More than 1,000 homes were destroyed. The military was accused of murder, rape, and torture of the Anuak population.

Concerns over food security caused the government to implement a resettlement program in 2004, with the intent of relocating 2 million people to more fertile land. International organizations and diplomats criticized the program, claiming that resettlement sites were isolated, disease ridden, and lacked the proper infrastructure.

The 2005 elections were marred by violence. Protests over alleged fraud resulted in dozens of deaths. Journalists and opposition leaders were charged with treason and genocide. As a result, the Alliance for Freedom and Democracy was formed from six political parties and armed groups.

Floods struck the northern, southern, and eastern portions of Ethiopia in August 2006. An above-normal amount of rainfall caused several rivers to overflow, resulting in extensive flooding that left thousands homeless and hundreds dead.

In 2006, Ethiopian troops entered Mogadishu to support Somalia's weak transitional government and to destroy an Islamist administration that Ethiopia considered a terrorist threat. The United Nations accused Ethiopia of violating a 1992 arms embargo on Somalia by supplying arms to the interim government. Eritrea was accused of the same violation for supplying arms to the ri-

val Islamist administration. The conflict resulted in thousands of Somalis crossing into Ethiopia in early 2007 to escape the violence.

Political issues with Eritrea continue to plague Ethiopia.

## Government

Ethiopia had a monarchy until a military coup brought a communist military council, the Derg, to power in February 1974. LtCol Mengistu Haile Mariam became leader of the Derg after having his two predecessors killed. Mengistu dissolved the Derg and created the People's Democratic Republic of Ethiopia (PDRE). Mengistu established a brutal totalitarian communist state allied with the Soviet Union and Cuba. His 15-year dictatorship was ended in 1991 by a coalition of guerilla groups led by forces from the



**Prime Minister Meles Zenawi**

northern Tigray region. The main rebel group, the EPRDF, formed a new regime, and EPRDF leader Meles Zenawi became interim president, followed by Girma Woldegiorgis. A new constitution for the Federal Democratic Republic of Ethiopia, a Parliamentary democracy, took effect in 1995, and national elections were held. As a result, Meles Zenawi became prime minister, a position he retained after subsequent elections in 2000, 2005, and 2010. Despite the country's democratic institutions, opposition groups and foreign observers have noted election irregularities and have accused the government of widespread human rights abuses.

## ***National Level***

Ethiopia has three branches of government: executive, legislative, and judicial. The prime minister is the head of government. The legislature consists of a 108-seat upper house, the House of Federation, and a 547-seat lower house, the House of People's Representatives. Ethiopia's constitution provides for an independent judiciary composed of federal and regional courts.

### **Executive Branch**

The executive branch consists of the president; prime minister and his cabinet, known as the Council of Ministers; and the Council of State, which has both legislative and executive powers. The president is head of state, has a largely ceremonial role, and is elected for no more than two 6-year terms by both houses of the legislature. Executive authority lies with the prime minister, who heads the cabinet and is commander of the armed forces. The prime minister is selected by the political party or coalition with the most seats in the lower chamber of the legislature, following national elections, every 5 years. The prime minister, cabinet ministers, and undersecretaries are collectively responsible for formulating and carrying out government policy.

### **Legislative Branch**

The House of People's Representatives, which is the lower chamber and responsible for much of the national legislation, is filled through popular elections. It elects a speaker and a deputy speaker and forms standing committees. The state legislatures select the members of the House of Federation, the upper chamber, from the nation's various ethnic groups. The House of Federation interprets the constitution and handles regional affairs, such as disputes between the states. Lawmakers in both houses are elected for 5-year terms.

## **Judicial Branch**

The Federal Supreme Court is the highest court and exercises jurisdiction over all federal matters; lesser federal courts hear cases from the regions. The prime minister recommends the president and vice president of the Federal Supreme Court and the lower chamber of the legislature approves the recommendations. Other federal judges are nominated by a committee and confirmed by the lower house. The regional judiciary hears cases in the regions and is increasingly autonomous.

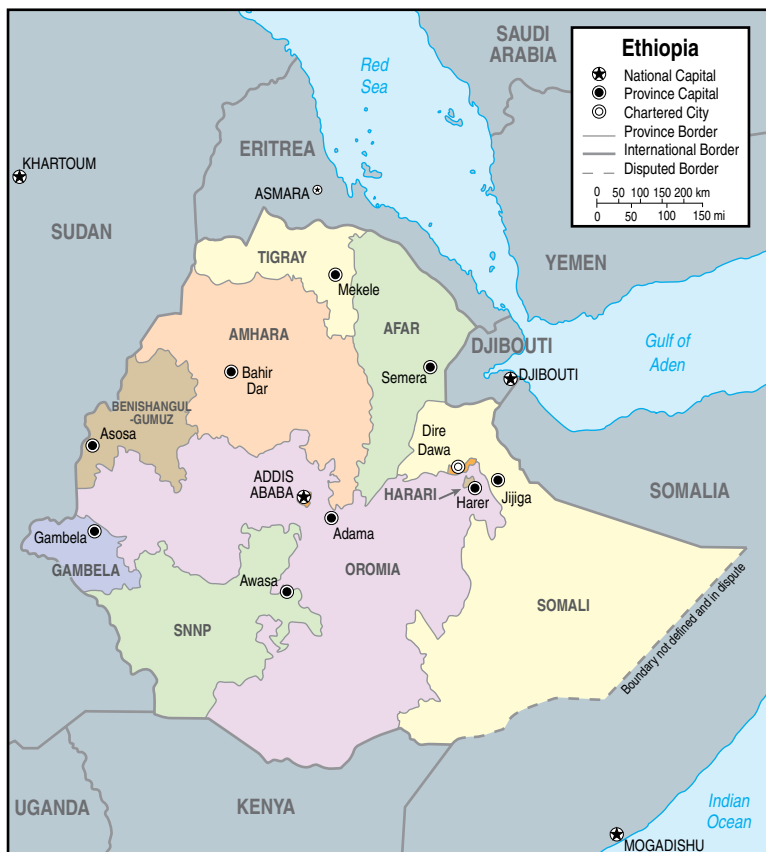
## **Local Level**

Ethiopia has nine administrative regions, created along ethnic/linguistic lines, and two self-governing city administrations: Addis Ababa (the capital) and Dire Dawa. Regions have their own autonomous governing councils, hold their own elections, and have executive, legislative, and judicial powers. Each region has two councils: the elected Regional Council (or Parliament) and a cabinet body called the Regional Administrative Council. The regions also elect representatives to the House of Federation. Below the state level, there are 66 zones and 556 *woredas*. Each *woreda*, a sub-district unit that provides much of the public services, is divided into numerous *kebele*. There are elected *woreda* and *kebele* councils.

## **Key Government Officials**

- President - Girma Woldegiorgis
- Prime minister - Meles Zenawi
- Deputy prime minister - Kassu Ilala
- Deputy prime minister - Addisu Legesse
- Minister of foreign affairs - Seyoum Mesfin
- Minister of national defense





## Administrative Regions

- Governor of the national bank
- Minister of justice
- Minister of information
- Speaker, House of People's Representatives
- Speaker, House of Federation

## Politics

Ethiopia has universal suffrage for citizens age 18 and older. The run-up to Ethiopia's May 2005 national election was considered the most open, free, and competitive political campaign in Ethiopia's history. However, democracy suffered a reverse in the contentious aftermath of the vote that returned Prime Minister Meles Zenawi's ruling EPRDF party to power. Violent protests were met with a government crackdown on civil liberties. Two hundred demonstrators, bystanders, and police officers died in these demonstrations. Hundreds of opposition members and their leaders were jailed. Much of the independent media was shut down. In the aftermath, Ethiopia's government grew increasingly authoritarian.

### ***Political Parties***

Ethiopia has four major party coalitions represented in the legislature and 81 registered national and regional parties. The EPRDF has dominated politics since the overthrow of the Derg in 1991 and held 481 (87.9 percent) of the seats in the lower chamber after the 2005 election. The other major coalitions are the Unity for Democracy and Justice Party (UDJ), the United Ethiopian Democratic Forces (UEDF), and the Oromo Federalist Democratic Movement (OFDM).

Party Name	Description
<b><i>EPRDF</i></b>	Coalition of regional political movements whose forces overthrew the Derg regime; ruling party: 1991 through 2005 election; dominated by Tigray ethnic group

<b>Party Name</b>	<b>Description</b>
<b><i>UDJ</i></b>	Principal coalition of opposition parties; formed in 2008 from splintered Coalition for Unity and Democracy; calls for democratization, constitutional reform, and economic liberalization, end of ethnic-based federalism
<b><i>UEDF</i></b>	Coalition of region-based parties, with most support in the Oromia and SNNP regions; advocates democratization and national reconciliation
<b><i>OFDM</i></b>	Coalition of parties supporting interests of ethnic Oromo including federalism, land reform, and Afan Oromo as official language

## ***Foreign Relations***

Ethiopia is a landlocked country in the volatile Horn of Africa. It allied with the Communist Bloc during the Mengistu regime. Today, Ethiopia is a strategic partner of the United States in the Global War on Terrorism and recipient of development and military assistance from the United States and other Western nations. China is also a major aid donor and investor in Ethiopia. Issues that dominate Ethiopia's foreign policy include its tense border dispute with Eritrea, the security threat caused by the factional fighting in Somalia, and pressure from its Western allies to improve its human rights behavior. Addis Ababa hosts the headquarters of the African Union and the Economic Commission for Africa.

## **United States**

U.S.-Ethiopia relations have improved dramatically since the end of the Mengistu regime. The United States provided US\$474 million in assistance in FY2007; US\$264 million of this assistance

was for the purpose of combating HIV/AIDS. U.S. development assistance focuses on reducing famine, hunger, and poverty and emphasizes economic, governance, and social reforms. The United States also provides funds for military training, including training in such issues as the laws of war and observance of human rights. U.S. policy is to help Ethiopia transition to a multi-party democracy, promote human rights and the rule of law, and expand press freedom.

More than 70 percent of Ethiopians have a favorable opinion of the United Nations, United States, and U.S. citizens. However, Ethiopians favor the European Union over the United Nations and the United States. More than half of Ethiopians believe the spread of U.S. ideas and customs in Ethiopia is good, and they enjoy U.S. music, movies, and television. More than 90 percent of Ethiopians admire U.S. scientific and technical advances. They see the United States as a strong democracy and agree with U.S. ideals. However, more than 65 percent of Ethiopians believe that the United States promotes democracy only when it serves U.S. interests. About 60 percent of Ethiopians support U.S. efforts to fight terrorism. More than half of Ethiopians believe U.S. troops should leave Iraq, and 48 percent believe the United Nations and the United States should remove troops from Afghanistan.

## **Eritrea**

Ethiopia and Eritrea, a former Ethiopian state that gained independence in 1993, fought a border war from 1998 to 2000 in which tens of thousands of Eritreans and Ethiopians died. It ended with an agreement to allow an international commission to demarcate the border, but Ethiopia rejected the commission's decision. In March 2008, a UN peacekeeping mission withdrew from the border area after Eritrea placed severe restrictions on its activi-

ties, leaving a dangerous situation, for thousands of Ethiopian and Eritrean troops. Ethiopia has accused Eritrea of supporting home-grown Ethiopian rebel groups and Islamist extremists in Somalia, an act that could destabilize Ethiopia.

## **Somalia**

Ethiopia intervened militarily in Somalia from December 2006 to January 2008 to support a UN-backed transitional government against the Council of Islamic Courts. This intervention was the third major conflict involving the two countries. Ethiopia and Somalia had previously fought a border war in 1964 and a conflict in 1977–1978 over Ethiopia's Ogaden region, which is inhabited mostly by ethnic Somalis. Ethiopia also conducted cross-border attacks against Islamic extremists in Somalia in 1996 and 1999. Factional fighting in Somalia continues to contribute to tensions along the borders of the two countries.

## **Djibouti**

Djibouti and Ethiopia maintain cordial relations, strong cultural ties, and vital economic links. When Eritrea gained independence from Ethiopia in 1993, Ethiopia became landlocked. It was denied access to Eritrean ports when border tensions erupted in 1998, and the port of Djibouti became its primary seaport thereafter. Similarly, Djibouti depends on Ethiopia as a major source of agricultural products. Port charges for Ethiopia's shipments are a significant source of Djibouti's national income.

## **China**

China's economic and political ties with Ethiopia have been developing rapidly in recent years. Since the two countries reached a partnership agreement in 2003, bilateral trade and aid, including low-interest loans, have increased dramatically. China has also

become very active in construction activities, ranging from houses to the Ring Road in the capital, Addis Ababa.

### **Sudan and Yemen**

Ethiopia and Sudan signed an agreement in March 2000 to normalize relations, ending years of animosity caused by support of rebel groups in each other's country. In early 2003, Ethiopia began to import oil from Sudan; trade between the two countries continues to increase; Ethiopia, Sudan, and Yemen have formed a loose regional cooperation.

