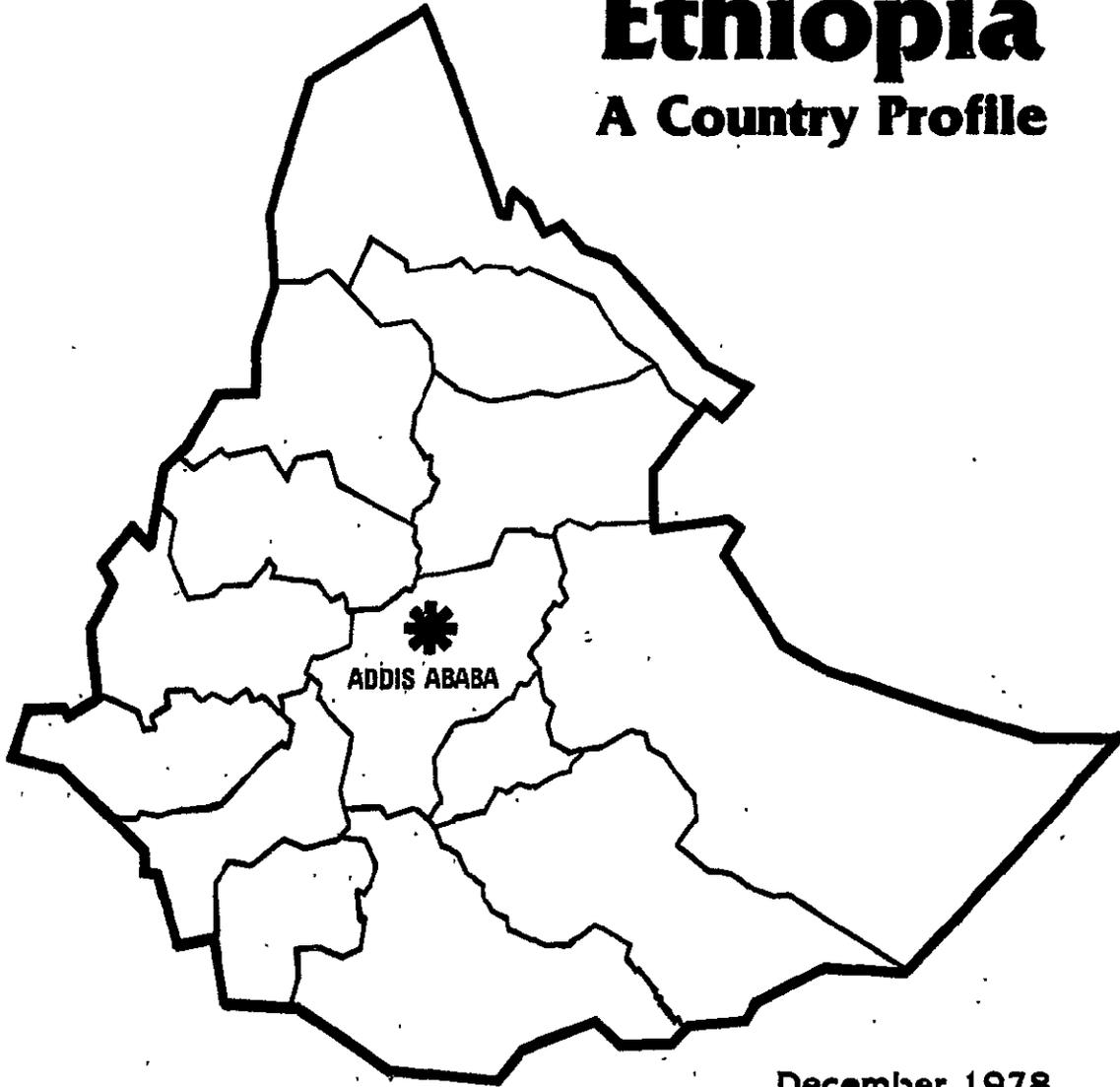


# Ethiopia

## A Country Profile



Office of Foreign Disaster Assistance  
Agency for International Development  
Washington, D.C. 20523



Boundary representation is not necessarily authoritative

ETHIOPIA: A COUNTRY PROFILE

prepared for

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

by

Evaluation Technologies, Inc.  
Arlington, Virginia  
under contract AID/SOD/PDC-C-0283

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

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

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

December 1978

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Niger\*  
Sahel Transportation Survey  
Senegal  
Somalia  
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ASIA

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Philippines

CARIBBEAN

CARICOM Regional Profile  
Dominican Republic  
Haiti

LATIN AMERICA

Bolivia  
Chile  
Ecuador  
El Salvador\*  
Guatemala  
Honduras  
Nicaragua  
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NEAR EAST

Turkey

SOUTH PACIFIC

Fiji  
Tonga  
Western Samoa

INDIAN OCEAN

Island Countries of the  
Indian Ocean \*

\* In preparation

TO:

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Dear \_\_\_\_\_

Please use this form to note any changes, additions, corrections or suggestions you think would update and improve this country profile. Since our aim is to make these profiles as relevant as possible, your critique is essential and very much wanted. Return comments to Lucy Drobot, OFDA Country Profiles, Room 1262A.

NAME/OFFICE: \_\_\_\_\_

PHONE: \_\_\_\_\_

Date: \_\_\_\_\_

TOPIC

COMMENTS

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Geographic Codes

AID	663
FIPS	ET
State Region	Af

Country Names

Legal	Ethiopia
Short	Ethiopia

Currency

2.04 Ethiopian birr = 1 US dollar (April 1980)  
100 cents = 1 birr

Official Holidays

Public: Ethiopian Christmas.....January 7  
Epiphany (Timqat).....January 19  
1896 Battle of Adowa.....March 2  
Victory Day.....April 6  
Labor Day.....May 1  
Ethiopian New Year's.....September 11  
Anniversary of 1974 Coup.....September 12

Variable: Orthodox Good Friday, Easter, Id al-Fitr, Id al-Adha, Mawlid (birth of Mohammed). A former holiday, February 19, now a Day of Mourning for 30,000 martyrs of 1937 massacre in Addis Ababa.

Time Zones

EST + 8 hrs, GMT + 3 hrs

Host Country Embassy and Staff in US

Embassy

Address: 2134 Kalorama Rd. NW  
Washington, DC 20008

Phone: AD4-2281 and 2282

Staff: Counselor, Charge D' Affaires  
Ad Interim (January 31, 1978).....Tibabu Bekele  
First Secretary.....Rufael Arega  
Second Secretary.....Tamene Eshete  
Economic & Financial Counselor.....Kebede Shoandagn

US Mission to Ethiopia and Staff

Address: Entoto St, P.O.Box 1014,  
Addis Ababa

Phone: 110666/117/129

Staff: AMB.....Frederic L. Chapin  
DCM.....Owen W. Robertseron  
ECO/COM.....Phillip E. Penninger  
POL.....Andre J. Navez  
LAB.....Charles R. Hare (resident in Nairobi)  
CON.....Elizabeth Raspolic  
ADM.....John A. Hollingsworth  
RSO.....James F. Sartain, Jr.  
AID.....Edward B. Hogan

Treaties and Agreements

With US

Agricultural Commodities  
Defense

Economic and Technical Cooperation  
Highways  
Investment Guaranties  
Mapping  
Peace Corps  
Trade and Commerce

Travel and Visa Information

Smallpox and yellow fever vaccinations required of all arrivals.

Notes

Clothing: Spring and fall-weight woolens and light wraps. Lined raincoats, umbrellas, boots essential from June to mid-September.

Telecommunications: Long-distance telephone and telegraph service available to large towns in Ethiopia, to the US, to most European and to many African countries.

Transportation: Current unsettled conditions in the countryside make it advisable to check local security situation before making any trip outside the capital. Municipal bus transportation likely to be crowded. However, taxis usually available at modest rates.

## Ethnic and Sociocultural Groups

Although former Imperial Government deliberately obscured ethnic diversity by emphasizing "national unity", Ethiopia nonetheless characterized by substantial ethnic, linguistic, and cultural heterogeneity. However, in the absence of reliable data, group population estimates still highly controversial.

For past 100 years, Amhara culturally/politically dominant although only 30% of population. Nearly all government employees Amhara; appear to dominate present junta. Largest single group is Oromo; known as Galla (a name they resent) outside Ethiopia; represent 40% of population. Other groups include Tigre, Afar, Somali, Saho, and Agew. Following 9 categories taken from Bender's The Ethiopian Nilo-Saharan and, by his own admission, are no less arbitrary than all other classification schemes.

### 1) North Eritrean

A dozen small tribes in the triangular tip of Ethiopia (Red Sea and Sudan border as sides, with base running through Keren); most are Muslim nomadic pastoralists. Largest tribe is Beni Amer (90,000); North Eritrean total population 150,000. Most speak Bedawie, often use Tigre as second language.

### 2) The Agew

Dispersed throughout Eritrea, Begemdir, Wollo, and Gojam provinces; speak central Cushitic dialects. Most are plow cultivators; total population 170,000. Sub-groups include Falasha, Kimant, and Awl.

### 3) Amhara-Tigrean

Historical bearers of Ethiopian Orthodox Christianity. Tigreans speak Tigrinya; concentrated in both Tigre province and south-central Eritrea; considerable resentment against Amharas. Latter concentrated in western Wollo, north Shoa, Gojam, Begemdir and Hararghe provinces\*. Total population 7 million; sub-groups who converted to Islam known collectively as Jabarti.

### 4) Core Islamic

Live on eastern flank of greater Ethiopia in chronic state of tension with Amharas. Afar, Saho and Somali nomadic pastoralists; speak East Cushitic and live in desert lowlands of Eritrea, Tigre, Wollo and Hararghe provinces. Sub-groups include Argobba

and Harari. Total population 1.4 million.

5) Oromo

Most widely dispersed of all ethnic groups; spread throughout 10 provinces but concentrated in Shoa, Arussi, Sidamo, and Wellega. Nearly all speak mutually intelligible dialects of one East Cushitic language: Gallinya. Total population 10 million; major sub-groups include Arssi, Raya, Boran, Guji, and Wollo.

6) Lacustrine Group

Live in and around Great Rift Valley chain of lakes from southern Shoa south through Gemu Goffa and western Sidamo. Sub-groups: Gurage in Shoa, Sidamo in Shoa and Sidamo, and Konso in Gemu Goffa. Last two speak East Cushitic languages. Total population 2.8 million.

7) Omotic

Live in a small region surrounding Omo River in Keffa and Gemu Goffa provinces. Hoe cultivators growing tuberous plants, cereal grains. Total population 1.4 million.

8) Sudanic

Live in enclaves along entire length of Sudan border; speak languages belonging to four branches of Nilo-Saharan family. Primarily sedentary, practicing hoe cultivation of grains; Nuer only sub-group of pastoralists. Total population 360,000.

9) Caste Groups

Consist of despised endogamous peoples scattered throughout country. Attached to various host groups providing special economic or ritual services. No total population estimate available. In some cases, caste groups physically distinct from host; former often more Negroid.

\* Note - Resentment in wake of land reform program against Amharas, who traditionally constitute local nobility/large landowners. Reports of violence against them frequent and widespread. Also Oromo-Amhara ethnic rivalry exacerbated in recent years with formation of various opposition groups.

## Languages

All major languages belong to Afro-Asiatic language family. Two main sub-stocks: Semitic (Amharic, Tigrinya, Tigre, Gurage, Harari) and Cushitic (Gallinya, Beja, Somali, Afar, Agau). Amharic and Gallinya predominate; former has few dialectal variations, latter has many. Amharic increasingly the lingua franca and is the official language; approx. 40% of population speak it whereas 50% speak Gallinya indicating, once again, favored status of Amharic way of life. English main foreign language; used with Amharic in government documents and is the language of instruction in higher education. 95 other languages and dialects spoken including some Italian in Eritrea; Arabic spoken along coast, and in some inland areas.

## Religions

As with ethnic population totals, figures for religious adherents widely disputed. Christianity, Islam and a variety of tribal (animist) religions represented. Ethiopian Orthodox Church (Christian) identified almost completely with Amhara-Tigre group; practiced by most people in central and northern Highlands, approximately 35-40% of population. Islamic adherents found mainly in southern and eastern regions; other sizeable pockets in Jima, Begemdir provinces, and in northern Eritrea for a total of 45-50% of population. Tribal religious groups mainly in south and west with many along Sudan border. Others: Roman Catholics and Protestants in Asmara and Addis Ababa for a combined total of less than 2% of population.

## Government

Ethiopia governed by a Provisional Military Administrative Council (PMAC) collectively known as the Dergue; formally established Sept. 12, 1974 and violently reorganized since then; first two Dergue Chairmen assassinated. Present Chairman, Lt. Col. Mengistu Haile Mariam, heads a 32 man Central Committee responsible for policy implementation, taxation, and a 16 man Executive or Standing Committee with most of real power: politicalization, armed forces, information, and approval of Dergue decisions. In addition, a 46 man Civilian Advisory Board charged with making political recommendations.

Despite considerable political opposition and frequent reports of mass detentions and killings, Dergue's avowed objective is national unity. No timetable announced for new constitution or elections, if any to be held at all.

## Provinces

Ethiopia divided into 14 administrative provinces: Arussi, Bale, Begemdir, Eritrea, Gemu-Goffa, Gojam, Hararghe, Illubabor, Kefa, Shoa, Sidamo, Tigre, Wolega, and Wollo. Dergue administration also extends to 87 sub-provinces (awrajas) and 391 districts (woredas).

## Political Opposition Groups

Political opposition to Dergue widespread, often violent. Among the most prominent dissident groups are:

- EDU - Ethiopian Democratic Union, a rightist group founded in 1975; objective to establish a constitutional democracy; strongest in Tigre, Begemdir, Gojam provinces.
- EPRP - Ethiopian People's Revolutionary Party, a leftist group popular among students, labor unions in Tigre and southern provinces. Most victims of Dergue crackdown in 1978 reportedly EPRP members.
- TPLF - Tigre People's Liberation Front, reportedly has 2,000 men in arms.

- ELF - Eritrean Liberation Front, founded in 1961 as first opposition group in Eritrean struggle; predominantly Moslem.
- EPLF - Eritrean People's Liberation Front, most radical of independence groups in Eritrea; bitter and violent rivals of ELF. Until recently, controlled (with ELF) most of Eritrea except for Assab, Asmara, and Massawa.
- WSLF - Western Somali Liberation Front, primary opposition in Ogaden conflict. Despite recent setbacks, still a strong presence in Hararghe province, especially around triangular area formed by Dire Dawa, Harar, and Jigjiga.

### Armed Conflicts

Two major armed conflicts have occupied much of Dergue's decision-making time, and drained precious reserves from Ethiopian economy. They are:

Ogaden - a conflict whose central issue is the territorial (national) status of the Ogaden region in what is presently Ethiopia's Hararghe province. Republic of Somalia fighting to annex the Ogaden (among other disputed areas). After major defeats in March 1978, regular Somali troops withdrawn, leaving WSLF to continue struggle. Present military advantage lies with Cuban/Russian-aided Dergue troops; WSLF forces remain in Bale province and in the Chercher and Arussi mountains.

Eritrea - a former Italian colony federated to Ethiopia in 1962. Separatist groups argue that Eritrean war is longest ongoing "anti-colonial" struggle in contemporary African history. Dergue denies Eritrean "colonial" status, arguing that Eritrea always culturally/historically part of Ethiopia.

Other provinces in which serious political opposition make Dergue administrative control questionable: Tigre, Begemdir, Wollo, and Bale.

## 1978 Armed Conflicts Status

After sizeable military setbacks in 1977, Dergue forces defeated Somali Army regulars in March 1978, ending regular Ogaden war; Somali forces withdrawn from direct WSLF support. With main forces now turned toward Eritrea, Dergue troops reopened roads to Asmara and Tessenai in June 1978. By August, Dergue forces had retaken nearly all towns in Eritrea. Overall political/military position of Dergue greatly strengthened since 1977; aided by unsuccessful attempts at unification by ELF, EPLF in any joint military ventures. In addition, Addis Ababa/Djibouti railroad reopened. However, concern remains over economic effect of heavy weapons purchases from Russia on already soaring inflation rate.

## Key Political Figures (February 1980)

Chairman of the Provisional Military  
Administrative Council.....Mengistu Haile-Mariam,  
Lt. Col.

Secretary-General of the Provisional  
Military Administrative Council.....Fikre-Selassie  
Wodgeress, Capt.

Senior Minister Without Portfolio.....Fisseha, Desta, Lt. Col.

Min. of Agriculture.....Gere mew, Debele, Dr.

Min. of Coffee & Tea Development.....Yehualashet Girma, Cdr.

Min. of Communications & Transport.....Yusuf Ahmed

Min. of Culture, Sports & Youth Affairs...Tesfaye Shewayeh

Min. of Defense.....Tesfaye Gebre-Kidan,  
Brig. Gen.

Min. of Domestic Trade.....Ashagre Yigletu

Min. of Education & Fine Arts.....Goshu Wolde, Lt. Col.

Min. of Finance.....Teferra Wolde-Semayit

Min. of Foreign Affairs.....Felleke Gedle-Giorgis

Min. of Foreign Trade.....Wolile Chekol

Min. of Health.....Tefera Wonde, Dr.

Min. of Industry.....Tesfaye Dinke

Min. of Information & Natl. Guidance.....Girma Yilma, Maj.

Min. of Interior.....Taye Tilahun, Brig. Gen.

Min. of Labor & Social Affairs.....Kassa Kebede

Min. of Law & Justice.....Zegeye Asfaw

Min. of Mines, Energy & Water Resources...Tedesse Gebre-Kidan

Min. of Public & National Security.....Tesfaye Wolde-Selassie, Col.

Min. of State Farms.....Hailu Shawl

Min. of Urban Development & Housing.....Tekeze Shoa-Aytanifesu  
 Min. Secretary of the Council of  
 Ministers.....Hallu Yemanu  
 Chief Political Adviser in the Office  
 of the Provisional Military  
 Administrative Council Chairman.....Mikael Imry  
 Commissioner for Children.....Wolde Kidan, Capt.  
 Commissioner for Drought Relief &  
 Rehabilitation.....Shimeles Adugna  
 Commissioner for Higher Education.....Tekele-Mikael Assefa  
 Commissioner of Pensions.....Araya Equba-Egzi  
 Commissioner of Planning.....Taye Worku  
 Commissioner of Public Service.....Kifle Hagos  
 Commissioner of Tourism and Hotels.....Abebe Worku

### Host Disaster Plan

Relief and Rehabilitation Commission (RRC) established in 1974. Details of Commission hierarchy and staffing not available although considerable improvement indicated in scope and efficiency of overall disaster relief program, especially in response to renewed drought, recent locust plague; new feeder roads insure supplies to previously inaccessible areas, particularly in Wollo, Tigre provinces. RRC responsible for coordination, direction of all disaster relief operations.

### US Plan Components

US Mission Disaster Plan prepared in 1975 and on file at Office of Foreign Disaster Assistance, State Department, Washington, D.C.

### US Contact

Mission Disaster Relief Officer is Mr. George McCloskey, acting AID Mission Director, Addis Ababa.

### Host Contacts

Shimelis Adugna, Chief Commissioner, Relief and Rehabilitation Commission. Address: PO Box 5686, Addis Ababa. Tel: 15 30 11. Cable: REHAB.

### Red Cross

No disaster plan, but active in recent drought relief. Ethiopian Red Cross Society operates clinics in Gimbe, Amba Mariam, Ajbar, Aesm, Gazo Belay, Estarph, Kon, Tsehay, and Mewcha. Clinics to open soon in Kul Mesk, Chew Kutir, Kola Midir, Ayna. However, stocks presently exhausted; shortage of medicine, food, blankets, clothing, and tents.

Address: Ethiopian Red Cross Society  
Ras Desta Damtew Ave.  
PO Box 195  
Addis Ababa. Cable: Ethlocross  
Tel: 444591

### Voluntary Agencies

- CRS: Off Africa Avenue, P.O.B. 6592 Addis Ababa  
Cable: Cathwell Addis Ababa. Tel: 159548
- LWF: POB 40132, Addis Ababa. Telex: 21168  
Intersur Addis Ababa. Tel: 158927. Cable:  
Luthserve. Programme: Relief, Rehabilitation
- OXFAM: POB 2333, Addis Ababa. Telex: 21073  
Addis Ababa. Tel: 158598
- WCC: Ethiopian Orthodox Church, POB 503, Addis Ababa.  
Tel: 16524

### Other

- UNDP: Regional Telecomm. Building, Churchill Rd.  
Addis Ababa. Cable: UNDEVPRO. Tel: 448-075.  
Telex: 976 21039

### Storage

Storage capacity of all State Farms grossly insufficient; for estimated 80,000 MT grain production in 1975/76, only 25,000 MT storage available. Major new project now underway to increase storage capacity to 350,000 MT at 20 locations over next four years including the following additional target increases: Dessie (10,000 MT), Makele (10,000 MT), Dire Dawa (10,000 MT), Shashamene (5,000 MT), Addis Ababa (15,000 MT). Agricultural Marketing Corporation now constructing additional 25,000 MT of storage facilities of its own; 20,000 MT in Addis Ababa, and 5,000 MT in Debre Zeit. (See following charts).