### **Kenya**

Ethiopia and Kenya have what officials of the two countries call "excellent bilateral relations" and one of the more peaceful borders in Africa. The two countries have a long-standing mutual defense pact, signed in 1964 and renewed since then. Ethiopia and Kenya established agreements for infrastructure improvements that allow Ethiopia greater access to Kenya's ports in the future.

### ***International Organizations***

Ethiopia participates in the following select list of international organizations:

- United Nations
- African Union
- Inter governmental Authority on Development
- Common Market for Eastern and Southern Africa
- New Partnership for Africa's Development

### ***Non-governmental Organizations***

Ethiopia heavily restricts the activities of many NGOs. Its Charities and Societies Proclamation prohibits any group receiving at least 10 percent of its funds from abroad from promoting democracy or hu-

man rights, the rights of children, or equality of gender or religion. Violators could face stiff fines and sentences of up to 15 years in prison. In early 2009, there were 3,000 charities and civil society groups in Ethiopia, with a combined annual budget of US\$1.5 billion. Most of this funding goes toward promoting open society and a multiparty democracy. Most Ethiopian NGOs depend on foreign funding. Ethiopian officials say the law is designed to prevent foreign interference in the country's political affairs. NGOs in Ethiopia include Save the Children/USA, Doctors Without Borders, CARE, Ethiopian Women Lawyers Association, Organization for Social Justice in Ethiopia, and the International Red Cross.

## ***Corruption***

Corruption is considered severe in Ethiopia, according to the Transparency International 2008 Corruption Perceptions Index. After an Ethiopia government study found corruption to be “flourishing” in areas such as licensing, taxes, procurement, and the transfer of assets between the public and private sectors, a Federal Ethics and Anti-Corruption Commission was established in 2001. By mid-2008, it had pressed charges against 800 individuals. Among those convicted were high-profile government officials including a former prime minister, senior bankers, and two senior judges. Ethiopia has launched an ethics and anti-corruption campaign and has expressed determination to amend procedures designed to discourage corruption.

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## **ECONOMY**

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### **Economic Statistics**

<i>GDP</i>	US\$76.74 billion (2009 est.)
<i>GDP growth rate</i>	8% (2009 est.)

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<i>Per capita GDP</i>	US\$900 (2009 est.)
<i>Inflation rate</i>	11% (2009 est.)
<i>Budget revenues</i>	US\$4.678 billion (2009 est.)
<i>Budget expenditures</i>	US\$5.36 billion (2009 est.)
<i>National (external) debt</i>	US\$4.229 billion (2009 est.)
<i>Unemployment rate</i>	N/A
<i>Total value of imports</i>	US\$7.315 billion (2009 est.)
<i>Import commodities</i>	Food and live animals, petroleum and petroleum products, chemicals, machinery, motor vehicles, cereals, textiles
<i>Import partners</i>	China: 16.3%; Saudi Arabia: 12%; India: 8.7%; Italy: 6%; Japan: 4.9%; United States: 4.5% (2008 est.)
<i>Total value of exports</i>	US\$1.608 billion (2009 est.)
<i>Export commodities</i>	Coffee, khat, gold, leather products, live animals, oilseeds
<i>Export partners</i>	Germany: 11.8%; Saudi Arabia: 8.7%; Netherlands: 8.6%; United States: 8.1%; Switzerland: 7.7%; Italy: 6.1% China: 6%; Sudan: 5.5%; Japan: 4.4% (2008 est.)
<i>Labor force composition</i>	Agriculture: 85%; Industry: 5%; Services: 10% (2009 est.)

## General Description

Ethiopia's economy relies on agriculture, which accounts for 40 percent of the GDP, 60 percent of exports, and 80 percent of total employment. Ethiopia is heavily dependent on foreign aid, much of it food aid, and its abundant natural resources remain unde-



veloped. Coffee is the main crop but has had a lower yield as a result of recurrent drought. The conflict with Eritrea has forced Ethiopia to export its products through Djibouti and Somaliland at a higher cost. Lower yield and higher export costs have caused higher prices for Ethiopian coffee, which has led consumers to look for alternatives. Ethiopia qualified as a highly indebted poor country in 2001, and the International Monetary Fund forgave its debt in 2005. The state owns all land, which it leases to the tenants. This has hampered industrial growth because entrepreneurs cannot use the land as collateral for loans. State ownership of certain industries has also limited progress.

## **Economic Aid**

Ethiopia's major bilateral donors are Germany, Italy, Japan, Netherlands, Sweden, United Kingdom, and the United States. The European Union, World Bank, World Food Program, and



**Workers Processing Coffee Beans**

African Development Bank top the list of major multilateral donors. Emergency assistance and social infrastructure sectors are receiving aid at an increasing rate, while aid for other sectors is decreasing.

Ethiopia receives more than US\$1.1 billion in aid annually. The amount of ODA has risen sharply from an average of US\$500 million per year in the mid-1990s to more than US\$1 billion per year. Between 2001 and 2006, ODA averaged US\$932.5 million per year, of which bilateral donors contributed an average of US\$271 million per year (30 percent). Multilateral donors are still the principal providers of external assistance, contributing US\$661.6 million (70 percent) of total ODA to Ethiopia. Five main donors support Ethiopia's energy sector: World Bank, European Investment Bank, African Development Bank, China, and Italy.

## **Banking Services**

Ethiopia's banking sector is closed to foreign participation and is dominated by one large state-owned bank: the Commercial Bank of Ethiopia. There were three state-owned banks and six private banks in 2004. The National Bank of Ethiopia (NBE) is the central bank and is responsible for foreign exchange control. Foreign exchange permits from the NBE are required for all imports.

Banks offer four major services: credit facility, saving scheme, international banking, and fund transfer. Some banks provide MasterCard and Visa cards. Credit lines include overdraft options, term loans, letters of credit, merchandise loans, and personal loans. Other services include demand and saving deposits. Banks might also provide international banking services such as letters of credit, purchasing of outward bills, purchasing and selling of foreign cur-

rency, receiving and transferring foreign currency payment, and incoming and outgoing international letters of guarantee.

## **Natural Resources**

Ethiopia has abundant natural resources, most of which have not been exploited. Initial explorations have revealed deposits of gold, platinum, tantalite, sodium, and phosphate. Oil exploration is ongoing across the country, but there is no production. Ethiopia also has water resources with great hydroelectric potential. Ethiopia is taking steps to attract foreign investment in its oil and water resources.

Ethiopia has significant water quality problems. Domestic, industrial, commercial, and agricultural waste contribute to water quality problems. Factories dump untreated effluents into nearby watercourses and urban streams. Surface waters are contaminated with human waste. Runoff of fertilizers and pesticides damages aquatic life and ecosystems.

The main sources of air pollution in urban areas are traffic and fuel combustion, which cause pollutants including sulfur dioxide, nitrogen dioxides, particulates, and lead. There may be localized areas of concern close to some large industries, which contribute pollutants such as preservatives, bleaches, dyes, wastewater, sawdust, chemicals, and solvents. No information is available regarding the status of air quality in Ethiopia.

Ethiopia also has soil degradation problems, resulting from erosion, farming, deforestation, mining, leaching, and dumping of chemicals.

## **Industry**

Ethiopia's industries include agriculture, mining, textiles, leather, and metals engineering. Agriculture is the mainstay of Ethiopia's

economy and accounts for more than 40 percent of the GDP, 90 percent of total foreign exchange earnings, and 80 to 85 percent of employment. The agriculture industry consists mainly of small farms, which produce nearly 95 percent of Ethiopia's crops. Major crops include coffee; cereals; pulses, such as peas, beans, or lentils; and oilseeds. Teff, wheat, barley, maize, and sorghum account for nearly 90 percent of total crop production; 81 percent of the land used for crop production is dedicated to these items.

## ***Mining***

Ethiopia is rich in gold, tantalum, soda ash, potash, nickel, and platinum. However, private investment in mining was not allowed until after 1991. The sector remains undeveloped and contributes less than 3 percent to the economy. Gold is the main commodity, and the Lege Dembi gold mine (owned by Saudi Arabia) is the only large-scale mining operation.

Oil and gas exploration is under way throughout the country; however, there is no production. Substantial gas discoveries have been made at Calub (76 billion cubic meters) and Hilala (42 billion cubic meters) in the Ogaden Basin in the eastern part of the country.

The Ministry of Mines and Energy is responsible for developing the mineral sector. Processing of license applications, regulation of mineral operations, and promotion of investment in the mineral sector are carried out through the ministry's Mineral Operations Department. Regional governments are responsible for the licensing and administration of small-scale mining, exploration, and prospecting operations conducted by local investors.

## ***Manufacturing***

The manufacturing sector accounts for less than 4 percent of the GDP. Food, beverages, and tobacco are the most important com-

modities, followed by metals, leather, chemicals, minerals, paper and printing, and furniture and wood. The food, beverage, and tobacco subsector consists of flour mills, bakeries, pasta factories, edible-oil mills, and sugar factories. The beverage industry includes breweries, soft-drink plants, mineral-water plants, distilleries, and wineries. Most manufacturing is concentrated in the southern suburbs of Addis Ababa and in Dire Dawa. There is one cigarette factory in Addis Ababa, and four sugar refineries at Wonji, Shoa, Metahara, and Fincha.

The metals and engineering sector is a small part of Ethiopia's manufacturing sector. Products include galvanized roofing sheets, pipes, nails, window and door frames, hand tools, and other metal products. There are also truck and tractor assembly plants and an engineering complex that makes industrial spare parts, hand tools, and cutlery.

## ***Leather and Textiles***

The textile and garment sector includes textile mills, spinning mills, thread factories, sack factories, and large-scale garment factories. Rapid growth in this industry is possible because of the availability of raw cotton and other natural fibers. Cotton is produced on a large scale in the Awash Valley, which has more than 50,000 hectares (123,553 acres) under cultivation. There is huge potential for the expansion of cotton cultivation, particularly in the Omo-Gibe, Wabe Shebelle, Baro-Akobo, Blue Nile, and Tekeze River basins. A 2004 statistical abstract reported that Ethiopia has 36 textile manufacturers employing more than 22,000 people total.

Ethiopia has the largest livestock population in Africa and a well-established leather industry that includes tanneries and footwear factories. Ethiopia exports most of its leather, and the leather mar-

ket in Ethiopia is primarily domestic shoe manufacturing. The sector contributes 16 percent to the GDP in the form of processed and semi-processed hides and skins. Some products, such as Ethiopian Highland sheepskin (internationally renowned as a material used to make gloves), are sought for their quality. Exports include sheepskin, goatskin, cowhide, and various leather products.

## ***Other Industries***

The large, modern Mughar cement plant is 155 kilometers (96 miles) west of Addis Ababa. Ethiopia also produces tableware, wall tiles, glass, clay bricks, and lime. Ethiopia's paper industry produces wrapping paper, stationery, and packing material.

## **Agriculture**

Most Ethiopians are subsistence farmers whose use of old farming techniques makes their land vulnerable to the effects of recurrent drought. Modern innovations such as fertilizer, improved irrigation, and hybrid seeds are needed to improve productivity.

Ethiopia is the tenth-largest livestock producer in the world and the largest in Africa, with an estimated 78 million cattle, sheep, and goats. The leather industry is the second-greatest contributor of export earnings, after coffee. The abundant livestock resource has the potential to become a major source of revenue. Ethiopia produces two of the world's finest and most-sought-after varieties of leather, and its goatskins are widely recognized in international markets for making high-quality suede for fashion products.

Khat, a chewable leaf with a mild narcotic effect, is legal in Ethiopia. The cultivation of khat is financially attractive, and there is an increasing trend in cultivation and consumption of khat.

## Foreign Investment

Ethiopia had US\$265 million in foreign direct investment inflows in 2005, US\$545 million in 2006, and an estimated US\$254 million in 2007. Foreign investment in 2007 created an estimated 102,000 permanent jobs and 130,350 temporary jobs.

Of the US\$16 billion dollars worth of new investments licensed in Ethiopia in 2008, US\$10 billion came from foreign investors interested in agriculture, industry, tourism, and construction. However, only 20 percent of the investors began operations. Agriculture is Ethiopia's largest economic sector, and foreign investment in agro-industries is strongly encouraged through incentives including customs exemptions, income tax holidays, exemption from taxes on remittance of capital, and loss carry forward.

Ethiopia has bilateral investment agreements and treaties with the at least 18 countries, and many more are considering investment opportunities there.

China plans to invest CNY 5 billion (US\$713 million) to build Ethiopia's first industrial park at Dukem, 37 kilometers (23 miles) east of Addis Ababa, which will house 80 Chinese companies involved in textiles, leather, and the manufacturing of construction equipment.