	<u>Storage Capacity (MT)</u>			Private (Incl. AMC Rented) <u>Storage</u>
	<u>Owned</u>	<u>Rented</u>	<u>State Farms</u>	
Arussi	-	-	8,000	-
Bale	-	-	-	-
Begemdir	300	1,000	-	-
Eritrea	1,000	6,000	-	145,000
Gemu Gofa	-	-	3,600(cotton)	-
Gojam	3,000	-	-	-
Hararghe	-	-	1,050	3,500
Keffa	-	1,000	-	3,000
Illubabor	1,000	100	-	-
Shoa	25,200	37,500	5,000	360,000
Sidamo	-	-	10,000	-
Tigre	-	-	-	1,000
Wolega	1,000	-	-	-
Wollo	<u>1,500</u>	-	<u>5,000 (repair)</u>	<u>20,000</u>
	33,000 <sup>1/</sup>	45,600	32,650 <sup>2/</sup>	532,500 <sup>3/</sup>

Source: EGC, Eurbanks, MOA and Mission Estimates. January 21, 1977

1/ of which silos 29,00 MT

2/ of which for grain 25,000 MT

3/ of which AMC rented storage 45,000 MT

Major Grain Mills

(1975)

<u>Name</u> <u>Nationalized</u>	<u>Location</u>	<u>Maximum Processing</u> <u>Capacity (MT p.a.)</u>	<u>Storage Capacity</u> <u>(in MT)</u>
(a) (Ministry of Commerce, Industry & Tourism)			
Kali Food Products	Addis Ababa	15,000	10,000
A. Mihos & Co. Adowa Flour Mills (EGC)	Addis Ababa Akaki	21,600 12,480	2,000 -
National Flour Mill & Debre Zeit Flour Mills	Addis Ababa	30,000	2,800
A. Mihos Flour Mills	Dire Dawa	9,000	2,000
Red Sea Flour Mills	Asmara	<u>14,300</u>	<u>500</u> (rented)
	Sub-Total	102,380	17,300
(b) <u>Private</u>			
Astron Brothers	Addis Ababa	28,800	N.A.
Holeta Flour Mills	Holeta	2,160	N.A.
Abate Flour Mills	Addis Ababa	5,475	N.A.
Akaki Flour Mills	Akaki	6,500	N.A.

Nazareth Flour Mills	Nazareth	14,400	N.A.
Machinaziom Eritrea	Asmara	<u>1,820</u>	N.A.
	Sub-Total	<u>59,155</u>	
	Total (a & b)	<u>161,535</u>	<u>17,300</u>

December 17, 1975

#### 1973 Drought

Precise information unobtainable but Ethiopian Nutrition Institute estimates Wollo province death toll at between 107,000 and 105,000; possibly 30% of Afars died; livestock losses among nomads extremely high.

Ethiopia still not recovered from 1973 drought/famine. Relief and Rehabilitation Commission (RRC) reported in April 1976, 80% livestock losses in southern regions during drought; 100,000 people in relief centers in the Ogaden, 200,000 - 300,000 received relief grain in lowland Bale and Sidamo provinces; total of 1,000,000 received relief aid. By Jan 1977, RRC distributing emergency food supplies to 700,000 peasants in Wollo and Tigre provinces.

#### 1978 Drought Status

As of Aug 1978, Wollo, Tigre, and Eritrea provinces suffering from renewed drought; area west of Addis-Asmara highway in Wollo province, especially hard hit. Same area invaded by locusts; widespread damage to crops reported, especially in northwest Hararghe, Wollo, and southeast Tigre provinces, as well as in the areas of Makalle, Dessie, and Shewa. By June 1978, 1,500,000 people receiving emergency food aid; total may reach 2 million. In addition, confirmed cases of ergotism increasing. In Dec. 1978, 10,000 people from Wollo Province were resettled, mainly in northern Ogaden region. As many as 250,000 are facing starvation in Wollo and Tigre provinces. (See Agriculture).

## Population

In the absence of any national census, 1978 Ethiopian population estimates range between 29.8 million (CIA) and 31.9 million (US Census Bureau); 90% live in rural areas. Average annual growth rate 2.5%; urban growth rate 6.6%. Age structure typical of other developing countries; large proportion of children and adults, small proportion of middle-aged and elderly; 56% under 19 years of age. However, more females than males in urban population which is unusual for an African country. Literacy rate estimated at 7%.

## Distribution of Population

248 towns but only 2 with a population over 100,000: Addis Ababa and Asmara (45% of urban population). Most live in temperate highland areas; average country-wide density 21.1 per sq. km, Urban labor force estimated at 1.3 million with 5-10% of latter unemployed; 2/3rds of those under 25.

## Refugees

In 1976 more Ethiopians became refugees than at any other time since the Italian War. By Jan 1977, as many as 200,000 were living in Sudan, including 120,000 Eritreans; thousands more thought to be in Kenya, Djibouti and Somalia. Drought, famine and civil strife were main causes of exodus in August 1976. Relief and Rehabilitation Commission undertook resettlement of 70,000 former nomads affected by drought in Ogaden to newly-irrigated agricultural land near Wabe Shebelle River in Hararghe province; official reports claim great success.

## Urban/Rural

<u>Province</u>	<u>1974 Population ('000)</u>			<u>Density/km<sup>2</sup></u>
	<u>Total</u>	<u>Rural</u>	<u>Urban</u>	
Arussi	892.7	833.1	59.6	38.0

Urban/Rural (cont'd)

<u>Province</u>	<u>Total</u>	<u>Rural</u>	<u>Urban</u>	<u>Density/km<sup>2</sup></u>
Bale	739.6	707.8	31.8	5.9
Begemdir	1,418.7	1,311.7	107.0	19.1
Eritrea	2,070.1	1,590.5	479.6	17.6
Gemu Goffa	730.7	689.0	41.7	18.5
Gojam	1,829.6	1,722.8	106.8	29.7
Hararghe	3,510.0	3,306.2	203.8	13.5
Illubabor	719.4	689.0	30.4	15.2
Kefa	1,768.7	1,680.4	88.3	32.4
Shoa	5,712.1	4,343.1	1,369.0	66.9
Sidamo	2,595.6	2,442.2	153.4	22.1
Tigre	1,916.6	1,761.6	155.0	29.1
Wolega	1,326.8	1,262.7	64.1	18.6
Wollo	<u>2,570.2</u>	<u>2,440.0</u>	<u>130.2</u>	<u>32.4</u>
Total	27,800.8	24,780.1	3,020.7	22.8

Provinces/Towns

1974 Estimate

Arussi

Assela	22,100	Bokoji	2,770
Dera	2,710	Gubessa	3,150
Huruta	5,860	Kofele	3,690
Robi	4,890	Sire (Felege Berhan)	4,410
Ticho	3,330	Tinsae Berhan	6,660

Bale

Adaba	3,800	Dodola	4,110
Ginir	5,840	Goba	15,650
Robi	2,720		

Begemdir

Addis Zemen	6,720	Azezo	12,960
Dabat	6,550	Debarak	6,710

Begemdir (cont'd)

Debre Tabor	10,600
Istie	3,310
Nefas Mewcha	2,820
Wereta	4,810

Gondar	43,040
Kola Diba	6,010
Setit	4,530

Eritrea

Adi Keyeh	6,280
Adi Ugri	15,920
Assab	20,060
Debarwa	3,080
Dekeshehay	3,590
Ginda	5,980
Hirgigo	4,220
Massawa	23,880
Senafe	4,000
Tsaeda Kristian	4,050

Adi Kwala	9,400
Agordat	21,160
Asmara	285,860
Dekemhare	13,070
Emba Derho	6,510
Himbirti	4,540
Keren	27,370
Quazen	4,770
Teseney	11,020
Tsezega	4,870

Gemu Goffa

Arba Minch	8,790
Bulki	2,650
Felege Neway	3,680
Jinka	4,530

Bake	10,400
Chencha	2,650
Gidole	6,990

Gojam

Adet	3,560
Bure	7,440
Dangla	5,960
Dembecha	3,290
Fenote Selam	6,690
Motta	3,800

Bahr Dar	29,490
Debre Markos	33,730
Dejen	4,700
Elyas	4,410
Mertole Mariam	3,730

Hararghe

Alem Maya	6,320
Bedeno	3,440
Deder	5,330
Dodola	4,050
Gelemso	5,110
Gota	4,850
Hirna	5,770
Melka Rafu	4,440

Asbe Teferi	12,690
Bedesa	4,880
Dire Dawa	72,860
Fugnan Bira	7,360
Girawa	3,400
Harar	53,560
Jijiga	9,730

Illubabor

Buno Bedele	3,190
Gambella	2,590
Mattu	7,820

Debele	3,100
Gore	10,410
Tobba	3,270

Kefa

Agaro	16,870
Jimma	52,420
Sintu (Limu Genet)	3,930

Bonga	7,000
Mizan Teferi	4,630
Waka	3,500

Shoa

Addis Ababa	1,046,260
Akaki	23,120
Alem Gena	3,820
Bako	5,220
Debre Berhan	20,740
Debre Zeit	34,420
Fiche	14,830
Gedo	4,730
Genet (Holeta)	8,130
Ghion (Wolisso)	15,310
Hagere Hiwet (Ambo)	12,790
Karakore	3,870
Mojo	6,360
Negele	5,400
Sebeta	4,670
Sheboka	3,130
Tulu Bolo	3,250
Welencomi	3,530

Addis Alem	6,660
Alaba Kulito	5,820
Ankober	2,500
Butajira	8,060
Debre Sina	5,350
Enware	3,380
Gebre Guracha	4,450
Gefersa	3,960
Ghinchi	4,710
Guder	4,040
Hosana	10,280
Meki	4,550
Nazret	50,550
Robi	5,550
Shashemane	16,070
Sheno	2,860
Welenchiti	5,760
Weikite	4,880

Sidamo

Agere Mariam	5,590
Aleta Wondo	10,510
Bule	2,590
Hidilola	2,930
Leku	5,940
Negele	10,660
Sodo	14,890
Wendo	6,600

Agere Selam	5,400
Awassa (Tabor)	19,550
Dilla	17,320
Kibre Mengist	10,140
Moyalle	5,260
Odo Shakiso	3,380
Wenago	3,680
Yabello	4,540

Tigre

Abi Addi	7,710
Adi Grat	11,600

Adi Abbo	7,790
Adi Shaho	3,230

Tigre (cont'd)

Adi Sheno	3,320	Adwa	20,450
Axum	15,910	Chercher	3,360
Hauzen	3,520	Inda Baguna	3,430
Inda Selassie	9,870	Inticho	2,780
Korbete	2,710	Maychew	9,440
Mekele	34,290	Quiha	3,290
Selekiaka	4,700	Wukro	7,610

Wolega

Arjo	3,740	Dembi Dollo	9,340
Enago	3,240	Ghimbi	10,180
Lekemt	21,260	Mendi	3,470
Nejo	4,650	Shambu	5,610
Sire	2,580		

Wollo

Alamata	6,660	Bati	9,570
Dessie	54,910	Hauk	4,030
Kobo	9,490	Kombolcha	6,410
Korem	6,410	Sekota	13,620
Wuchale	3,600	Woldiya	11,810
Wereilu	4,150		

## Health

Despite absence of comprehensive morbidity/mortality data, safe to conclude that the most common diseases in Ethiopia are infectious, particularly gastro-intestinal and respiratory; 50-80% communicable.

Dergue principal provider of health care via Ministry of Health (MOH) with recent emphasis placed on prevention, environmental services; 1/4 of budget goes to malaria eradication. Each province has a Provincial Health Dept. headed by a Health Officer; service decentralized with health centers in larger towns and health posts in the smallest villages. Health centers considered inadequate; chronic shortage of facilities, equipment. In an effort to reduce flow of poor patients to Addis Ababa's St. Paul's Hospital (previously only provider of free health care), MOH announced in January 1977 that free medical care available to all needy people in all hospitals and clinics.

### Summary of Disease Data

Malaria - measured by epidemic potential and economic burden, malaria most serious disease problem. One-half of population lives in malaria-prevalent areas; endemic from sea level to 5,000', especially in Ogaden area and lowlands bordering Sudan. Several million are infected (some estimate 60% of population); seasonal outbreaks along Blue Nile, Jila, and Baro Rivers; peak incidence in October and November.

Tuberculosis - second most serious health problem; 30-40% of population infected. Incidence varies by province; 3% for eastern regions, 5% for Ogaden area; also prevalent in Hararghe and Kefa provinces, and in Addis Ababa. Crowded, windowless housing, poor hygiene main causes.

Venereal Disease - extremely high incidence (75%) among adult population; rural and urban incidences equal. 150,000 to 200,000 new syphilis cases every year.

Leprosy - estimated prevalence of 10-15% per 1,000; total of 200,000 infected. Irregularly distributed;

concentrated in central provinces at elevations over 6,000'; common in Hararghe, Gojam provinces.

Schistosomiasis - diffusely endemic in several regions but data scarce. Areas of high prevalence include northern lowlands, Begemdir province, northern highlands, and western borderlands. However, infections reported in all areas except Gemu Goffa, Illubabor provinces.

Trachoma - average active rate among adults 20%. High prevalence in Gondar area in Begemdir province (90%), and in Dese in Wollo province (60%).

Smallpox - decreasing in incidence since 1960's but in 1971, 55% of all world's cases in Ethiopia; incidence ranged from 55 per 1,000 inhabitants in Arussi province to 459 per 1,000 inhabitants in Illubabor province. Continued reductions through 1976 with 915 cases reported; outbreaks mainly among Somali nomads roaming drought-affected Ogaden. No cases as of 1978.

Typhus - incidence peaks in November, although data especially scarce.

Relapsing Fever - one of few countries where relapsing fever endo-epidemic; of 5,000 cases reported in 1969, 90% in Ethiopia; 40% mortality rate if untreated. Endemic in all provinces especially at higher elevations. Louse-borne form in High Plateau, Eritrea province; tick-borne form in lowlands.

Yellow Fever - major outbreak (30,000 deaths) in 1962, but none since. Typical yellow fever areas surrounded by banana (ensete) plantations.

Others: parasitic infections including cholera, typhoid, paratyphoid, amoebiasis, respiratory diseases widespread among all age groups; rabies believed widely prevalent.

## Folk Medicine

Uvulectomies, gum cutting, extraction of infant's back teeth to treat diarrhea still common practices. Most popular folk medicine is butter; infants often given rancid butter (older the better) through mouth or nose; also applied to umbilical cord wound causing fatal tetanus neonatorum. Other popular beliefs: sunlight harmful to babies (leads to rickets); best cure for syphilis to have many sexual partners.

## National Vital Statistics

Birth Rate: 45-52 live births/1,000 population (1974 est)

Death Rate: 20-26/1,000 population (1974 est)

Infant Mortality: 181 deaths under 1 yr/1,000 live births (1972)

Life Expectancy: 40 years at birth (1972)

## Health Services

Present 5-Year Plan calls for construction of 500 new health stations, 50 health centers, and 5 rural hospitals (70 beds each) by 1978\*. Health stations equipped only for examination, limited dispensing and treatment; 450 in place by 1975, 350 new ones built in 1976.

\* Note: Many health stations, health centers in Bale, Hararghe, and Sidamo provinces heavily damaged by fighting in Ogaden region. Loss of health personnel also substantial.

## Health Facilities

<u>1972</u> <u>Administrative</u> <u>Region</u>	<u>Hospitals</u>	<u>Beds</u>	<u>Clinics</u>	<u>Health</u> <u>Centers</u>
Arussi	3	130	27	4
Bale	1	23	14	2
Begemdir	2	217	33	10
Eritrea	17	2,240	117	5
Gemu Goffa	2	73	21	4
Gojam	3	232	37	7
Hararghe	10	855	55	8
Illubabor	2	70	15	6
Kefa	3	227	24	6
Shoa	12	533	81	12
Addis. Ababa	13	2,664	60	--
Sidamo	5	417	47	5
Tigre	4	243	41	7
Wolega	4	285	37	6
Wollo	4	206	40	11
Total	85	8,415	649	93

## Hospitals

<u>Province</u>	<u>Capitol</u>	<u>Hospitals</u>	<u>Support</u> <u>Agency</u>	<u>Beds</u>	<u>Rate Per</u> <u>10,000</u>
Addis Ababa	Addis Ababa	Menelik II Hospital	MPH	400	
		Ras Desta Hospital	MPH	74	
		Princess Tsehai Memorial Hospital	MPH	150	
		Ethio-Swedish Pediatric Hospital	MPH	45	
		Princess Zenebe Work Hospital	MPH	250	
		Infectious Diseases Hospital	MPH	40	
		Emanuel Hospital	MPH	262	
		Tuberculosis Hospital, St. Peter	MPH	125	
		St. Paul's Hospital	HSIF	400	

		Haile Selassie I Hospital	HSIF	200	
		Gandi Memorial Hospital	HSIF	60	
		Army Hospital	MD	148	
		Bodyguard Hospital	MD	150	
		Police Hospital	MI	100	
		Dejazmach Balcha Hospital	USSR	100	
		Empress Zeweditu Hospital	7th Day Adv	207	
		Onedela Clinic	Private	7	
				<u>2,718</u>	41.8
Arussi	Asela	Asela (Under Con- struction)	SM	60	
		Bekoje		<u>10</u>	
				<u>70</u>	0.6
Bale	Goba	Goba (Planned)		(70)	(4.3)
Begemdir	Gondar	Gondar (Planned)		250	
		Debre Tabor (Planned)		<u>237</u>	
				<u>487</u>	2.1
Eritrea	Asmara	Asmara			
		Itegue Mennen Hospital		1,116	1.54
		Haile Selassie I Ophthalmic Centre		120	
		Mental Hospital		154	
		Prison Infirmary		63	
		Mitsiwa			
		Haile Selassie I Hospital		395	
		Assab			
		Civil Hospital		60	
		Keren			
		Civil Hospital		110	
		Agordat			
		Civil Hospital		106	
		Teseney			
		Civil Hospital		52	

		Barentu				
		Civil Hospital			28	
		Udi Ugru				
		Civil Hospital			155	
		Adi Kayih				
		Civil Hospital			85	
		Dekemhare				
		Infirmery			6	
					2,450	15.4
Gemu Goffa	Arba Minch	Chenche (Under Construction)			60	
		Gidole (Under Construction)	NM		50	
					170	1.3
Gojam	Debre Markos	Debre Markos	MPH		50	
		Bahir Dar	MPH		120	
		Finote Selam (Not yet in operation)	MPH		45	
					275	1.4
Hararghe	Harar	Harar				
		Makonnen Halle				
		Selassie Hospital	MPH		186	
		Teferi Makonnen				
		TB Hospital	MPH		110	
		Ras Makonnen				
		Hospital	HSIF		106	
		Army Hospital	MD		30	
		Bisidimo				
		Leprosarium DAHW	DAHW		120	
		Dire Dawa				
		Halle Selassie I				
		Hospital	MPH		180	
		Franco-Ethiopian				
		Railway Hospital	RQ		50	
		Jigjiga				
		General Hospital	MPH		75	
		Asbe Teferi				
		Leul Sale Selassie				
		Kebrî Dehar				
		General Hospital	MPH		60	

		Kelafu				
		General Hospital	MPH	75		
		Mission Hospital	SIM	30		
		Degeh Bur				
		General Hospital	MPH	75		
		Deder				
		Mission Hospital	MM	25		
		Erer Gota				
		Health Center				
		Hospital	MPH	40		
				<u>1,262</u>		3.7
Illubabor	Gore	Gore	R	40		
		Metu	R	60		
				<u>100</u>		1.5
Kefa	Jimma	Jimma	R	200		2.9
Shoa	Addis Ababa	Debre Birhan				
		General Hospital	MPH	80		
		Debre Zeyt				
		General Hospital	MPH	50		
		Agere Hiywet				
		Door Of Life	BM	40		
		Nazaret				
		Haile Mariam Mamo				
		Memorial Hospital	MM	80		
		Lemo				
		Mission Hospital	SIM	30		
		Shashemene				
		Mission Hospital	SIM	100		
		Wonji				
		General Hospital	SE	480		1.4
Sidamo	Yirga Alem	Yirga Alem, Negele,				
		Soda Diala	M	300		
		Adola	MINB	60		
Tigre	Mekele	Mekele	R	80		
		Adigrat	R	35		
		Adwa	R	80		
		Selekleka (Under Con-				
		struction)	M	--		
				<u>195</u>		0.8

Wolega	Nekempte	Nekempte	MIN	120	
		Gimb	M	60	
		Aira	M	50	
		Demi Dolo	M	50	
				<u>280</u>	2.0
Wollo	Dese	Dese		120	
		Dese	M	40	
		Woldeya	M	40	
		Chefa (Farm)		15	
				<u>215</u>	1.7
		Total		8,882	3.7

\* Prince Makonnen Duke of Harar Memorial Hospital with 500 beds not included. Not yet operational.