**Khat**

## Economic Outlook

Most of Ethiopia's natural resources are undeveloped. Agriculture dominates the economy, accounting for more than 40 percent of Ethiopia's GDP. The government has provided some incentives aimed

at developing agro-industry. Foreign investment is low but growing. The low amount is due in part to a ban on foreign participation in banking and a lack of private land ownership in Ethiopia. Pervasive corruption has also discouraged investment and entrepreneurial activity. Despite global recession in the late 2000s Ethiopia's GDP increased by nearly 7 percent.

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## **THREAT**

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### **Crime**

Ethiopia has a high crime rate. Crime in Addis Ababa and most other large cities in Ethiopia is restricted to burglaries, robberies, and pocket picking of foreigners, in which the use of firearms is rare. Criminals target areas with poor security, such as closed businesses, vacant residences, and parked vehicles. The following precautions are recommended to avoid becoming a victim of crime:

- Carry only what is needed; do not walk streets at night or alone, and do not use public transportation, including taxis and buses
- Stay alert at all times, including when sitting in a parked vehicle; keep car windows and doors locked and valuables out of sight/reach
- Never leave valuables unattended
- Avoid large unsecured venues/events
- Avoid travel on rural roads and after dark

### **Travel Security**

Motor vehicle accidents are common in Ethiopia. High speeds, poor road conditions, disregard for right-of-way, and wandering livestock contribute to accidents. Broken-down vehicles are often left on the side of the road with no hazard warnings. Drivers



may be forced off the road by oncoming traffic. Drivers of small, overloaded trucks have caused many accidents as a result of high speeds and fatigue.

Traveling outside and between cities at night is strongly discouraged. Long-range travel should be conducted in convoys of two or more vehicles, and a check-in procedure should be followed. Travelers should also make sure that their vehicles are in good condition and that adequate fuel is available. Carrying extra food, water, spare parts, a first-aid kit, and a satellite phone is recommended. Political violence is prevalent along border regions, and travel to the following areas is discouraged: east of Adigrat (Ethiopia) to Bure (Ethiopia) and Djibouti border; west of Adigrat to the Ethiopia-Sudan border; and the Ogaden and Somalia border region.

## **Illegal Drugs**

Ethiopia does not have a major role in the production, trafficking, or consumption of illicit narcotics or precursor chemicals. However, Ethiopia is located along a major narcotics transit route between the United Arab Emirates and West Africa. Drug traffickers smuggle heroin through Ethiopia for markets in West Africa, Europe, and the United States. Ethiopia's road and rail transport connections with neighboring countries and long, unpatrolled borders with all five of its neighbors make it a prime target for drug trafficking. Nigerian and Ghanaian traffickers use Ethiopia as a transit point on an increasing but limited basis. Drug seizures from 1998 to date indicate an increase in the trafficking of heroin to East African countries from Pakistan, Thailand, and India. Increased seizures of heroin with Nigerian connections bound for Uganda, Tanzania, and Kenya through Ethiopia have also been noted.

Although cannabis is grown throughout Ethiopia, it is mostly used in rural areas. Farmers cultivate cannabis illicitly in the Shashamane and Wondo Guenet Districts, often with the help of the local Rastafarian community. The only domestic program to combat narcotics in Ethiopia is the Illicit Drug Control Service (IDCS), which has both an enforcement and limited drug education role. The IDCS, formerly the Ethiopian Counter Narcotics Unit, has a small staff and limited training and equipment, and would like to partner with the international community to improve its capabilities. The Counter-Narcotics Division of the IDCS was formed in 1993, and it coordinates drug enforcement in all regions of the country. The IDCS has an interdiction team at the international airport in Addis Ababa.

## **Foreign Intelligence Services**

Under Article 51 of Ethiopia's constitution, the federal government is charged with establishing and administering national defense and public security forces as well as a federal police force. The National Intelligence and Security Service (NISS, formerly known as SIRA) has broad authority for intelligence, border security, criminal investigation, and overall counterterrorism management. Its combined duties are equivalent to those of the Central Intelligence Agency, Federal Bureau of Investigation, Department of Homeland Security, State and Consular Affairs, and the Secret Service.

The federal police force is controlled by the Federal Police Commission, which falls under the Ministry of Federal Affairs. Regional police forces are under the control of a regional police commission. The police force is responsible for maintaining internal security and combating terrorism. The Anti-Terrorism Task Force operates in cooperation with the NISS. The focus is on Islamist extremists and other dissidents. Border security is also the

responsibility of the federal police as established by Proclamation No. 207, issued in 2000. The federal police force has the duty and power to safeguard the security of borders, airports, railway lines and terminals, mining areas, and vital federal buildings.

## **Threat to U.S. Personnel**

Driving in Ethiopia is dangerous; therefore, visitors are advised to hire drivers. Although reckless driving is certainly a cause of many traffic fatalities, careless pedestrians are a more significant cause of accidents in Ethiopia. It is not unusual for pedestrians in Ethiopia to walk into traffic without looking. Any foreigner driving a vehicle that hits an Ethiopian is held responsible regardless of fault and should seek assistance from someone who understands Ethiopia's laws and customs and can discuss compensation. These situations are best handled by representatives from the U.S. Embassy.

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## **ARMED FORCES**

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The Ethiopian National Defense Force (ENDF) includes ground and air elements. In 2007, rough estimates placed the ENDF at around 200,000 personnel. Behind Eritrea, the ENDF is the second largest military in sub-Saharan Africa and the 29<sup>th</sup> largest in the world. Tigray officers who are members or sympathizers of the Tigrayan People's Liberation Front, the governing party in Ethiopia, dominate ENDF leadership positions. General officer promotions occur between August and September and are authorized by the prime minister of Ethiopia.

### **Army**

#### ***Mission***

The Ethiopia Army defends Ethiopia's sovereignty and maintains Ethiopia's territorial integrity. It assists paramilitary forces

as necessary against domestic threats and contributes to national development. The army has participated in several international peacekeeping missions.

## ***Organization***

The ENDF chief of staff controls four army regional commands and several independent units. There is no army headquarters. Infantry and mechanized divisions are assigned to the regional commands based on need. Each division has specialized regiments that allow it to fight as a combined-arms unit. The army also has one commando division whose soldiers are airborne qualified.

## ***Facilities***

The ENDF headquarters is in Addis Ababa. Major army bases are in Gonder, Inda Silase, Mekele, Harer, Awash, Jijiga, and Gode. Training bases are in Bilate and Hurso.

## ***Key Defense Personnel***

<b>Chief of Staff Armed Forces</b>	Gen Samora Yenus
(Tigray, rank as of 2007)	Mohamedfereji
<b>Security Advisor to President</b>	Mr. Abbat Tsahay
<b>and Chief of Armed Forces</b>	
<b>Commander, Central</b>	LtGen Abebaw Tadesse Asres
<b>Regional Command</b>	
<b>Commander, Northern</b>	LtGen Se'are Mekonnen Yimer
<b>Regional Command</b>	
<b>Commander, Western</b>	MajGen Abreha Woldemariam
<b>Regional Command</b>	Genzebu

## Personnel

The Ethiopian Army has demobilized from a wartime high of 350,000 soldiers in 2000 to an estimated 180,000. The Ethiopian National Reserve Force could be mobilized as necessary to increase army strength.

Service in the army is voluntary. Recruits must be 18 years old and HIV/AIDS free. The military is ethnically diverse, but Tigray dominate the senior leadership positions.

<b>Enlisted</b>							
<i>U.S. Equivalent</i>	<i>Private 1st Class</i>	<i>Lance Corporal</i>	<i>Corporal</i>	<i>Sergeant</i>	<i>Staff Sergeant</i>	<i>Master Sergeant</i>	<i>Sergeant Major</i>
<b>Officers</b>							
<i>U.S. Equivalent</i>	<i>Junior Lieutenant</i>	<i>Lieutenant</i>	<i>Senior Lieutenant</i>	<i>Captain</i>	<i>Major</i>		
<b>Officers</b>							
<i>U.S. Equivalent</i>	<i>Lieutenant Colonel</i>	<i>Colonel</i>	<i>Brigadier General</i>	<i>Major General</i>	<i>Lieutenant General</i>		

## Army Ranks

## ***Training***

The ENDF maintains a sophisticated military training system as compared to other African nations. The army conducts basic and officer training and advanced specialty courses. Individual training continues throughout a soldier's career. Tactical units conduct combined-arms collective training.

## ***Capabilities***

The ENDF derives its doctrine from its roots as a guerrilla force, Soviet doctrine used by forces of the former Derg, and training received from Western

armies. The Ethiopian Army operates as a combined-arms force. Armor and infantry operate together, with armor often supporting infantry rather than leading the attack. Air defense, engineer, and logistic support units are integrated in every maneuver division.

Ethiopia's inventory of air defense artillery consists exclusively of first- and second-generation antiaircraft guns of Soviet design and origin. These weapons are only effective against slow, non-maneuvering, and low-flying aircraft not employing electronic-attack systems and operating in daylight.

## ***Disposition***

Most Ethiopian Army units have had troops deployed along the Ethiopia-Eritrea border since the 1998–2000 border war. In late



**Army Uniform**

2006, the ENDF intervened in Somalia to protect the Transitional Federal Government from Islamic militias, but those ENDF forces



**Ethiopian Troops**

have returned to Ethiopia. The ENDF is also conducting a counterinsurgency campaign in the Ogaden region.

Ethiopia will provide forces for the African Union's (AU's) African Standby Force East Brigade. The brigade will participate in peace-keeping operations and provide the AU a rapid intervention capability as one of five regional brigades on the African continent. The brigade is scheduled to reach initial operational capability by 2010.

## ***Uniforms***

The Ethiopian Army wears green camouflage uniforms similar to the old woodlands of the U.S. military.

## ***Equipment***

### **Armor**

#### **Tanks**

Type	Quantity
<i>T-54/55</i>	200
<i>T-55AM</i>	30
<i>T-62</i>	50

#### **Reconnaissance**

Type	Quantity
<i>BRDM-1/BRDM-2</i>	90

#### **Infantry**

##### **APCs**

Type	Quantity
<i>BMP-1</i>	90
<i>BTR-60</i>	50
<i>BTR-152</i>	20



## Artillery

### Towed Artillery

Type	Quantity
<i>85-mm D-44</i>	20
<i>122-mm D-30</i>	200
<i>122-mm M-30</i>	50
<i>130-mm M-46</i>	40

### Self-Propelled Artillery

Type	Quantity
<i>152-mm 2S19</i>	10

### Mortars

Type	Quantity
<i>120-mm M-38/43</i>	Unknown
<i>82-mm M-37</i>	Unknown
<i>60-mm Type 63-1</i>	Unknown

### Multiple Rocket Launchers

Type	Quantity
<i>122-mm BM-21</i>	50
<i>107-mm Type-63</i>	Unknown

### Antitank Weapons

Type	Quantity
<i>AT-3 SAGGER</i>	100
<i>AT-4 SPIGOT</i>	30
<i>76-mm ZIS-3 (M1942)</i>	Unknown
<i>82-mm B-10 recoilless rifle</i>	Unknown

<b>Type</b>	<b>Quantity</b>
<i>107-mm B-11 recoilless rifle</i>	Unknown
<i>73-mm RPG-7</i>	Unknown

## **Air Defense**

<b>Type</b>	<b>Quantity</b>
<i>23-mm ZU-23</i>	Unknown
<i>23-mm ZSU-23-4 (SPAAG)</i>	Unknown
<i>37-mm M-1939</i>	Unknown
<i>57-mm S-60 AA guns</i>	Unknown
<i>SA-2 SAM</i>	Unknown
<i>SA-3 SAM</i>	Unknown
<i>SA-7 MANPAD</i>	Unknown
<i>SA-9 Mobile SAM</i>	Unknown

## **Air Force**

Ethiopia's air force has an 80-year history that began in 1929. In 1922, after watching an air show, Emperor Haile Selassie decided to establish an Ethiopian air military. He hired black U.S. pilots, like Col John Robinson, to train Ethiopian pilots. Col Robinson served as the first commanding officer of the Ethiopian Air Force, despite being a U.S. citizen. The Su-27, used extensively during the 1998 conflict, has developed into an iconic symbol of Ethiopia's success against the Eritreans during that conflict.

## **Mission**

The mission of the air force is to protect Ethiopia's airspace and provide close combat support to the ground troops.


















## **Personnel**

<b>Commander, Air Force</b>	MajGen Molla Hailemariam
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Most of the pilots in Ethiopia's air force have been foreigners. In 1998, before the onset of the Eritrea-Ethiopia border war, Ethiopia had 20 inexperienced combat fighters. During the war, the country hired mercenaries from Ukraine and Russia.

## Training

Ethiopia still relies on foreign training for its pilots. It has received much of this training from Russia.