Key:

BM.....Baptist Mission  
 DAHW.....German Leprosy Relief Association  
 HSIF.....Haile Selassie I Foundation  
 M.....Missions  
 MD.....Ministry of Defense  
 MI.....Ministry of Interior  
 MINB.....Ministry of Mines and State Domain  
 MM.....Mennonite Mission  
 MPH.....Ministry of Public Health  
 R.....Government  
 RC.....Railway Company  
 SE.....Sugar Estate  
 SIM.....Sudan Interior Mission  
 SM.....Swedish Mission  
 USSR.....Soviet Union  
 7th Day Adv.....7th Day Adventist Mission

Other Health Facilities

	<u>Other Health Facilities</u>	<u>Health Centers</u>	<u>Support Agency</u>	<u>Health Staff</u>	<u>School Health Services</u>
Arussi	Beloje 10 Tibela SM (Leprosy Village)	Asela Tinsa Ticho	R+M	15	7
Bale		Ginir	R+M	10	3
Begemdir		Adi-Arkay Aykel Setit Gondar Dabat Gorgora Adis Zemen Koladuba	R FM	18 1	6
Eritrea		Adi-Kwale Dekemhare Barentu Nakfa Tenseney			
Gemu Goffa		Arba Minch Bulki Chencha Jinka	R M	6 4	
Gojam		Debre Markos Finote Selam Bahir Dar Dangla Halle Selassie Ber	R M L	13 2 8	7

Hararghe	Kelafu	R	42	8
	Degeh Bur	M	8	
	Ayshia			
	Dire Dawa			
	Ejersa Goro Erer-Gota			
Illubabor	Metu	R	LL	4
	Gambela	RL	1	
	Buno Bedele	AM	1	
	Gore Tepi			
Kefa	Agaro	R	12	6
	Maji	M	7	
	Bonga			
	Waka			
	Jima Mizan Teferi			
Shoa	Debre Sine		39	26
	Mulo	M	18	
	Giyon			
	Feche			
	Hosaina			
	Mehal Meda			
	Kara Kore			
	Debre Zeyt			
	Ziway			
Sidamo	Awasa	R	17	6
	Kibre Mengist	M		
	Moyale	M	19	
	Yirga Alem Sodo			
Tigre	Mekele	MPH	15	6
	Aksum	M	2	
	Inda Silase			
	Abiy Adi			
	Maychew			
	Wikro Adigrat			

Wolega		Asosa	MIN	7	12
		Shembo	N.	13	
		Gidami			
		Nekempte			
		Dembi Dolo			
		Gimbi			
Wollo	Dese	Dese	R	15	13
	(Leprosarium)	Asayata	M	15	
	150/beds	Lailbela			
		Sekota			
		Were Jlu			
		Alamata			
		Hayk			
		Tenta			

Key:

AM...American Mission	MINB...Ministry of Mines and State Domains
FM...Falsha Mission	MPH....Ministry of Public Health
L....Leprosy Station	NM.....Norwegian Mission
M....Missions	R.....Government

Note: Felege Helwat Hospital opens in 1977 on shores of Lake Tana.

Health Personnel

Health officers, community nurses, sanitarians, and dressers bear the brunt of medical services delivery. Most physicians foreigners working in urban areas. Provincial health services are organized around a community health team of middle-level personnel: health officer, community nurse, and sanitarian. Training aims to increase the role of the community health teams while providing for eventual replacement of foreign physicians with Ethiopians. Personnel shortage, especially MD's, will be a fact for decades; also need for retraining and upgrading personnel.

Urban/Rural

	<u>Total</u>	<u>Capitol</u>	<u>Rural</u>
Physicians	374	166	148
Medical Assistants	213	29	178
Hospital Nurses and Midwives	892	416	359
Dressers	4003	971	2728
Community Nurses	270	67	194
Medical Laboratory Technicians	253	111	120
Medical Radiological Technicians	89	29	46
Sanitarians	241	50	176

By Province

	<u>MD's</u>	<u>HO's</u>	<u>RX's</u>	<u>SA's</u>	<u>Nurses</u>		<u>Dressers</u>		
					<u>R</u>	<u>C</u>	<u>E</u>	<u>A</u>	<u>P</u>
Arussi	7	6	-	8	22	11	57	54	38
Bale	1	6	-	6	9	4	24	19	5
Begemdir	14	15	-	14	19	18	60	78	28
Eritrea	69	12	23	25	144	14	251	133	175
Gemu Goffa	2	6	-	7	8	10	38	29	6
Gojam	13	13	-	16	16	18	48	79	13
Hararghe	28	19	-	17	45	13	85	122	66
Illubabor	9	11	-	10	11	11	52	25	20
Kefa	9	13	-	10	25	11	78	67	46
Shoa	19	26	-	24	61	32	258	129	62
Addis Ababa	167	29	87	50	416	67	316	321	334
Sidamo	9	9	-	12	39	14	139	91	73
Tigre	9	17	1	16	23	20	50	91	36
Wolega	10	14	-	11	38	12	112	67	42
Wollo	8	17	1	15	16	15	40	88	39
Total	374	213	112	241	892	270	1628	1393	983

HO...Health Officers  
 RX...Pharmacists  
 SA...Sanitarians

R...Registered  
 C...Community  
 E...Elementary

A...Advanced  
 P...Practical

## Diet Summary

Calorie requirements (FAO) = 2,323\* as follows:

Protein	Fat	Carbohydrate	Calcium	Phosphorous	Iron	NA	K	VitA
56.3g	116.2g	261.3g	450mg	450mg	18mg			

\* Other sources 2,900 cal

Other MDR calorie estimates for adult Ethiopians placed at 2,500/day; average calorie deficit 400/day. 1959 Nutritional Survey found malnutrition widespread, especially among infants, children; PCM a major factor for hospital admittance in many provinces. Vitamin A and C shortages manifested by frequency of skin lesions, gum deterioration; vitamin A deficiency found in 10% of males, 3% of females; vitamin C deficiency affects 30% of population. In addition, iodine deficiencies make goiter endemic; affects 2% of males, 9% of females. Overall diet high in thiamine, calcium, iron; acceptable in niacin, protein; low in riboflavin, vitamins A and C.

## Basic Foods

Most important basic food is injera bread; made mostly with teff (a cereal grain high in iron) but a combination of wheat, oats, and sorghum also used. Teff is stone-ground into a flour and then mixed with water into a batter; latter seeded with yeast, fermented one or two days. Dough is shaped into pancake and cooked in large, slightly concave iron griddle over open fire; not turned during cooking but steamed 6 to 8 minutes.

Most common accompaniment to injera is wat (wat) or allicha, a stew or thick soup resembling curry; eaten with or on injera. Wat made with either peas, chickpeas, lentils or potatoes, and is often heavily seasoned or even hot; ingredients depend upon availability of pulses, fasting requirements, regional preferences. Ingredients commonly added to wat: ground red pepper, garlic, butter or oil, onions, occasionally meat. Meat eaten by 20% of population more than once a week, 16% once a month, the rest never. Chicken a festival dish but eggs seldom eaten.

Nomadic diet based on milk; non-nomadic population drink milk less than once a week. Small amounts of vegetables, even less fruit, also part of overall Ethiopian diet. Sugar used in beverages by 50% of population once a week.

### Meals

Injera and wot usually eaten at noon and evening meals. Breakfast normally light: black coffee, small amount of injera, possibly roasted whole-grain barley kernels. Raw meat eaten by some during festivals. Abish (fenugreek) widely used as baby food; made into soup and given to infants with injera; a protein supplement to teff, other cereals.

### Food and Drink

**Cereals:** most food crops on cultivated lands are cereals. Teff is the preferred grain. Other cereals include barley, sorghum, maize, wheat. Kollo, prepared from grain, roasted like coffee and eaten for breakfast, between meals. Maize traditionally consumed as whole seed, or as split maize, or made into flour to prepare other dishes (injera). Much of barley and dagusa (type of millet) used for brewing talla, a local beer.

**Pulses:** lentils, chick peas, field peas, beans, peanuts; next in importance to cereals. Used primarily in making wot; sometimes ground before cooking, or eaten roasted. Fresh green field peas often sold on stem in bunches.

**Vegetables:** most Ethiopians eat few vegetables with the exception of some onions, garlic, dried red peppers, gommen (a kale-like plant) potatoes, pumpkins, and tomatoes.

**Fruits:** seldom eaten; citrus, bananas, avocados, grapes, custard apples, pineapples, plums, figs, peaches, strawberries available.

- Meat:** eaten occasionally; urban consumption higher than rural. Coptic and Moslem dietary laws prohibit consumption of pork; affects most of population. Chicken favorite animal protein source. Beef, mutton, and goat also eaten.
- Dairy:** eggs rarely eaten, almost never in rural areas. Goat, camel or cow's milk has major role in diet of nomadic tribes. Milk production per animal so low, total consumption of dairy products well below expectations for such traditionally large national herds. Estimated butter consumption 1 oz/day; vegetable oil eaten in place of butter on fasting days. Soft cheese also made in many homes.
- Fish:** consumption limited to immediate lake and river areas; small amounts shipped by rail from Red Sea to Addis Ababa and Asmara.
- Other Foods:** principal oilseeds are "neug", safflower, sesame, and peanuts. Honey produced in many areas; used to make fermented beverage called "tedj". Condiments: cinnamon, black pepper, ginger, cloves, and a spice "berbere" prepared from red pepper; used in most dishes.
- Beverages:** bottled beer found throughout Ethiopia; large scale production of talla, tedj and araki (a distilled liquor). Chat, though not a food, chewed for its stimulant effect; also has Vitamin C and betacarotene. Coffee very popular; consumed heaped with sugar.

### Housing

Most common rural housing a circular, conical-roofed tukul. Walls made of strong, upright poles set close. Other poles split into strips, bound horizontally to vertical ones at 2 foot intervals; latticed frame. In grain-growing areas, durra stalks used instead of split poles. Walls covered with clay-straw plaster (chicka). In bamboo-growing areas, walls made of bamboo strips woven into patterns; conical roofs covered with thatched grass; some of corrugated iron. Both circular and conical-shaped roofs strong against wind, rain. Most tukuls: earthen floors (some cow dung), single entrance, no chimney, windows rare. Fireplace made with 3-5 stones; sometimes an oil drum placed in center; smoke seeps out or escapes from small hole. Tukuls mostly multi-purpose: living, kitchen, storage, stable. If latter, livestock separated by partition

with stable floor lower than rest of house; chicken platform also above entrance. Family beds elevated clay platforms against wall; animal skins for bedding. Many hooks on walls. Most families (especially farmers) live in compounds surrounded by strong fences. Latter usually of branches and sticks, preferably thorny. Animals sometimes penned in a kraal, a fenced area within compound.

Nomads live in collapsible, portable huts. Afar hut called ari; acacia branches bent into dome-shaped framework 5-6 feet high, covered with grass mats. Cooking fire, animal storage outside hut. Small hut partitioned by hide or branch curtain into two sections; man lives in section nearest door, wife in other. Thorn-scrub enclosure marks extended family settlement.

Urban tukul construction varied: traditional, stone walls, wattle walls; two-thirds made of chicka with corrugated iron roofs. Statistics from former government survey in late 1960's: 50-79% of urban population live in one room houses, 55% of urban residents have access to piped water, and 60% of urban residents without access to sanitary facilities; open-pit latrines or nearby fields used.

In wake of Dergue land reform program, ownership of urban houses restricted to one per family, extra houses nationalized, and rents standardized by location, land area. Urban dwellers associations (kebeles) established as counterparts to peasant associations: 1,500 total in 600 towns, 290 in Addis Ababa. Duties: implement land reform provisions, collect rents, maintain houses, schools, clinics and roads. Also charged with establishing market centers, cooperative shops.

## Economic Sector Summary

Beleaguered Ethiopian economy in "transition" phase between formerly dominant private enterprise and state control of production. Dergue's economic policies an outgrowth of oft-stated political philosophy: "Ethiopian Socialism". All national resources being brought under public ownership, although Dergue still considers private sector (domestic and foreign) important in short-run. On January 1, 1975, all financial institutions nationalized. In February 1975, 100 medium and large-scale manufacturing firms also nationalized. Along with a commission to arbitrate compensation, Dergue established Ministry of National Resources Development (MNRD) to decide which sectors (parts) to be government controlled.