Enlisted							
	U.S. Equivalent	Private 1st Class	Lance Corporal	Corporal	Sergeant	Staff Sergeant	Master Sergeant
Officers							
	U.S. Equivalent	Junior Lieutenant	Lieutenant	Senior Lieutenant	Captain	Major	
Officers							
	U.S. Equivalent	Lieutenant Colonel	Colonel	Brigadier General	Major General	Lieutenant General	

## Air Force Ranks

## **Capabilities**

Given its dependence on foreign mercenaries and training, the Ethiopian Air Force is extremely limited in its indigenous capabilities.

## **Equipment**

<b>Type</b>	<b>Role</b>
<i>Aermacchi SF-260</i>	Trainer
<i>Aero L-39 Albatros</i>	Trainer
<i>Aeropatial SA 316 Alouette III</i>	Utility helicopter
<i>Antonov An-12</i>	Tactical transport
<i>DHC-5 Buffalo</i>	Tactical transport
<i>DHC-6 Twin Otter</i>	Tactical transport
<i>Antonov An-24</i>	Tactical transport
<i>Antonov An-26</i>	Tactical transport
<i>Lockheed C-130</i>	Tactical transport
<i>MiG-21</i>	Fighter
<i>MiG-23</i>	Fighter
<i>Mi-6</i>	Transport helicopter
<i>Mi-8</i>	Transport helicopter
<i>Mi-14</i>	Antisubmarine helicopter
<i>Mi-24</i>	Attack helicopter
<i>Su-27</i>	Fighter
<i>Su-25</i>	Fighter
<i>Y-12</i>	VIP
<i>Yak-40 Codling</i>	VIP

## **Domestic Security Forces**

The Agazi is a commando division in the ENDF and has been used in conjunction with both the military and police forces for various missions.



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## **Ethiopian Militias**

### ***National Police***

#### **Mission**

The Ethiopian Federal Police have been used to hunt bandits; fight insurgents; investigate crimes against the state, such as terrorism; and quell riots.

#### **Organization**

The Ethiopian Federal Police Commission falls under the minister of federal affairs.

#### **Personnel**

The director of the federal police is Wokneh Gebeyehu.

## **Capabilities**

In 2009, the federal police reportedly secured the Djibouti-Addis Ababa road from banditry and worked with the military to help quell violence in western and southern Ethiopia.

## **Disposition**

The newly constructed 10-story headquarters for the federal police is in Addis Ababa near Mexico Square.

## **Uniforms**

The federal police wear blue camouflage uniforms.

## **Weapons of Mass Destruction**

Ethiopia does not have WMD capabilities and has never shown any interest in acquiring them.

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## APPENDIX A: EQUIPMENT RECOGNITION

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### ARMOR

#### T-54/55



<b>Crew</b>	4
<b>Armament</b>	1 x 100-mm D10T2S gun w/34 rds 1 x 7.62-mm SMGT w/3,500 rds 1 x 12.7-mm DShK w/500 rds
<b>Maximum Speed</b>	50 km/h
<b>Maximum Range</b>	400 km (600 km w/auxillary tanks)
<b>Maximum Rate of Fire</b>	7 rds stationary; 4 if moving
<b>Fuel Capacity</b>	960 liters
<b>Combat Weight</b>	36,000 kg
<b>Length x Width x Height</b>	9.0 m x 3.27 m x 2.41 m
<b>Night Vision/NBC Capable</b>	yes / yes
<b>Fording / Gradient</b>	1.4 m / 60 percent
<b>Vertical Obstacle</b>	0.8 m
<b>Trench</b>	2.7 m

**Comments:** The T-55 is an improved version of the T-54. The fire control system is unchanged as is the armor protection. Engine horsepower was increased slightly but the transmission is the same. The T-55 has a welded steel hull. Both hull front and turret front have 200mm protection level against both shape-charge and KE threats.

## T-62



<b>Crew</b>	4
<b>Armament</b>	1 x 115-mm 2A20 gun w/40 rds Smooth Bore 1 x 7.62-mm PKT MG w/2,500 rds APT 1x 12.7-mm Turret loader exposed 500rds Ball, AP, and API
<b>Maximum Speed</b>	50 km/h
<b>Maximum Range</b>	650.0 km (450 km integral tanks)
<b>Fuel Capacity</b>	960 liters
<b>Combat Weight</b>	37.6 Tonnes
<b>Length</b>	9.33 m
<b>Width</b>	3.3 m
<b>Height</b>	2.83 m
<b>Night Vision</b>	yes
<b>NBC</b>	yes
<b>Fording</b>	1.4 m 5.0 w/snorkel
<b>Gradient</b>	60 percent
<b>Vertical Obstacle</b>	0.8 m
<b>Trench</b>	2.85 m

**Comment:** The T-62 uses many components from the T-55 but is longer and wider with a larger turret diameter. The fire control is slightly more advanced than the T-55.



## BRDM-2



<b>Crew/Passengers</b>	4
<b>Type</b>	4 x 4
<b>Armament</b>	1 x 14.5-mm KPVT w/500 rds
<b>1 x 7.62-mm PKVT w/2000-rds</b>	
<b>Maximum Speed</b>	100 km/h
<b>Maximum Range</b>	750 km
<b>Fuel Capacity</b>	290 liters
<b>Combat Weight</b>	7 Tonnes
<b>Length</b>	5.70 m
<b>Width</b>	2.26 m
<b>Height</b>	2.39 m
<b>Night Vision</b>	yes
<b>NBC</b>	yes
<b>Fording</b>	amphibious
<b>Gradient</b>	60 percent
<b>Vertical Obstacle</b>	0.4 m
<b>Trench</b>	1.60 m

## BMP-1



<b>Crew/Passengers</b>	3 + 8
<b>Type</b>	tracked
<b>Armament</b>	1 x 73-mm 2A28 low velocity gun w/40 rds 1 x 7.62-mm PKT MG coaxial w/1,800 rds 4 x Stagger ATGM
<b>Maximum Speed</b>	60 km/h
<b>Maximum Range</b>	600 km
<b>Fuel Capacity</b>	460 liters
<b>Combat Weight</b>	13.6 Tonnes
<b>Length</b>	6.74 m
<b>Width</b>	2.94 m
<b>Height</b>	2.15 m
<b>Night Vision</b>	Yes
<b>NBC</b>	Yes
<b>Fording</b>	amphibious
<b>Gradient</b>	60 percent
<b>Vertical Obstacle</b>	0.8 m
<b>Trench</b>	2.0 m

## BTR-60PB



<b>Crew/Passengers</b>	2 + 8
<b>Type</b>	8 x 8
<b>Armament</b>	14.5 KPVT (Tank Heavy Machine Gun) w/ 500 rds 1 x 7.62-mm PKT MG w/2,000 rds
<b>Maximum Speed</b>	80 km/h
<b>Maximum Range</b>	500 km
<b>Fuel Capacity</b>	290 liters
<b>Combat Weight</b>	10.3 Tonnes
<b>Length</b>	7.22 m
<b>Width</b>	2.82 m
<b>Height</b>	2.70 m
<b>Night Vision</b>	yes
<b>NBC</b>	yes
<b>Fording</b>	amphibious
<b>Gradient</b>	60 percent
<b>Vertical Obstacle</b>	0.4 m
<b>Trench</b>	2 m

**Comment:** The BTR-60PB is the second upgrade to the BTR-60 series APC. Its predecessors were the open-topped BTR-60P and the armor-roofed BTR-60A. The BTR-60PB's major improvement is the addition of an armored turret armed with coaxially-mounted 14.5 and 7.62-mm machineguns.

## BTR-152



<b>Crew/Passengers</b>	1 + 18
<b>Type</b>	6 x 6
<b>Armament</b>	1 x 7.62-mm SGMB MG w/1,250 rds 1 x 12.7 DShKM MG w/650 rds
<b>Maximum Range</b>	780 km
<b>Maximum Speed</b>	65 km/h
<b>Fuel Capacity</b>	300 l
<b>Combat Weight</b>	8.95 Tonnes
<b>Length</b>	6.83 m
<b>Width</b>	2.32 m
<b>Height</b>	2.04 m
<b>Night Vision</b>	no
<b>NBC</b>	no
<b>Fording</b>	0.8 m
<b>Gradient</b>	60 percent
<b>Vertical Obstacle</b>	0.6 m
<b>Trench</b>	0.80 m

# ARTILLERY

## 122-mm D-30



<b>Crew</b>	6
<b>Maximum Range</b>	15,300 m (conventional)
<b>Ammunition</b>	122-mm HE Various
<b>Range Direct</b>	1,000 m
<b>Range Minimum-Indirect Fire</b>	4,000 m
<b>Rate of Fire</b>	6 rds/min
<b>Combat Weight</b>	3,210 kg
<b>Length</b>	5.4 m
<b>Width</b>	1.95 m
<b>Height</b>	1.66 m
<b>Prime Mover</b>	6 x 6 truck

## 130-mm M-46



<b>Crew</b>	7
<b>Ammunition</b>	Soviet 130-mm HE
<b>Range Direct</b>	1,170 m
<b>Range Minimum-Indirect Fire</b>	5,400 m
<b>Maximum Range</b>	27,150 m (conventional) 31,000 m (Using Yugo M79)
<b>Rate of Fire</b>	6 rds/min
<b>Travel Weight</b>	8,450 kg
<b>Length</b>	11,730 mm
<b>Width</b>	2,450 mm
<b>Height</b>	2,550 mm
<b>Prime Mover</b>	6 x 6 truck

## 122-mm Towed Howitzer M-30 (M-1938), M30M



<b>Crew; Section Size</b>	5; 6
<b>Gun Caliber</b>	121.9 mm x 23.0
<b>Ammunition</b>	HE-frag., flechette, illumination, smoke
<b>Range</b>	
<b>Direct Fire</b>	660 m
<b>Indirect Fire</b>	1,000 to 11,800 m
<b>Rate of Fire</b>	
<b>Burst</b>	6 rounds per minute
<b>Normal</b>	3 rounds per minute
<b>Sustained</b>	2 rounds per minute
<b>Traverse Limit, Left and Right</b>	24 degrees, each direction
<b>Elevation Limit</b>	-3 to +64 degrees
<b>Emplacement Time</b>	1 to 2 minutes
<b>Displacement Time</b>	1 minute
<b>Traveling Weight</b>	2,450 kg
<b>Length x Width x Height</b>	5.93 x 1.98 x 1.82 m, travel mode

## 120-mm Mortar M-38/43



<b>Crew</b>	4
<b>Range</b>	450 to 5,700 m
<b>Rate of Fire</b>	
<b>Burst</b>	9 rounds/minute
<b>Normal</b>	5 rounds/minute
<b>Sustained</b>	4 rounds/minute
<b>Traverse Limits, Left or Right</b>	3.0 degrees (M-38); 4.0 degrees (M-43)
<b>Elevation Limits</b>	+45 to +80 degrees
<b>Empty Weight</b>	270 kg
<b>Travel Length x Width x Height</b>	1.854 m



## 82-mm Mortar M-37 (M-1937)



<b>Crew</b>	4
<b>Caliber</b>	85 mm
<b>Ammunition</b>	HE-frag., illumination, smoke
<b>Range</b>	85 to 3,040 m
<b>Rate of Fire</b>	
Burst	30 rounds per minute
Normal	25 rounds per minute
Sustained	20 rounds per minute
<b>Traverse Limits</b>	3 degrees left or right
<b>Elevation Limits</b>	45 to 85 degrees
<b>Weight Empty</b>	56 kg
<b>Tube Length</b>	1,219 mm
<b>NOTE:</b> may be traversed 30 degrees left or right by moving the bipod.	