Compared to late 1960's, growth in most sectors slowed; real GDP growth rate .1% in 1974/75, 2.7% in 1975/76; unable to keep pace with demands created by rapid population growth. As a result, boosting agricultural output, narrowing gap between rural/urban living standards given top priority. Present per capita annual income between \$80-90. However, incomes of agricultural and unskilled workers generally stagnant while open unemployment is rising, all of which points to likely worsening of income distribution. Given dominance of agriculture in Ethiopian economy and low level of international investment, problem of stimulating economic growth dramatic in magnitude. (See Agriculture).

However, the industrial sector (less than 10% of GDP) showed significant growth in 1976. Firms concentrated in urban centers with textiles, cement, food processing, sugar refining, beverages, tobacco, leather, and shoes the major enterprises. 200 controlled by MNRD; increased output of textiles from country's 40 mills, 50% growth of cotton production from estates in Awash Valley. Ethiopia self-sufficient in sugar and salt, with surpluses in each for export\*.

Despite freeze on government and nationalized industries' salaries (latter since September 1975, former since mid-1974), inflation a major problem. All of following contributing causes: expenditures increasing faster than revenues with latter up only 15% in FY 1975, 9% in FY 1976, as largest share of total capital spending increases went to agriculture and road construction; net domestic borrowing (mostly from banks) covers 22% of total spending; heavy military outlays for Eritrean/Ogaden conflicts; periodic urban grain shortages. Dergue inflation control measures include changing currency in 1976 to birrs at reduced exchange rates, and extensive tax reform measures: land use fees, export surtaxes, and greater efforts to collect local and back taxes. Unclear how much tax revenue collected; difficulties in operating gathering system, especially in north.

Importance of foreign trade in Ethiopia less than in most developing countries. Large subsistence agricultural sector, absence of substantial mineral exports contribute to few opportunities for rapid economic "take-off" based on export expansion. Balance of trade in recent years fluctuated with rise and fall of coffee prices (major export earner), and outbreaks of coffee berry disease. Overall balance of trade deficit for 1976/77 of \$115 million less than expected due to increased revenues from coffee, shortfall of capital expenditures. However, recent drop in world coffee prices potential obstacle to achieving any future revenue targets. Balance of payments position for 1977/78 weaker than previous year; deficit probably \$150 million. National Bank's foreign exchange reserves down to equivalent of 6 months imports as of June 1977; expected to stabilize with stricter import controls, although recent trend of increasing dependence on foreign aid (loans and grants) and grain imports seen as politically dangerous to an already troubled government.

### 1978 Prices

Food price increases main element in rapid urban price increases in recent years; former up 50% in Addis Ababa in 1976. In January 1978, general retail price index for Addis Ababa showed increase of 15% compared with January 1977; highest were goods and services (26.3%), transportation (17.3%), household items (16.4%), food (14.8%). Largest food increases were in spices (58.7%), meat (46.8%), drinks and tobacco (32.7%), cereals (17%), and fruits and vegetables (15.6%). However, bread, salt, sugar, neug oil, and coffee combined for a decrease of 12% from Jan 1977 to Jan 1978.

### GDP/GNP

	Fiscal Year (In millions of Birr)		
	<u>1973/74</u>	<u>1974/75</u>	<u>1975/76</u> <sup>1</sup>
Gross Domestic Expenditure	5361.8	5737.8	6100.5
Exports <sup>2</sup>	827.2	683.1	760.1
Imports <sup>2</sup>	-637.8	-896.4	-818.1
GDP*	5551.2	5524.5	6042.5
GNP*	5512.7	5489.4	6039.8
National Savings <sup>3</sup>	700.3	331.3	533.4
Domestic Savings	738.8	366.4	536.1

\* at current market prices

1. preliminary

2. figures exclude estimates of commodity drought relief

3. GNP less private and government consumption

### Exports

See Agricultural Exports.

### Imports

<u>Commodity *</u>	<u>Year</u>		
	<u>1974</u>	<u>1975</u>	<u>1976</u>
Petroleum (crude)			
Value	...	...	...
Volume	300.631	819.639	471.867
Petroleum Products			
Value	101.657	141.655	110.951
Volume	99.036	42.434	44.284
Machinery & Aircraft			
Value	83.941	76.849	127.765
Volume	16.192	11.683	9.437
Motor Vehicles			
Value	63.376	75.317	90.104
Volume	13.024	10.516	12.517
Chemicals			
Value	67.638	96.269	78.617
Volume	99.270	58.204	75.450
Metals(& Manufactures)			
Value	53.765	44.928	35.824
Volume	52.834	33.129	29.638
Electrical Materials			
Value	25.755	30.547	35.046
Volume	5.234	4.535	4.841
Medical & Pharm. Prods.			
Value	16.501	22.430	19.222
Volume	1.708	2.191	2.016

Imports (cont'd)

	1974	1975	1976
Paper (& Manufactures)			
Value	9.048	15.175	10.829
Volume	5.640	8.720	6.636
Food & Live Animals			
Value	2.258	19.749	31.565
Volume	18.077	10.952	30.001
Other Products			
Value	64.872	50.617	74.665
Volume	...	...	...
<u>Total</u>			
Value	590.248	647.916	729.527

Source: Ethiopian Customs Head Office

\* Value in '000 Birr  
Volume in metric tons

## Agricultural Sector Summary

Agriculture dominates Ethiopian economy; agricultural production 50-55% of GDP; 85-90% of population make a living from it. However, lack of production incentives a major historic/economic factor accounting for markedly low levels of productivity; annual growth rate barely averages 2%. For centuries, subsistence farming a way of life. Oppressive land tenure system (although abolished in 1975) ingrained fears of surpluses, and has thwarted recent attempts to increase yields and output; farmers still highly suspicious of any development schemes. Since World War II, Ethiopia has moved from net exporter of cereals, to self-sufficiency, to cereal deficits, with latter increasing since early 1970's; usual grain deficit in Eritrea province alone estimated at 50-100,000 tons/year. Other traditional constraints to growth of agricultural sector include primitive cultivation techniques (multiple plowing usually required with ox-drawn plows), poor seed selection, minimal integration of livestock and tillage agriculture, few inputs, lack of capital investment, and inadequate transportation system. Exceptions limited to commercial farming in lowlands, large-scale irrigated State Farms scattered in Highlands. In addition, severe soil erosion affecting much of country, especially the northern Highlands (population 1.6 million).

Creation of a new marketing infrastructure via land reform program main thrust of Dergue to improve agricultural sector performance. Large commercial farms replaced by State Farms marketing their own output through public channels under direction of Agricultural Marketing Corporation (AMC). Marketing costs, however, remain high: bad roads, double transport, numerous title transfers in marketing chain, high storage losses, and lack of reliable grading are all causes. AMC main instrument for implementing Dergue marketing/price policies in grain trade\*; responsible for distribution of fertilizers, seeds, pesticides, implements. Crop Information Unit also formed to act as advance warning system, crop forecaster. Peasant farmer output improved dramatically on some farms with Minimum Package Program (MPP); coordinates all extension, input, supply and credit services in targeted areas. Dergue redesigning MPP to increase coverage. (see Land Reform).

Climatic/ecological diversity allows for wide variety of crops. Cereals, coffee, other crops accounted for 80% of gross agricultural output; livestock (and products) the remaining 20%. One-half of total output is cereal grains: teff, maize, wheat, barley. Other important crops: coffee, pulses, oilseeds, sugar, cotton. 25% of agricultural output marketed; coffee, sugar, and cotton account for 35% of total, cereals, pulses, oilseeds another 30%, and livestock 20%. Total volume of commercially marketed grains, oilseeds and pulses 690,000 MT

In 1975/76. Prior to 1973-75 drought, livestock herd one of largest in Africa but endemic diseases, vast rangeland areas denuded by over-grazing, and an inadequate marketing system continue as major constraints to growth.

\*Note- extreme irregularity in seasonal pattern of wholesale prices; seasonal fluctuations much higher than yearly ones; usually peak between June and December.

Production\*

<u>Crop</u>	<u>Year</u>		
	1975/76	1976/77	1977/78
Foodgrains	4,647.1	4,359.9	4,010.7
Teff	1,182.9	1,122.4	1,190.4
Barley	556.8	821.7	632.1
Wheat	482.2	560.6	389.8
Maize	1,310.6	985.9	887.0
Sorghum	803.4	670.6	713.0
Millet	311.2	198.7	198.4
Pulses	503.5	627.7	530.1
Horse Beans	286.6	330.3	279.0
Chick Peas	102.1	114.4	118.6
Haricot Beans	32.3	28.2	11.0
Field Peas	40.0	103.4	88.3
Lentils	42.5	51.4	33.2
Total	5,150.6	4,987.6	4,540.8

\* In thousand metric tons.

Source: Ethiopian Government

Crops/Area Planted\*

<u>Crop</u>	<u>Area In</u>		
	1975/76	1976/77	1977/78
Foodgrains	4,584	4,364	4,675

Crops/Area Planted\* (cont'd)

Teff	1,721	1,550	1,488
Barley	601	746	903
Wheat	500	507	464
Maize	728	680	896
Sorghum	718	707	706
Millet	316	174	218
Pulses	662	690	644
Horse Beans	259	266	279
Chick Peas	198	174	156
Haricot Beans	42	44	16
Field Peas	107	139	128
Lentils	56	67	65
Total	5,246	5,054	5,319

\* In thousand hectares

Source: Ethiopian Government

Note: Two million hectares under maize and sorghum is another estimate. Largest maize growing areas by percentage are Shoa and Wolega provinces but grown nearly everywhere between elevations of 1500-2200m. In addition, Eritrea, Wollo, and Tigre provinces usually food deficit areas.

Harvest Dates

<u>Crop</u>	<u>Jan</u>	<u>Feb</u>	<u>Ma</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
Barley	*	*	*						*	*	H	H
Maize	H	*								*	*	H
Millet	H	*								*	*	H
Sorghum	H	*	*					*	*	*	*	H
Teff									H	H	H	H
Wheat	H	*	*	*	*					*	*	H
Chick Peas	*	H	H	*						*	*	*
Lentils	*	*								*	H	H
Coffee	H	H									H	H
Cotton	H											H

H= Main Harvest

\*= Period of Harvest

### Harvest Dates (cont'd)

Note: Tigre province has one planting season

### Estimated Production of Cereals, Pulses and Oilseeds by Region for a "Normal" Production Year

	<u>Cereals*</u>					<u>Total</u>	<u>TP</u>	<u>TO</u>
	<u>M</u>	<u>S/M</u>	<u>B</u>	<u>W</u>	<u>T</u>			
Arussi	42	14	195	114	13	378	29	27
Bale	31	3	85	37	10	166	9	17
Begemdir	6	180	45	17	91	339	51	37
Eritrea	12	141	30	10	9	202	12	46
Gojam	12	68	42	13	96	231	30	23
Gemu Goffa	38	22	10	2	9	81	2	-
Harrarghe	76	286	7	5	8	382	11	2
Illubabor	83	18	3	1	17	122	8	2
Kefa	91	17	8	3	29	148	8	-
Shoa	253	105	204	146	211	919	202	31
Sidamo	76	7	16	1	9	109	22	-
Tigre	5	60	28	20	34	147	24	21
Wolega	132	43	19	2	64	260	12	26
Wollo	<u>22</u>	<u>128</u>	<u>48</u>	<u>31</u>	<u>67</u>	<u>296</u>	<u>50</u>	<u>3</u>
Total	879	1092	740	402	667	3780	470	235

- \* M - Maize  
S/M - Sorghum/Millet  
B - Barley  
W - Wheat  
T - Teff  
TP - Total Pulses  
TO - Total Oilseeds

Source: J. Dalton, ECA  
December 17, 1975

### 1977/78 Status

Two-front war and renewed drought in western Wollo, southeastern Tigre provinces expected to create serious food deficits. 1977/78 estimated cereal production below 1976/77 levels; production for

1978/79 not expected to improve. FAO estimates that total foodgrain deficit between June 1978 - June 1979 likely to be a minimum of 250,000 MT. War conditions also obstructing efforts to control recent locust infestations. However, one bright note should be mentioned. Coffee Research Center in March 1978 reported development of a coffee strain resistant to berry disease, the traditional threat to Ethiopian coffee industry.