## 60-mm Manportable Mortar Type 63-1



**Ammunition**

60.75-mm HE-frag., smoke, illumination

**Range**

95 to 1,550 m

**Burst Rate of Fire**

30 to 35 rounds per minute

**Weight Empty**

12 kg

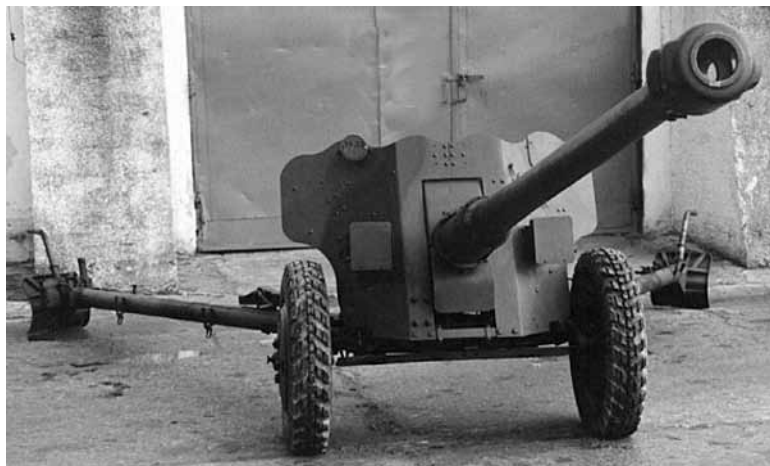
## 122-mm BM-21 MRL



<b>Crew</b>	5
<b>Armament</b>	40 x 122-mm rockets
<b>Rate of Fire</b>	36 rds/20 sec
<b>Max Range</b>	20,380 m
<b>Reload Time</b>	7 min
<b>Maximum Speed</b>	80 km/h
<b>Maximum Range</b>	525 km
<b>Fuel Capacity</b>	340 liters
<b>Combat Weight</b>	10,500 kg
<b>Length</b>	6.9 m
<b>Width</b>	2.5 m
<b>Height</b>	2.48 m

# ANTIARMOR

## 85-mm Towed Antitank Gun D-44



<b>Crew</b>	6 8
<b>Maximum Range</b>	15,650 m
<b>Ammunition</b>	Soviet 85-mm O 365 Frag HE
<b>Rate of Fire</b>	15 20 rds/min
<b>Range Direct</b>	800 m
<b>Range Minimum-Indirect Fire</b>	2,500 m
<b>Range Conventional</b>	15,820 m
<b>Emplacement/Displacement</b>	2 mins
<b>Combat Weight</b>	1,750 kg
<b>Length</b>	8.34 m
<b>Width</b>	1.73 m
<b>Height</b>	1.42 m
<b>Prime Mover</b>	4 x 4 truck

## 76-mm Field Gun ZIS-3 (M1942)



<b>Crew; Section Size</b>	5; 6
<b>Caliber</b>	76.2 mm x 41.6
<b>Range</b>	
Direct Fire	820 m
Indirect Fire	1,500 to 13,290 m
<b>Rate of Fire</b>	
Burst	25 rounds/minute
Normal	15 rounds/minute
Sustained	8 rounds/minute
<b>Traverse Limits</b>	27 degrees left or right
<b>Elevation Limits</b>	-5 to +37 degrees
<b>Travel Weight</b>	1,116 kg
<b>Travel Length x Width x Height</b>	6.1 x 1.6 x 1.4 m
<b>Emplacement/Displacement Time</b>	1 minute

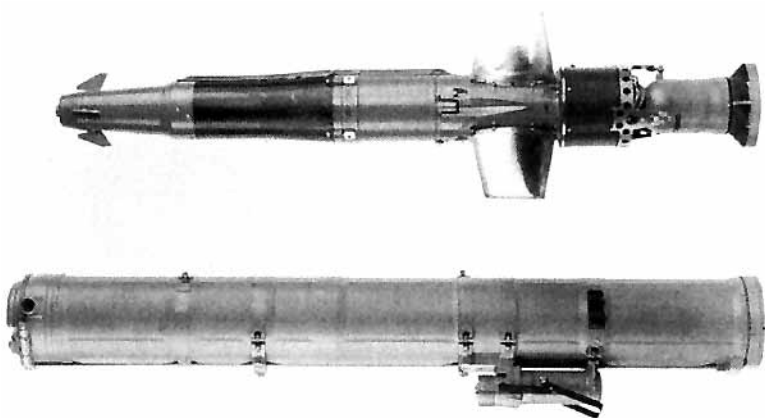
## Malyutka 9K11 ATGM (AT-3 Sagger)



<b>Guidance</b>	MCLOS Wire Link
<b>Warhead Type</b>	Unitary Shape Charge
<b>Range (Effective)</b>	500-3,000 m
<b>Time Of Flight</b>	25.0 seconds
<b>Missile Weight</b>	11.3 kg
<b>Length</b>	864mm
<b>Diameter</b>	125mm
<b>RHA Penetration</b>	<400mm

**Note:** The AT-3 is both a MCLOS and a SACLOS-guided ATGM that can be fired from a variety of launch platforms. The MCLOS AT-3 includes the man-portable (suitcase) and light tank-mounted versions. The AT-3 may be deployed in very limited numbers on helicopters. Dedicated ATGM vehicles are likely to be equipped with SACLOS AT-3 systems. The missile has a 3,000 meter range and a wire command link. The AT-3's armor penetration has been estimated in excess of 400 mm. The Russian name for the AT-3 is MALYUTKA (Little Baby). Recognition: Short cylindrical body Blunt conical nose 4 tail fins.

## 9K 111 FAGOT ATGM (AT-4 SPIGOT)



**Guidance**

SACLOS

**Warhead Type**

Unitary Shape Charge

**Range (Effective)**

70-2,000 (m)

**Time of Flight**

11.0 seconds

**Missile Weight**

7.3kg

**Length**

863mm

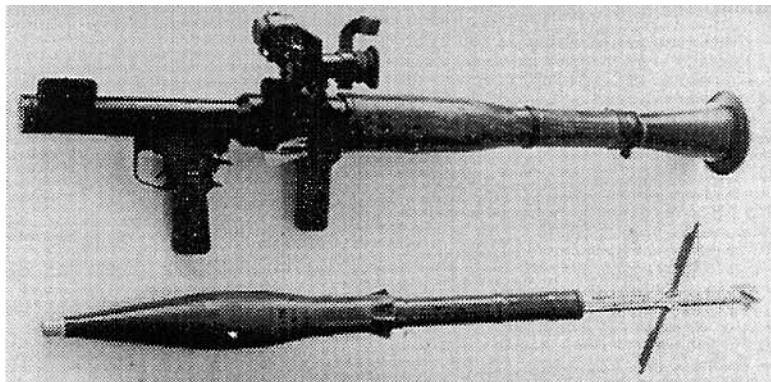
**Diameter**

119mm

**RHA Penetration**

<425mm

## RPG-7



<b>Type</b>	Shoulder-fired rocket-propelled grenade launcher
<b>Caliber</b>	
<b>Launcher</b>	40.0 mm
<b>Grenade</b>	85 mm
<b>Effective Range</b>	
<b>Moving Target</b>	330 m
<b>Stationary Target</b>	500 m
<b>Maximum Range (Self Destruct)</b>	Approximately 950 m (4.5 seconds after launch)
<b>Rate of Fire</b>	4 to 6 rounds/minute
<b>Grenade Types</b>	HEAT, tandem, thermobaric, shaped-charge, HE-frag, and incendiary (grenades consist of warhead and two-stage rocket motor)
<b>Armor Penetration</b>	260 mm or greater (depending on grenade)
<b>Launcher Length</b>	950 mm



# AIR DEFENSE

## Twin 23 mm Automatic Antiaircraft Gun ZU-23



<b>Tactical AA Range</b>	2,500 meters
<b>Max Vertical Range</b>	5,100 meters
<b>Max Horizontal Range</b>	7,000 meters
<b>Rate of fire</b>	800-1,000 rd/min/barrel
<b>Azimuth limits</b>	Unlimited
<b>Elevation limits</b>	-10 to 90 degrees
<b>Fire control</b>	Optical mechanical computing sight
<b>Ammunition</b>	HEI, HEI-T, API-T, TP (23-by-152 mm)
<b>Self-destruct time</b>	Approx 5 to 12 seconds
<b>Self-destruct range</b>	Approx 3,800 meters
<b>Length</b>	4,600 mm
<b>Width</b>	1,860 mm
<b>Height</b>	1,280 mm (firing mode) / 2,070 mm (travel mode)
<b>Weight</b>	950 kilograms

## ZSU-23-4 (23 mm) SPAAG



<b>Crew</b>	4
<b>Caliber</b>	23.0 x 152B mm
<b>Ammunition</b>	API-T, HEI, HEI-T
<b>Ranges</b>	
<b>Tactical Antiaircraft</b>	2,500 m
<b>Maximum Vertical</b>	5,000 m
<b>Maximum Horizontal</b>	7,000 m
<b>Rate of Fire</b>	850 to 1,000 rounds/minute per barrel
<b>Traverse Limits; Rate</b>	Unlimited; 70 degrees/second
<b>Elevation Limits; Rate</b>	-4 to +85 degrees; 60 degrees/second
<b>Weight</b>	20,500 kg
<b>Length x Width x Height</b>	6.54 x 3.13 x 2.58 m
<b>Platform</b>	GM575
<b>NOTE:</b> Height with radar dome is 3.57 meters.	

## M1939 AA Gun/Type 55 AA Gun



<b>Crew</b>	7 to 8
<b>Ammunition</b>	FRAG-T, AP-T
<b>Gun Caliber</b>	37mm x 5 rnd clip
<b>Tactical AA Range</b>	2,500/4,000m
<b>Types of Fire Control</b>	optical mechanical/radar
<b>Type of Feed</b>	clip (5 rnds)
<b>Rate of Fire</b>	160 to 180 rds/min
<b>Elevation Limits</b>	-5 to 85 deg
<b>Traverse Limits</b>	360 deg
<b>RHA Penetration @ 1,000 Meters</b>	38mm
<b>Length</b>	5.94m
<b>Width</b>	1.90m
<b>Height</b>	2.08m
<b>Weight</b>	2,353kg

## S-60



<b>Type</b>	57 mm automatic AA gun
<b>Tactical AA range</b>	4,000 meters without radar, 6,500 meters with radar
<b>Rate of fire</b>	105-120 rds per minute
<b>Azimuth</b>	Unlimited
<b>Elevation</b>	-4 to 87 degrees
<b>Fire control</b>	Optical mechanical computing sight, radar
<b>Ammunition</b>	HEI-T (57-by-348 mm), APC-T
<b>Self destruct time</b>	12 to 18 seconds
<b>Self destruct range</b>	6,900 - 7,400 meters
<b>Note:</b> Manufactured on a 4 wheeled towed carriage, Chinese variant is the Type 59.	

## SA-2



<b>Range</b>	43 kilometers
<b>Warhead</b>	190 kilograms, HE, FRAG
<b>Guidance</b>	Command RF from FAN SONG
<b>Fuzing</b>	Proximity, command
<b>Missile Length</b>	10.7 m
<b>Missile Diameter</b>	5 m (booster), 65 m (fins)
<b>Missile Range</b>	43-55 km
<b>Velocity</b>	Mach 4.0

**Note:** Associated radars include FAN SONG, SPOON REST, SIDE NET. 1 or 3 missiles launched at 6 second intervals against 1 target. This missile has also been used in surface-to-surface mode.

## SA-3 GOA



<b>Maximum Effective Range</b>	32 kilometers
<b>Maximum Effective Altitude</b>	20 kilometers
<b>Warhead</b>	HE 60kg ; 73 kg, HE FRAG
<b>Fuze</b>	Proximity doppler radar; Proximity RF, command
<b>Kill Radius</b>	12.5 m
<b>Missile Length</b>	6.1 m
<b>Missile Diameter</b>	.55 m (booster), 37 m (fins)
<b>Missile Range</b>	25 km
<b>Guidance</b>	Command RF from LOW BLOW
<b>Velocity</b>	Mach 3.5

## SA-7



<b>Type</b>	Low altitude solid fuel booster and sustainer
<b>Gross weight(kilograms)</b>	9.2
<b>Length (meters)</b>	1.30
<b>Diameter (meters)</b>	0.072
<b>Max Range (kilometers)</b>	3.6 (SA-7), 4.2 (SA-7b and SA-7c)
<b>Max Effective Altitude (meters)</b>	2,000 (SA-7), 2,300 (SA-7b and SA-7c)
<b>Warhead</b>	1.5 kilograms HE with contact and graze fuzing
<b>Guidance</b>	Passive IR
<b>Propulsion</b>	Two-stage solid rocket
<b>Launcher weight</b>	4.17 kilograms (SA-7) or 4.95 kilograms (SA-7b and SA-7c)

**Note:** The SA-7b is an updated variant of the SA-7 with a more sophisticated seeker to exclude spurious and countermeasure heat source and an improved warhead. The SA-7c was developed in the mid-1970s and has an improved grip stock and a more sophisticated RF detector. The SA-7 is the Strela-2 or Grail Mod 0. The SA-7b is the Strela-2M or the Grail Mod 1. The SA-7c has the NATO designation Grail Mod 2 and the Russian military designation is the improved Strela-2M. Models were produced by East Germany, Egypt, Yugoslavia, the Czech Republic, Slovakia, Bulgaria, Poland, and Romania.

## SA-9 Gaskin



**Range:** 6 km  
**Ceiling:** 5 km  
**Guidance:** IR Seeker  
**Warhead:** HE, 2.5 kg

**Note:** Uses passive RF direction finding system. System is built on a BRDM-2 Chassis, and has 4 Canisterized missiles mounted on pedestal.



# AIRCRAFT

**MiG-21PF, MF, bis (FISHBED-D, -J, -L) Multirole Fighter;  
MiG-21U, UM (MONGOL, MONGOL-B) Trainer**



<b>Type</b>	Air defense, attack; trainer
<b>Crew</b>	1 (2 for trainers)
<b>Range on Internal Fuel</b>	1,100 km
<b>Maximum Level Speed</b>	2,150 km/h
<b>Design/Practical Ceiling</b>	18,000/15,250 m
<b>Weapons</b>	
<b>MiG-21PF</b>	No gun; AAMs, radar-homing missiles, 57-mm rocket packs, bombs, 240-mm air-to-surface rockets
<b>MiG-21MF</b>	Twin 23-mm gun, 2x AAMs, and 2x radar-homing missiles or 2x drop fuel tanks
<b>MiG-21bis</b>	Twin 23-mm gun, AAMs, radar-homing missiles, 57-mm rocket packs, bombs, 240-mm air-to-surface rockets
<b>Weight Empty</b>	5,843 kg
<b>Maximum Takeoff Weight</b>	9,800 kg (bis 9,500 kg)
<b>Length x Wingspan x Height</b>	15.76 x 7.15 x 4.10 m

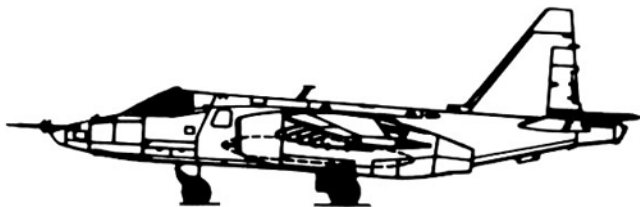
## MiG-23MF, MS, BN, ML, UB (FLOGGER-B, -E, -F, -G, -C)



<b>Type</b>	Multirole fighter-interceptor; armed trainer (UB)
<b>Crew</b>	1 (MF, MS, BN, ML) or 2 (UB)
<b>Weapons</b>	23-mm twin gun; various AAMs, air-to-surface rockets, and bombs
<b>Maximum Speed</b>	2,500 km/h
<b>Range</b>	2,820 km with three external tanks
<b>Service Ceiling</b>	18,500 m
<b>Max Takeoff Weight</b>	17,800 kg (ML)
<b>Length x Wingspan x Height</b>	16.71 x 7.78 to 13.97 x 4.82 m

**NOTE:** MiG-23MF, MS, ML are interceptors. MiG-23BN is a ground attack variant. MiG-23UB is a tandem two-seat variant designed for operational training and combat.

## Su-25 (FROGFOOT A); Su-25UBK, -25UTG (FROGFOOT B)



<b>Role</b>	Attack fighter; weapons trainer (UB)
<b>Crew</b>	1 or 2 (UBK, UTG)
<b>Armament</b>	
<b>Main Gun</b>	Twin 30-mm gun
<b>Under-wing Pylons (x8)</b>	Combination of 32x 57-mm or 20x 80-mm rocket pods; guided rockets; air-to-surface missiles; antiship missiles; smart bombs; conventional bombs; cluster bombs; twin 23-mm gun pods (guns can pivot downward)
<b>Out-board Pylons</b>	Air-to-air missiles
<b>Range with Standard Load</b>	675 nmi
<b>Maximum Level Speed</b>	526 kn
<b>Service Ceiling</b>	Clean 7,000 m; with maximum weapons 5,000 m
<b>Maximum Takeoff Weight</b>	17,600 kg
<b>Empty Weight</b>	9,800 kg
<b>Length x Wingspan x Height</b>	15.5 x 14.4 x 4.8 m
<b>NOTE:</b> Su-25UTG is equipped with an arrestor hook for aircraft carrier deck landing training.	

## Su-27 (FLANKER B) Air-Superiority Fighter Su-27UB Armed Trainer (FLANKER C)

**Crew**

1 (2, tandem, on Su-27UB)

**Armament**

30 mm GSh-30-1 gun in starboard wingroot extension; up to 10x AAMs in air combat role (typically, combination of long- and short-range semi-active radar-homing and IR-homing); up to 8x 500-kg bombs, 16x 250-kg bombs, or 4x launchers for rockets.

**Range with Maximum Fuel**

2,370 nmi (2,807 nmi with in-flight refueling)

**Maximum Level Speed**

Approximately 1,350 kn

**Service Ceiling**

18,000 m

**Maximum Payload****Maximum Takeoff Weight**

33,000 kg

**Length x Wingspan x Height**

21.9 x 14.7 x 5.9 m

## C130H



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

## An-12 (CUB A)



<b>Crew; Passengers</b>	5; 90 troops or 60 paratroops
<b>Maximum Cruising Speed</b>	361 kn
<b>Range with Maximum Fuel</b>	3,075 nmi
<b>Weapons</b>	Possible twin 23-mm gun in tail
<b>Maximum Payload</b>	20,000 kg
<b>Takeoff/Landing Run</b>	700/500 m
<b>Service Ceiling</b>	10,200 m
<b>Maximum Takeoff Weight</b>	61,000 kg
<b>Length x Wingspan x Height</b>	33.1 x 38.0 x 10.5 m

## YAK-40 CODLING



<b>Type</b>	Short-haul transport
<b>Crew/Passengers</b>	2/Up to 32
<b>Maximum Level Speed</b>	600 km/h
<b>Range with Maximum Payload</b>	1,800 km
<b>Maximum Payload</b>	2,720 kg
<b>Maximum Takeoff Weight</b>	16,000 kg
<b>Weight Empty</b>	9,010 to 9,400 kg
<b>Length x Wingspan x Height</b>	20.4 x 25.0 x 6.5 m

## L-39ZO, ZA Albatros



<b>Type</b>	Armed Trainer
<b>Crew</b>	2
<b>Maximum Level Speed</b>	630 km/h
<b>Service Ceiling</b>	7,500 m
<b>Weapons</b>	Centerline pod for 23-mm twin gun; various bombs, rocket launchers, and AAMs attached to 4 underwing hardpoints
<b>Maximum Underwing Stores</b>	1,000 kg
<b>Maximum Takeoff Weight</b>	5,600 kg
<b>Basic Weight Empty</b>	3,460 kg
<b>Length x Wingspan x Height</b>	12.13 x 9.46 x 4.77 m



## Y-12 Turbo-Panda



<b>Type</b>	Transport
<b>Crew/Passengers</b>	2/16
<b>Maximum Level Speed</b>	300 km/h
<b>Service Ceiling</b>	7,000 m
<b>Maximum Range</b>	1,350 km
<b>Maximum Payload</b>	1,984 kg
<b>Maximum Takeoff Weight</b>	5,670 kg
<b>Basic Weight Empty</b>	3,044 kg
<b>Length x Wingspan x Height</b>	14.86 x 17.23 x 5.57 m

## De Havilland Canada DHC-6 Twin Otter



<b>Type</b>	Transport
<b>Crew/Passengers</b>	2/20
<b>Maximum Level Speed</b>	338 km/h
<b>Service Ceiling</b>	8,140 m
<b>Maximum Range</b>	1,294 km
<b>Maximum Payload</b>	1,984 kg
<b>Maximum Takeoff Weight</b>	5,670 kg
<b>Basic Weight Empty</b>	3,363 kg
<b>Length x Wingspan x Height</b>	15.77 x 19.81 x 5.94 m

## De Havilland Canada DHC-5 Buffalo



<b>Type</b>	Transport
<b>Crew/Passengers</b>	3/35
<b>Maximum Level Speed</b>	467 km/h
<b>Service Ceiling</b>	9,450 m
<b>Maximum Range</b>	6,115 km
<b>Maximum Payload</b>	416 km
<b>Maximum Takeoff Weight</b>	18,597 kg
<b>Basic Weight Empty</b>	11,412 kg
<b>Length x Wingspan x Height</b>	24.08 m x 29.26 m x 8.73 m

## Mi-24D (HIND D)



<b>Type</b>	Attack helicopter
<b>Crew/Passengers</b>	2; 8
<b>Armament</b>	Turret-mounted 4-barrel 12.7-mm Gatling gun; and 57-mm rockets, up to 500-kg bombs, ATGMs
<b>Dash Speed</b>	173 kn
<b>Range</b>	320 nmi
<b>Maximum Endurance</b>	1.9 hours
<b>Basic Empty Weight</b>	8,500 kg
<b>Maximum Payload</b>	2,400 kg
<b>Sling Load</b>	2,000 kg
<b>Maximum Takeoff Weight</b>	11,500 kg
<b>Main Rotor</b>	
Number of Blades	5
Diameter	17.3 m
<b>Length x Wingspan x Height</b>	17.5 x 6.5 x 4.5 m

## Mi-8T (HIP-C)



<b>Type</b>	Twin-turbine transport helicopter
<b>Crew/Passengers</b>	3/24
<b>Weapons</b>	Possibly 57-mm rockets or 500-kg bombs
<b>Range</b>	481 km
<b>Maximum Dash Speed</b>	260 km/h
<b>Service Ceiling</b>	4,800 m
<b>Main Rotor</b>	
Number of Blades	5
Diameter	21.3 m
<b>Payload</b>	
Internal	4,000 kg
Sling Load	3,000 kg
<b>Maximum Design Takeoff Weight</b>	12,000 kg (rolling takeoff)
<b>Weight Empty</b>	6,824 kg
<b>Fuselage Length x Width x Height</b>	18.22 x 2.5 x 4.75 m



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## APPENDIX B:

### HOLIDAYS

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#### National Holidays

Date	Holiday	Description
7 January	Christmas (Genna)	
19 January	Epiphany (Timket)	Commemorates the visit of the Magi and Jesus's baptism
2 March	Victory of Adowa	Commemorates the 1896 defeat of Italy and the resulting Treaty of Addis Ababa recognizing Ethiopia's independence
15 February 2011	Mawlid al-Nabi*	Celebrates the birth of the Prophet Muhammad
4 February 2012		
23 January 2013		
22 April 2011	Good Friday	Commemorates the crucifixion of Jesus Christ
13 April 2012		
3 May 2013		
24 April 2011	Easter (Fasika)	Holy celebration of Jesus Christ's resurrection from the dead following his crucifixion
15 April 2012		
5 May 2013		
1 May	May Day (International Labor Day)	

5 May	Patriots' Victory Day (Arbegnoch Qen)	Commemorates the liberation of Addis Ababa from Italian rule
28 May	National Day	Commemorates the downfall of the Derg/ defeat of Mengistu
11 September	New Year's Day (Enkutatash)	
27 September (28 September during Leap Year)	Finding of the True Cross (Meskel)	Commemorates St. Helena's 4th century discovery of cross on which Jesus Christ was crucified
11 August 2011 19 August 2012 8 August 2013	Eid al-Fitr*	Three-day celebration following the holy month of Ramadan, when Muslims fast from dawn to dusk; the date is deter- mined by the rising of the new moon
7 November 2011 26 October 2012 15 October 2013	Eid al-Adha*	Holiday at the end of the pilgrimage to Mecca; it honors Abraham's willing- ness to sacrifice his son

\* Islamic holiday celebrations are based on lunar cycles and actual dates vary by location.



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## APPENDIX C:

### LANGUAGE

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#### Key Phrases

##### English

Do you speak English?

Form a line

One at a time

Do you have...?

Get me a ...

Please/Thank you

Good morning (afternoon)/

Good-bye

Help

Do you need?

Food/time

How long?

How much?

How many?

Yes/No

How/what/when/why

Where/Which/Who

Foreigners

We are Americans

What's your name?/My name

is Mary

##### Somali Phonetic

een-grease mah-koo hadashaa

adiggu

suff ghallah

koff-bah marr

mah hayee -saa

ee cairn eh

fudd-lahn/ whaad mahad-sahn

ta-hayee

subaH (galab) wanagsin/

nah-bud-gull-yoh

ah-wen

Mah oo bah-hun tah-hai...?

oonoh/whuck-tee

Ee-mee-say-ghaa-rey-sah?

Whaa ee mee sah

Ee-mee-say dunne tah-hai

haa/maya (or ma)

c-dhe/ma-hay/ghor-tè/www-yoh

hull-kè/meet-keh/koo-mah

a-djeen-ah-bee

wha-hahn nah-hayee marr-eyken

adeegoo maga'aa? / maga'eygu

waa Mary

##### English

Hello

How are you?

I am fine.

##### Amhraic

seu-lam

deu-na neuh (man) deu-na nuesh

(woman)

deu-na nueny

Thank you.

OK/Yes

Excuse me.

Sorry.

Help!

Where's the...?

How much is it?

Is there a toilet nearby?

Go (straight ahead)/(to a man/to a woman)

It's on the left/right

Do you understand?

I understand/I don't understand

Vowel Pronunciation

a

ai

ay

e

eu

ə

i

o

ow

ō

u

a·meu·seu·ə·nal·lō

ə·shi

yi kər ta

Az nol l ō

ər duny!

Yeut n?....ō

s ənt n ?ō

ə z zi a ka ba bi shənt bet al leu?