### Exports

Agriculture dominates exports, accounting for 90% of total export value in recent years. Coffee the leading export item, although volumes declining since mid-1970's; 80,000 tons in 1974, 50,000 tons in 1977. However, declines offset by high world prices. Total 1977 exports reported at 654 million birr (\$322 million), a decrease of \$3.8 million from 1976; 70% export value from coffee, 9% from pulses, 5% from oilseeds, 2% from animal feed. Overall decline from 1976 due to war conditions; also increased export surtax on producers. Ethiopian Grain Agency (supervisor of private trade, policy advisor for pricing, imports and storage) announced in January 1978 exports of 126, 840 tons of pulses, oilseeds and animal feed.

Ethiopia normally an exporter of pulses and oilseeds, but volumes projected to decline until early 1980's as State Farm's production emphasis switches to food crops.

### Exports by Commodity (Value in '000 of Birr, Volume in Metric Tons)

<u>Commodity</u>	<u>1973/1974</u>		<u>1974/1975</u>		<u>1975/1976</u>	
	<u>Volume</u>	<u>Value</u>	<u>Volume</u>	<u>Value</u>	<u>Volume</u>	<u>Value</u>
<u>Coffee</u>	61,715	166,055	48,999	117,508	77,100	297,684
<u>Hides and Skins</u>	11,801	58,326	8,025	37,224	7,761	42,802
<u>Oilseeds</u>	103,874	90,698	78,555	89,059	42,408	35,034
<u>Pulses</u>	143,886	116,082	112,380	73,576	86,181	52,110
<u>Live Animals</u>	10,891	12,342	10,569	16,885	21,073	31,370

<u>Commodity</u>	<u>1973/1974</u>		<u>1974/1975</u>		<u>1975/1976</u>	
	<u>Volume</u>	<u>Value</u>	<u>Volume</u>	<u>Value</u>	<u>Volume</u>	<u>Value</u>
<u>Vegetables</u>	11,315	4,413	15,123	4,228	8,676	2,837
<u>Sugar</u>	22,700	10,051	5,000	8,095	12,000	9,364
<u>Meat, Fresh, Canned, Frozen</u>	<u>18,325</u>	<u>18,325</u>	<u>5,121</u>	<u>9,894</u>	<u>2,717</u>	<u>6,804</u>
<u>Cotton</u>	6,364	15,052	4,336	26,830	403	921
<u>Oil seed cakes</u>	26,838	9,704	33,897	7,124	40,076	6,256
<u>Other Food Item (S.I.T.C.O.)</u>	34,332	12,352	18,364	12,583	14,172	6,213
<u>Miscellaneous</u>	132,532	58,014	45,307	27,772	14,488	10,400
<u>Grand Total</u>	<u>669,432</u>	<u>598,776</u>	<u>500,343</u>	<u>475,807</u>	<u>425,990</u>	<u>538,718</u>

### Imports

Assuming "normal" weather conditions, grain import requirements estimated at 100,000 MT per year until 1980's. However, renewed drought has more than doubled above estimate; 170,000 MT wheat, 20,000 MT maize, 25,000 MT sorghum expected to be imported on commercial terms from July 1978 - April 1979. (See Imports in Economy Section).

## Climatic Zones

Diverse elevations, vegetation combine to form 3 distinct environmental zones: cool, temperate and hot (dega, welna dega, and kollo to Ethiopians):

- (1) cool zone in central parts of western and eastern sections of high plateau; also in small area around Harar. Terrain generally above 8,000' with temperature ranges from 60°F to 32°F; hottest months March-May. Above 10,000' hail frequently damages crops; frost not unusual. At lower elevations, stock raising, cereal farming practiced, although zone essentially mountain grassland.
- (2) temperate zone most densely populated and agriculturally productive; located in greater portions of high plateau between 5,000-8,000'. Temperature ranges from 80°F to 60°F with greatest variations between November and January. Nights cool with a light frost common.
- (3) hot zone in areas below 5,000': Danakil Depression, lowlands of Eritrea province, eastern Ogaden, tropical valleys of Blue Nile and Takeze rivers, and belt along Sudan-Kenya border. Climate torrid; 80°F a zonal average with temperatures soaring to 120°F along arid Red Sea Coast, and 100°F in the Ogaden.

## Precipitation

As with climatic zones, 3 distinct rainfall patterns: Belg or short rains from February-May, Kremt or heavy rains from June-September and Bega or scarce, dry-season rains from October-January. All three are result of fringe effect from mainly monsoonal winds from southern Asia. During Kremt and Belg rains, Indian Ocean winds prevail; winds from northeast across Arabian desert in dry season. Rainy season regarded as "winter", dry season as "summer". Clouds over Central Plateau 50-70% of time. Belg rains often followed by six weeks of dry, hot weather before onset of Kremt; latter frequently accompanied by violent electrical storms; brings 80% of rains to northwest region of Central Plateau. Rains in southwest more evenly distributed and abundant. Humidity, precipitation decrease from south

to north: rains heaviest in southwest near Gore in Illubabor province, scant in Great Rift Valley, less frequent on eastern part of Somali Plateau, negligible over Danakil Depression. Cool zone: 50-70" rain per/yr. Temperate zone: 20-60" rain per/yr. Hot zone: average less than 20" rain per/yr.

Normal Monthly Rainfall In Ethiopia (millimeters)  
(24 Synoptic Stations)

	<u>J</u>	<u>F</u>	<u>M</u>	<u>A</u>	<u>M</u>	<u>J</u>	<u>J</u>	<u>A</u>	<u>S</u>	<u>O</u>	<u>N</u>	<u>D</u>	<u>Total</u>	<u>Alti- tude of Sta- tion (m)</u>	<u>No. of Years</u>
<u>South-West</u>															
Gore	38	51	111	161	252	360	367	354	365	193	130	54	2435	2000	21
Neqempte	11	22	54	86	232	391	379	371	253	194	131	15	2139	2000	6
Jimma	33	54	73	147	151	230	226	214	188	86	52	30	1484	1750	19
Awasa	15	67	61	97	118	101	143	141	104	97	30	9	945	1750	8
Average	24	49	77	123	188	271	279	270	227	142	86	27	1751		
<u>North and Northwest</u>															
Bahr Dar	3	1	8	24	86	177	465	436	207	93	37	3	1543	1800	13
Debre Markos	19	21	53	74	80	168	318	314	211	77	28	18	1380	2500	20
Gondar	3	7	22	39	80	154	338	314	128	57	29	13	1185	2000	20
Adi Ugru	0	6	9	25	29	42	180	193	47	10	18	3	562	2000	14
Asmara	1	2	11	28	41	38	166	142	23	8	22	4	487	2300	30
Agordat	0	0	0	6	10	28	116	125	37	6	3	0	332	630	22
Average	4	6	17	33	54	101	264	254	109	42	23	7	915		

	<u>J</u>	<u>F</u>	<u>M</u>	<u>A</u>	<u>M</u>	<u>J</u>	<u>J</u>	<u>A</u>	<u>S</u>	<u>O</u>	<u>N</u>	<u>D</u>	<u>Total</u>	<u>Alt- tude of Sta- tion (m)</u>	<u>No. of Years<sup>1/</sup></u>
<u>Escarpment-Rift</u>															
<u>Addis Ababa</u>															
	17	32	73	95	76	116	261	282	177	37	8	11	1186	2400	30
<u>Kombolcha</u>															
	28	38	77	94	49	28	279	254	119	31	22	19	1041	1900	21
<u>Debre Zeit</u>															
	8	27	36	67	38	80	223	235	118	20	7	5	860	1850	23
<u>Awash</u>															
	25	48	58	46	27	35	113	160	48	13	15	5	591	900	15
<u>Meqele</u>															
	4	4	23	44	16	30	212	212	34	2	7	2	590	2000	14
<u>Dire Dawa</u>															
	10	28	50	68	40	19	89	140	62	9	25	6	545	1150	13
<u>Average</u>															
	15	30	53	69	41	51	196	214	93	19	14	8	802		
<u>Southern Highlands</u>															
<u>Goba</u>															
	19	40	58	139	99	65	88	125	121	106	75	21	955	2700	12
<u>Jigjiga</u>															
	13	34	43	105	82	61	83	132	94	54	20	10	732	1650	22
<u>Average</u>															
	16	37	50	122	91	63	85	128	108	80	47	16	844		
<u>South- East, Ogaden</u>															
<u>Negele</u>															
	6	9	50	193	130	10	7	8	23	158	47	14	654	1500	12
<u>Gode</u>															
	0	10	29	120	97	1	0	0	7	103	85	7	459	600	7
<u>Qebridehar</u>															
	2	7	21	127	64	3	1	1	12	132	67	3	440	550	16
<u>Average</u>															
	3	9	33	147	97	5	3	3	14	131	66	8	518		
<u>Red Sea</u>															
<u>Ghinda</u>															
	89	108	80	40	24	10	76	55	20	32	50	100	685	860	18
<u>Massawa</u>															
	34	20	11	7	4	0	8	11	2	21	24	39	181	5	30
<u>Assab</u>															
	8	3	2	1	0	0	12	7	5	1	0	9	49	5	23

### Rainfall (cont'd)

Average

44 44 31 16 9 3 32 25 9 18 25 49 305

1/ Number of years of regular reporting of climatic data (used for calculation of rainfall).