(beu keu t ə ta) hid/hij

Beu (gra/keuny) beu kul n ō

Geub bah/geub bash?

Geub to nyal / al geu ba ny əm

‘a’ as in father

‘ai’ as in aisle

‘ay’ as in day

‘e’ as in bed

‘e’ as in her (without the r)

‘e’ as in garden

‘i’ in ‘bit’

‘o’ in ‘hot’

‘ow’ in cow

‘o’ in both

‘u’ in flute

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## APPENDIX D: DANGEROUS PLANTS AND ANIMALS

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### Snakes

#### ***Eastern Rhombic Night Adder***

##### **Description:**

Adult length usually 0.4 to 0.6 meter, maximum of 1.0 meter; moderately stocky snake. Background color varies from gray to olive to pinkish brown; patterned with gray, black, or brown chevrons or spots. Belly usually gray, but may be cream or yellow. Solid dark “V” marking on head.



##### **Habitat:**

Open woodland, grassland, and savanna near streams, marshes, or other damp areas.

##### **Activity and behavioral patterns:**

Nocturnal, but spends much time basking during day and/or sheltered in trash piles, rock crevices, and other hiding places. Generally non aggressive and docile, seldom attempting to bite except under extreme provocation. When threatened, will either flatten head and body or inflate itself with air, make several frantic strikes, and then glide away quickly.

##### **Venom's effects:**

Venom mildly cytotoxic and generally not dangerous, but may cause acute discomfort. Bite usually results only in local pain, swelling, and lymphadenopathy. No reliable reports of fatalities.

## ***Burrowing Asp***

### **Description:**

Adult length is usually less than 0.9 meter; relatively slender snake. Background color varies; usually uniform dark purplish-brown to black above. Short, conical head, not distinct from the neck; snout broad, flattened, often pointed. Its fangs are well-developed and comparatively large in relation to the size of its head. Small eyes with round pupils. Tail short, ending in distinct spine.



### **Habitat:**

Rain forests and savanna. Commonly lives under stones or in burrows.

### **Activity and behavioral patterns:**

May emerge at night, particularly after rain. Likely to bite as soon as it is touched.

### **Venom's effects:**

Venom primarily hemotoxic. Victims may experience intense local pain, swelling, and, in some instances, necrosis.

## ***Puff Adder***

### **Description:**

Adult length usually 0.6 to 1 meter (2-3 feet), maximum of 1.5 meters (5 feet); thick, heavily built snake. Background color varies from bright to light yellow, yellow-brown, orange-



brown, light brown, or gray. Belly yellowish white to gray with black blotches. Rough-scaled appearance and alternating pattern of dark and light chevron-shaped markings.

**Habitat:**

Most widely distributed venomous snake in Africa; encountered almost anywhere, at both low and high elevations, except in rain forests and extreme desert conditions.

**Activity and behavioral patterns:**

Both diurnal and nocturnal; known to bask in early mornings or late afternoons. Comparatively slow-moving and sluggish; relies on immobility and camouflage to escape detection. Bad tempered and excitable; when disturbed, makes long deep hissing noise and may lash out viciously.

**Venom's effects:**

Many serious bites reported; only a small portion prove fatal. Venom is potent cytotoxin, attacking tissue and blood cells. Symptoms include extreme pain with swelling and large blisters in region of the bite.

***West African Night Adder***

**Description:**

Adult length usually about 0.5 meter. Background color generally gray, brown, or olive green with dark rhomboidal marks along dorsum. Top of head and neck have large, dark-edged V-shaped mark.



**Habitat:**

Savanna and forest clearings.

**Activity and behavioral patterns:**

When threatened, inflates body and hisses in defense.

**Venom's effects:**

Bites generally cause only pain, limited local swelling, and painful regional lymphadenopathy. No fatalities reported.

***Green Night Adder*****Description:**

Adult length usually 0.4 to 0.6 meter, maximum of 0.75 meter; moderately stocky snake. Background color generally vivid green with indistinct bars or chevrons along the back. Usually velvet-like sheen.

**Habitat:**

Moist, warm, low-lying areas at elevations up to 2,000 meters.

**Activity and behavioral patterns:**

Mainly nocturnal but sometimes seen in daytime. Terrestrial.

**Venom's effects:**

Bite usually results only in local pain, swelling, and lymphadenopathy. Not considered lethal to humans.

***Black Mamba*****Description:**

Adult length usually 2.5 to 3 meters (8 to 10 feet); maximum of 4.3 meters (14 feet); relatively slender snake. Background color may be brown, olive



brown, dark olive, greenish brown or dark blackish gray. Interior of mouth blue-gray to blackish.

**Habitat:**

Dry, open woodland and scrub land, especially in area of rocky outcroppings, but not in rain forest or desert. Also found in abandoned termite mounds and mammal burrows. Generally found below 1,500 meters (4,920 feet) elevation.

**Activity and behavioral patterns:**

Essentially terrestrial, but climbs trees in search of prey or to seek shelter. Generally moves off rapidly at the first sign of danger. When threatened, raises forepart of body from ground and spreads narrow hood. However, if intruder does not move, it will soon drop to the ground and seek cover. Uncertain temper and ready to attack if suddenly disturbed or molested; particularly irritable during mating season (spring or early summer). Very fast snake.

**Venom's effects:**

Most dreaded African venomous snake; few people survive its bite unless antivenin administered promptly. Venom very potent neurotoxin.

***Egyptian Carpet Viper***

**Description:**

Adult length usually 0.3 to 0.6 meter (1-1.5 feet); relatively stout snake. Background color variable, usually yellowish, brown, gray, or reddish;



may have a series of oblique pale crossbars, interspersed with dark spaces along back. Usually has rows of triangular or circular markings with pale or white edging along each side. Some specimens with faded or barely visible markings. Belly pale, usually with brown or reddish spots. Head pear-shaped.

**Habitat:**

Found in oases, semi-desert, dry savanna, and rocky areas. Not found in extensive areas of soft sand or in true desert.

**Activity and behavioral patterns:**

Terrestrial, although occasionally climbs into low bushes to avoid hot or wet surfaces. Moves quickly. Primarily nocturnal. Hides in holes, under logs, rocks, and brush piles during day; may partially bury itself in sand or coil in or around grass tufts. When confronted, quickly assumes figure-eight coil, rubbing inflated loops of body together to make a distinctive noise similar to sawing wood. If further agitated, will strike continuously and vigorously; may even move toward an aggressor.

**Venom's effects:**

Major source of snakebites and fatalities in region; venom highly toxic to humans. Symptoms include local pain, swelling, blistering, abdominal pain, vomiting, hematuria, bleeding from gums, and fever. Lasting pain and renal failure reported.

***African Garter Snake*****Description:**

Adult length usually 0.4 to 0.6 meter; moderately slender snake. Background color generally uniform black or gray-black. Head not distinct from the neck. Tail short.

**Habitat:**

Generally found in coastal forests, high-level grasslands, or arid savannas.



**Activity and behavioral patterns:**

Non aggressive, nocturnal snake that spends its days hiding under stones or in burrows. Sluggish, but will bite in self-defense.

**Venom's effects:**

Venom likely neurotoxic. Not considered lethal to humans.

***Egyptian Cobra*****Description:**

Adult length usually 1.5 to 2 meters (5-6.5 feet), maximum of 3 meters (10 feet). Background color usually yellow-gray to brown or blue-black, but extremely

variable. Belly yellowish with dark blotches. Most specimens have dark brown or black band across the throat.



variable. Belly yellowish with dark blotches. Most specimens have dark brown or black band across the throat.

**Habitat:**

Various habitats include flat land, scrubby bushes, grass clumps, irrigated fields, rocky hillsides, old ruins, and in vicinity of villages. Sea level to 1,600 meters (5,250 feet) elevation. Not found in rain forests or extreme desert conditions.

**Activity and behavioral patterns:**

Nocturnal; emerges at dusk, but often seen basking in sun near its retreat in early morning. Often occupies abandoned rodent burrows or termite mounds. While not overtly aggressive, when molested, will rear and spread an impressive hood up to 12 centimeters (4.7 inches) across.

**Venom's effects:**

Venom primarily neurotoxic, acting largely on nerves controlling respiratory muscles. Untreated cases may culminate in respiratory failure and death.

## ***Boomslang***

### **Description:**

Adult length usually 1.2 to 1.5 meters (3-5 feet); relatively slender snake. Background color varies from almost black to almost uniform green; no blotches or distinct spots. Short, stubby head and enormous emerald eyes. Scales strongly keeled and overlapping.



### **Habitat:**

Most common in dry woodland, thorn scrub, savannahs, and swamps bordering or close to streams, rivers, and lakes. Not found in rain forest regions or true desert.

### **Activity and behavioral patterns:**

Diurnal; spends most of time in trees and shrubs. Notably non aggressive; quickly retreats if surprised. If cornered or restrained, inflates neck to more than twice usual size.

### **Venom's effects:**

Potently hemotoxic; can cause severe bleeding internally and from mucous surfaces. Deaths reported.

## ***White-lipped or Forest Cobra***

### **Description:**

Adult length usually 1.5 to 2 meters, maximum of 2.7 meters; relatively slender snake. Background color usually glossy black, dark



gray or dark brown dorsal area; belly creamy white to yellow, often with darker blotches.

**Habitat:**

Found in tropical rain forest and subtropical forest areas; seldom far from water.

**Activity and behavioral patterns:**

Very active snake that climbs and swims well. Nocturnal but may forage on overcast days. Equally at home in trees, on ground, or swimming in lakes or rivers. When disturbed, can rear to a great height; usually more than two-thirds of body raises from ground. Spreads narrow hood.

**Venom's effects:**

Bites reported infrequently, venom highly neurotoxic; fatalities recorded.

***Black-necked  
Spitting Cobra***

**Description:**

Adult length usually 1.2 to 2.2 meters, maximum of 2.8 meters. Body color highly variable, ranging from pinkish tan in some geographical areas to uniform black in others.



**Habitat:**

Found in moist savanna; shelters in abandoned termite mounds, rodent burrows, or hollow tree trunks.

**Activity and behavioral patterns:**

Generally nocturnal, although juveniles active during day. Although terrestrial and fairly aquatic, good climber. Inoffensive,

will usually take off if disturbed. When provoked, raises up, spreads hood, and may “spit” at intruder’s face.

**Venom’s effects:**

Venom primarily cytotoxic, causing serious local tissue damage. Large specimens can “spit” venom as far as 3 meters, aiming at the eyes. The venom does not affect unbroken skin, but can cause great pain and possible tissue destruction in the eyes. Venom has caused permanent blindness in humans.

***Red Spitting Cobra***

**Description:**

Relatively slender snake; most adults range between 0.7 meter - 1.2 meters with a maximum of 1.5 meters. They have a small head, with large eyes, and round pupils. Its tail and body is



cylindrical in shape. Color varies depending on its origin and can be orange-red, yellow, pinkish, pink-gray, pale red, or steel gray. True red specimens will become red-brown as they get larger.

**Habitat:**

Prefers grassland semi deserts and savannah up to 1,200 meters (3,937 feet) elevation.

**Activity and behavioral patterns:**

Adults are mostly nocturnal and hide during the day in termite hills, old logs, underground, or in brush piles.

**Venom’s effects:**

Venom primarily hemotoxic and may cause permanent blindness if it reaches the eyes; fatalities uncommon.

## Dangerous Invertebrates

### Scorpions

Although several species of scorpions that can inflict a painful sting are present, only the following are capable of inflicting a life-threatening sting:

- *Androctonus amoreuxi*
- *Hottentotta minax*
- *Leiurus quinquestriatus*
- *Scorpio maurus*



### Spiders

Although several species of spiders that can inflict a painful bite are present, only *Latrodectus spp.* (widow spiders) inflict a life-threatening bite.



### Insects

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

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

## ***Centipedes***

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

## ***Millipedes***

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



## **Dangerous Plants**

### ***Modikka***

**No Photograph Available**

#### **Mechanisms of toxicity:**

The root is reported to contain prussic acid and a cyanogenic glycoside, which is destroyed by drying. It also contains a toxalbumin

called modeccin, which is a protein-synthesis inhibitor. The usual poisoning scenario is that of the root being mistaken for an edible tuber, especially in situations of scarce food. Death has occurred after ingestion of the fruit. Symptoms within one day are mainly due to the hydrocyanic acid; the toxalbumin results in illness a few days later. Used in India as a “worming” medicine; sap is very irritating. Has been used in Africa to murder.

**Comments:**

Some species have been used in Africa as medicinals (e.g., for malaria and leprosy).

**Mango**

**Other name:**

Indica.

**Mechanisms of toxicity:**

The leaves, stem and fruit’s skin on this tree contain urushiol and other similar long-chain phenols. Other allergens are



also present. Skin inflammation can occur from eating the fruit with the skin intact. Blisters may be confined to the lips and face, or can be generalized. Climbing the tree can result in severe skin inflammation. There is also immediate hypersensitivity in some individuals. Ensuring the fruit is peeled prior to ingestion can prevent the reaction.

**Comments:**

Genus includes 35 species, usually large trees, primarily in Indo-Malaysia. Frequently found near human dwellings. These trees grow from 40 to 100 feet, and have lance-shaped leaves. Cultivated varieties have excellent fruit (in some wild-growing plants the



fruit is unpleasant) edible raw or cooked. Ground seed is used as a flour; its fruit is used in chutney, pickles, squashes, etc.

### ***African Teak***

#### **Other names:**

Osage Orange, fustic, bow wood.

#### **Mechanisms of toxicity:**

Benzophenones, xanthones, stilbenes, flavonoids, and tannins known to the genus. Has a milky, bitter sap; yields orange dye that causes skin inflammation.



#### **Comments:**

Includes 12 species found in tropical America, South Africa, and Madagascar.

### ***Bushman's poison***

#### **Other names:**

Poison tree, wintersweet.

#### **Mechanisms of toxicity:**

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



Wood extract is easily ab-

sorbed through the skin; can be mixed with latex from one of the Euphorbia family and gum from Acacia to make arrow poison; also used as an ordeal poison. Extracts applied to prickly fruits and laid in paths of barefoot enemy to kill. Symptoms of toxicity include pain, nausea/vomiting, abdominal pain, diarrhea. Variable



latent period (interval between exposure and symptoms) with cardiac conduction defects and sinus bradycardia; hyperkalemia. Some species cause dermatitis, but this is not a common problem.

**Comments:**

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

***Panama Tree***

**Other names:**

Castano, tartargum.

**Mechanisms of toxicity:**

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

**Comments:**

There are 200 tropical species.



***Sasswood***

**No Photograph Available**

**Other names:**

Ordealtree, mancona bark, ironwood, camel poison, black bean, Cooktown ironwood.

**Mechanisms of toxicity:**

Extremely poisonous; the two main species have similar toxicities. Alkaloids of esters and amides of cinnamic acid have been isolated. Most of the alkaloids are esters of diterpenoid carboxylic

acids including cardiotoxic alkaloids. Powerful analgesic to the mucous membranes.

**Comments:**

A fish poison.

***Nettle Tree***

**Other names:**

Ortiga brava, pringamoza.

**Mechanisms of toxicity:**

Trees and shrubs with powerful stinging hairs.

The intensity of sting delivered by these plants is

species-variable. The bushy, tree-like varieties tend to be more irritating. Any contact between leaves or branches and skin can result in profound burning pain that can last for more than 24 hours. There is no permanent damage.



**Comments:**

Thirty-five native species in tropical and southern Africa, and tropical America. Often used as hedges or local medicinals.

***Freshwater Mangrove***

**No Photograph Available**

**Other names:**

Putat, bitung, laut.

**Mechanisms of toxicity:**

Saponins and hydrocyanide have been isolated from fruit and seeds. Used as fish poisons in many Pacific islands. Fruit contains a triterpenoid saponin, and the seeds are emetic and have been shown to induce hypoglycemia in rodents.

**Comments:**

Large tree found growing along shorelines; have large (20-38 centimeters-long, 10-15 centimeters-wide) non-toothed leaves, white to pink flowers (on individual stalks; square in cross section), and one-seeded fruits (9-13 centimeters-long; square in cross-section). Seeds are crushed and used as fish poison by Australian troops and aborigines.

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

Monkey poison, mock azalea, impala lily.

**Mechanisms of toxicity:**

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

**Comments:**

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

**Kaht****Other Names:**

Khat, qat, cafta.

**Mechanisms of toxicity:**

Leaves contain phenylpropanolamine and related stimulant compounds.

Leaves chewed as a stimulant; allows the user to go

for long periods without food; has reputation for causing near-manic type episodes, hallucinations, and somnolence (sleepiness).



**Comments:**

Leafy bush can grow to 20-foot high at altitudes between 3,000-6,000 feet in Yemen, Ethiopia, and East Africa. In Yemen, “Khat sessions” are part of the social culture.

***Rattlepod*****Other names:**

Rattlebox, rattleweed, chill-  
ago, horse poison.

**Mechanisms of toxicity:**

Contains pyrrolizidine al-  
kaloids (monocrotaline, he-  
liotrine, retorsine); 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.

***Kamyuye*****No Photograph Available****Mechanisms of toxicity:**

Contains latex with a mixture of sesquiterpene alcohols. Has long been used as a medicinal. Used in Africa as a poison. Accidental fatalities have occurred when the bark was used to prepare a medicine for stomach problems.

**Comments:**

Tropical African aromatic shrub. Source of vanilla-scented oil.

**Coca****Mechanisms of toxicity:**

Natives of the Peru-Bolivia region chew the leaf for its stimulating effect. The source of cocaine.

**Comments:**

Growth is markedly affected by the environment, especially temperature. Fruit is bright red, pointed, succulent. Found in the upland soils of tropical South America, cultivated in the lowlands of various tropical areas.

**Black Henbane****Other names:**

Insane root, fetid nightshade.

**Mechanisms of toxicity:**

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).



**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. Dusky yellow flowers with violet veins. Fruits are capsules containing many black seeds (can be confused with the poppy plant seeds).

***Strychnine*****Other names:**

Nuxvomica tree,  
Snakewood tree.

**Mechanisms of toxicity:**

The entire plant, including the seeds, contains the powerfully acting indole alkaloid strychnine, which can kill.

**Comments:**

Genus of 190 different species of trees, shrubs and vines with berry-like fruits, found in most tropical regions. Some have the reputation of having edible fruit despite dangerous seeds. It is a source of curare obtained by stripping and macerating its bark. Curare, now used as a muscle relaxant, was formerly used as an arrow poison by South American Indians.

***Poisonvine*****No Photograph Available****Other name:**

Arrow poison plant.

**Mechanisms of toxicity:**

Seeds have digitalis-like toxins and are used as arrow and spear poison in Africa.

**Comments:**

Genus of 38 tropical species of shrubs. Monkeys have died after eating a few leaves.

***Heliotrope*****Other names:**

Cherry pie, scorpion's tail, Indian heliotrope.

**Mechanisms of toxicity:**

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

**Comments:**

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

***Balogna Sausage Tree*****No Photograph Available****Mechanisms of toxicity:**

Common in South Africa. The powdered fruit is used as medicine for numerous ailments (frequently applied externally). The ripe fruit is a purgative. The fruit can be 12 to 20 inches long and weigh up to 8 pounds. The fruit is regarded as highly poisonous; however, the toxic principles are not clear. Used by various



African groups as a sexual excitant and in wound treatment. Often the fruit is added to beer to add intoxicating effect, but this tends to cause headache.

**Comments:**

A large tree pollinated by bats; the tree has adapted by developing long stalks from which the flowers are suspended, hanging in open air so the bats have easy access.

***Pokeweed***

**Other names:**

Pokeberry, poke salet.

**Mechanisms of toxicity:**

Mature stems, roots, and berries are poison (saponins mostly in foliage and roots). Death possible when not prepared properly.



**Comments:**

Young shoot tips, less than 6 inches, are eaten in many cultures, including Canada; requires proper preparation (boiled with water changes; water contains toxic substances — kills snails that carry bilharzia). Dye from berries used to color ink, wine, sweets.

***Balsam Apple***

**Other names:**

Leprosy gourd, bitter gourd, cucumber gourd.

**Mechanisms of toxicity:**

Seeds and outer rind of ripe fruit contain a toxalbumin called momordin; the ripe fruit also has an hypogly-





cemic agent. Small amounts cause headache, flushing, salivation, dilated pupils, vomiting, diarrhea, abdominal pain. Can kill.

**Comments:**

A slender vine with small yellow flowers. Fruits have a rough outer rind, variable shape but like a gourd, usually yellowish with reddish pulp.



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## **APPENDIX E: MINES**

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### **Antitank Mines**

M7A2	PT-Mi-Ba II
M15	PT-Mi-Ba III
M/71	TM-46
P2 Mk2	TMN-46
P2 Mk3	TM-57
PRB M3	TM-62M
PRB M3 A1	TMK-2

### **Antipersonnel Mines**

M14	MON-200
M16	PMD-6
M18A1	PMN
MON-50	POMZ-2M
MON-100	

### **Other Mines**

Mk-2 Trip Flare  
SM Signal Mine



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## APPENDIX F: BORDER DELIMITATION

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### Border Delimitation Between Eritrea and Ethiopia

Point	Lat/Long	Description
1	14°15.4'N36°33.6'E	Western terminus – center of Setit opposite the tri-point between Ethiopia, Sudan, and Eritrea
2	14°18.7'N36°38.3'E	Junction of Setit and one of its tributaries by passing Om Hajer, approximate location of Khor Um Hagar
3	14°19.1'N36°49.7'E	Junction of Setit and Maiteb as claimed by Ethiopia
4	14°24.8'N37°21.1'E	Junction of Setit and Sittona, which is called Maetebbe (Maeeteb) on some maps created before 1902
5	14°15'N37°28'E	Junction of Setit and another Maiteb as depicted on maps created after 1902
6	14°11.0'N37°31.7'E	Junction of Setit and Tomsa
7A	14°05'45.6"N37°34.26.4'E	Turning point from Setit to Mareb as claimed by Eritrea
7B	14°05.8'N37°34.7'E	Turning point from Setit to Mareb
8	14°04.0'N37°35.8'E	Junction of Setit and Maiten
9	14°53.6'.4N37°54.8'E	Junction of Mareb and Mai Ambessa
10	14°48'N37°58'E	Junction of Mareb and Gongoma stream per 1904 maps
11	14°38.0'N39°01.3'E	Junction of Mareb and Belesa
12	14°38.3'N39°06.2'E	Junction of Belesa/Ruba Dairo and Tsorena/Mestai
12A	14°24.6'N39°15.2'E	Junction of Belesa/Ruba Dairo and unnamed tributary
13	14°35.0'N39°14.2'E	Junction of Tsorena/Mestai Mes and Sur
14	14°29.1'N39°16.0'E	Junction of Tsorena/Mestai Mes and unnamed tributary
15	14°28.3'N39°14.9'E	Source of above unnamed tributary
16	14°28.0'N39°14.8'E	Source of unnamed tributary of Belesa/Ruba Dairo
17	14°27.1'N39°13.7'E	Junction of above tributary and Belesa/Ruba Dairo

<b>Point</b>	<b>Lat/Long</b>	<b>Description</b>
18	14°27.8'N39°21.6'E	Point lying 100 meters (328 feet) west of the center of the road running from Adigrat to Zelambessa
19	14°31.1'N39°22.2'E	Source of one of the headwaters of Sur (see point 13)
20	14°31.1'N39°23.0'E	Source of one of the headwaters of Muna (Berbero Gado)
21	14°30.1'N39°32.3'E	Junction of Muna and Enda Dashim
22	14°31.3'N39°30.4'E	Junction of Enda Dashim and one of its tributaries flowing from the north
23	14°32.9'N39°30.5'E	Junction of the above tributary and a higher tributary flowing from the northeast
24	14°34.3'N39°31.7'E	Source of headwaters of higher tributary
25	14°34.8'N39°31.9'E	Source of one of the headwaters of a tributary flowing toward Endeli from the west
26	14°36.2'N39°38.3'E	Junction of the above tributary and Endeli
27	14°30.7'N39°47.4'E	Junction of Muna and Endeli near Massolae
28	14°27'N39°59'E	Approximate point near Rend Acoma where Mina/Endeli continues as Ragali
29	14°32.9'N40°05.6'E	Point where Ragali Delta starts
30	14°33.1'N40°08.5'E	Turning point in Ragali Delta
31	14°23.2'N40°12.8'E	Point where the boundary under the 1900 treaty reaches the Afar Salt Lake and where the boundary starts under the 1908 treaty
32	14°24.1'N40°14.9'E	Turning point designated in the Eastern Sector
33	14°08.5'N40°52.7'E	Turning point designated in the Eastern Sector
34	13°32.9'N41°19.4'E	Turning point designated in the Eastern Sector
35	13°24.8'N41°34.9'E	Turning point designated in the Eastern Sector
36	13°20.3'N41°39.7'E	Turning point designated in the Eastern Sector
37	13°05.5'N41°53.8'E	Turning point designated in the Eastern Sector
38	12°48.2'N42°02.3'E	Turning point designated in the Eastern Sector
39	12°45.9'N42°13.1'E	Turning point designated in the Eastern Sector
40	To be determined by actual demarcation	Between the two checkpoints of Ethiopia and Eritrea at Bure
41	12°28.3'N42°24.1'E	Eastern terminus at the border of Djibouti

## Notes

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