### Temperature

(Mean In Degrees Centigrade)

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
Massawa	25	25	27	29	31	33	34	34	33	30	28	26
Assab	26	26	28	30	31	33	35	34	33	31	28	27
Tesenei	25	27	29	32	33	31	28	26	28	29	28	26
Agordat	25	25	27	30	32	31	28	27	28	30	28	26
Gambela	28	30	31	30	28	27	26	26	27	27	28	27
Dire Dawa	22	23	24	26	27	28	25	24	25	25	23	21
Moyale	25	25	25	22	21	20	20	20	21	22	22	23
Negele	20	21	21	20	19	18	18	19	19	19	19	18
Wenji	19	20	22	22	23	23	21	21	21	19	19	19
Dila	21	22	23	22	21	20	19	19	20	19	19	20
Nakfa	15	16	16	18	21	23	22	22	21	17	16	14
Jima	18	19	20	20	20	19	18	19	19	19	18	17
Harar	18	20	21	20	20	19	18	18	18	19	19	18
Kembolche	17	18	19	21	21	22	21	29	29	18	17	16
Gore	19	20	20	22	19	17	16	16	17	18	18	18
Gondar	19	20	22	17	21	19	17	18	19	19	19	18
Maychew	14	15	16	18	19	20	18	18	17	15	15	14
Asmara	15	16	17	18	19	19	17	17	17	16	15	15
Addis Ababa	16	17	18	18	18	17	15	15	15	16	16	15
Debre Markos	15	17	17	17	17	15	14	14	14	15	15	15
Goba	13	13	15	15	15	15	14	14	14	13	12	13

Descending order by altitudes. (See Altitudes/Coordinates).



### Belg Rain-Dependent Crops/Region

Disturbances in Belg rain pattern a major reason for calamitous drought between 1973-75. Meteorological conditions which may have caused said disturbances still persist, likely to continue. Following provinces classified according to crop production dependence on Belg rains\*. Dependence is defined as Belg rain production that contributes more than 15% of total food supply. Least dependent: Eritrea, Tigre, Wolega, Illubabor, Kefa, Gojam, Begemdir. Moderate (mixed) dependence: Sidamo, Hararghe, Wollo. Heavy dependence: Shoa, Bale, Gemu Goffa, Arussi.

\* Note: In many pastoral areas, Belg rains provide most of year's precipitation; pastoralists heavily dependent on Belg rains for pasture growth.

### Land Forms

Ethiopia occupies a major portion of easternmost landmass known as Horn of Africa. Total area of 1.2 million sq km (472,000 sq mi) bounded in west by Sudan, in south by Kenya, in southeast and east by Somalia, in northeast by Djibouti and in north by Red Sea. From northern apex at 18° N latitude to southern border at 3°30' north latitude measures 900 miles; east-west axis between 33° and 48° east longitude approximately same distance. Three distinct regions:

- (1) Ethiopian Plateau - a highland mass comprising most of country; forms most extensive upland area of entire African continent. Elevations in north commonly 8,000-9,000', but rise to 14,000' to 15,000' in higher peaks; elevations in south lower. Plateau has 2 distinct sub-regions; rugged High plateau bisected by Great Rift Valley, and more level Somali plateau.
  - (a) north of Addis Ababa, High plateau known as Central or Amhara plateau; embraces 6 of 14 provinces and 3 of most populated districts of Eritrea. Inclines toward west and northwest, then descends near Sudan border. Physiography varies from deep chasms to high mountains, including Chercher, Aranna and Chelalo ranges. South of Addis Ababa plateau also rugged but of lower elevation; most coffee grown in this region. East and west

sections of High plateau mirror images, separated by Great Rift Valley; both are fertile areas with patches of forests and densely populated.

- (b) Small plateau begins southeast of Ahmar and Mendeb mountain ranges. Plateau flat, arid; rocky, sparsely populated. Inhabited by nomadic Somali.
- (2) Great Rift Valley - most extensive fault on earth's surface. Extends from Jordan Valley to Zambezi River in Mozambique, a total of 50° latitude. In Ethiopia, Valley bordered by Danakil Depression in north. To south (at approximately 9° north latitude) rift becomes deep trench slicing Central plateau from north to south; averages 40-60 km width. In latitude north of Addis Ababa, western wall of Valley turns north running parallel to west coast of Arabia, leaving wide plain between the escarpment and Red Sea coast. Latter gradually narrows until, north of Massawa, foothills of escarpment almost on coastline. Eastern wall of Valley turns east in latitude of Addis Ababa forming escarpment looking north over Danakil Plains; escarpment abrupt, commanding extensive view of lowlands 1,000 m below. Southern half of Valley dotted by large salt and fresh water lakes. Valley floor at southern border 2,000' above sea level; near Addis Ababa 6,000' above sea level.
- (3) Lowlands - rugged terrain surrounding highland mass. In north, Great Rift Valley broadens into saline Danakil Plains, the land of the semi-nomadic Afar. Within Plains is Danakil Depression: 380' below sea level in places and said to be hottest place on earth. East of Depression, Red Sea Mountains parallel coast; elevations to 6,700' in south. North of Depression, Danakil Alps border a 10-15 mile wide hot, arid, treeless coastal strip. In west of Ethiopia are small, diverse segments of Sudan Plains. Some segments are tropical lowlands; politically part of Ethiopia, but inhabited by people related to Sudanese.

Altitude/Coordinates

<u>Station</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Altitude (in Meters)</u>
Addis Ababa	9.0 N	38.44 E	4,408
Agordat	15.33 N	--	633

<u>Station</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Altitude (In Meters)</u>
Assab	13.01 N	43.39 E	11
Asmara	15.17 N	38.56 E	2,325
Debre Markos	10.15 N	37.45 E	2,509
Dila	6.25 N	--	1,600
Dire Dawa	9.45 N	41.47 E	1,160
Gambela	8.15 N	34.33 E	649
Goba	7.00 N	39.58 E	2,727
Gondar	12.35 N	37.30 E	2,200
Gore	8.10 N	35.34 E	2,002
Harar	9.18 N	41.00 E	1,856
Jima	7.39 N	36.52 E	1,740
Kembolcha	11.03 N	--	1,903
Maychew	12.44 N	--	2,300
Mitsiwa	15.36 N	38.28 E	5
Moyale	3.32 N	39.04 E	1,200
Nakfa	16.40 N	38.20 E	1,670
Negele	5.20 N	--	1,444
Nekemte	9.05 N	36.39 E	2,100
Tesenei	15.06 N	--	585
Wenji	8.31 N	39.15 E	1,500

### Land Use

65% of total land area (790,000 sq km) classified as agricultural land: 140,000 sq km cropped or fallow, 650,000 sq km permanent pasture. Less than 10% of total land area under crops; excellent agricultural potential at most elevations in highland area. Estimated use of remaining land area: 18% barren desert or swamps, 10% rivers/lakes, 7% forests.

1971/72

<u>'000 Sq Km</u>	<u>Percent</u>	
1,221.9	100.0	Total
840.3	68.8	Agricultural Land
137.2	11.2	Cultivated Land
108.7	8.9	Crop Land
21.2	1.7	Fallow Land
7.3	.6	Fruits & Stimulants
.1	.1	Meadows
651.3	53.3	Pastures
57.8	4.2	Swamps
88.6	7.3	Forests
172.1	14.0	Barren Land & Built-Up Area
120.9	9.9	Water & Water Courses

### Soil Erosion

In densely populated areas, soil erosion severe; extremely serious in Tigre and Eritrea provinces. Heavy seasonal rainfall, denuding of natural forest cover other causes; estimated one billion tons of topsoil (60,000 hectares 1' deep) wash away annually.

### Labor/Customs

Practice of debo (also jege, wanfal) widespread; 10 to 40 farmers provide some major farm labor task for one day to one farmer in exchange for food and drink; common among Oromo and Amhara. Debo traditionally used by landlords to exploit peasants. Practice of dado also common; same as debo only it lasts for 2 months, as farmers work each

other's land in turn. Idir another closely related custom; approximately 200 families provide for each other's funerals, hospital bills; also raise money for community projects. Shimagele leader of Idir; often most respected leader in many villages.

### Land Reform

Massive land reform program initiated after 1974 coup. Major provisions: 1) All land holdings in excess of 10 ha taken away, redistributed. 2) Rent abolished; tenants (usually peasants) assigned the land they till rent-free. 3) In communal tenure areas of north, above changes meant little, but traditional system of land litigation abolished, giving unprecedented security/tenure to peasants.

Dergue urging adoption of collective farming as base of agricultural production. Collective farms established on experimental basis for at least a decade. As a result, heavy emphasis at present on organizing peasant associations to implement land reform program. In its initial stages, upwards of 30,000 students organized peasant associations on basis of 800 ha areas; latter often in disregard of traditional boundaries, family/group ties making association loyalties difficult to sustain. However, by February 1977, 24,000 associations formed with 6.7 million members,

To date, best assessment appears to be uneven implementation of reform. Three general results: 1) Sporadic shortages of food grain to urban areas (despite increased production), causing rise in urban food prices; shortages primarily because of higher rural food consumption, on-farm stocks. 2) Shift in traditional production pattern from export crops to cereal grains. 3) Expansion of rural purchasing power; increased demand for government services, and mass consumption items, textiles, leather goods, salt). (See Agriculture).

### Rivers

Large, widely spaced perennial rivers flow between mostly steep, high banks of clay and rock; often coincide with walls of narrow, v-shaped valleys. Major river is Blue Nile; averages 500' wide, 3.5' deep. Many rivers between 200-500' wide and 6' deep; latter during high water periods between late July to late September in north, and early June to November in south. For remainder of year, major rivers

usually less than 250' wide, between 3.5' and 6' deep. Wabi Shebele, Gamale-Dorya, and Dawa rivers have 2 periods of maximum flow: early May to mid-June, late August to late November. Most rivers have sand or gravel bottoms; some have stretches of boulders and rapids.

<u>River</u>	<u>Length (In KMS)</u>
Abai	800
Wabi Shebele	1,000
Gamale	480
Awash	1,200
Omo	760
Tekele	608
Mereb	440
Baro	277
Angereb	220

### Lakes

Lakes of importance only to small percentage of population, but have major economic/tourism potential. Largest is Lake Tana, 3,165 sq km, in center of Anhara Plateau at 1,800 m altitude; water level minimum in May/June, maximum in September. Shores occasionally covered by papyrus swamps.

Lake Abaya, 1,160 sq km at 1,268 m, has several islands, some inhabited. Contains yellowish opaque sweet water with high plankton content. Extensive swamps. Dense reed and papyrus growth on shores.

Lake Shala, 409 sq km at 1,567 m altitude in Northern Rift Zone is saltiest. Well-known for its waterbirds.

Lake Langano, 230 sq km at 1,585 m slightly brackish; preferred for bathing.

Lake Awasa, 129 sq km at 1,708 m, and Lake Ziway, 434 sq km at 1,846 m contain sweet water.

Lake Abiyata, 1,205 sq km, at 1,573 m asl.

Lake Ashenge, 20 sq km, at 2,409 m asl.

Lake Chamo, 551 sq km, at 1,235 asl.

Lake Hayk, 35 sq km, at 2,030 asl..

Lake Koka, 250 sq km.

Salt lakes which fluctuate greatly in area are located in eastern arid lowland.

### Highlands

The Highlands consist mainly of severely dissected plains, precipitous hills and mountains extending almost continuously over western and southern parts of country. From Sudan border in north, a belt of hills and mountains extends 400 m southward; elevations between 1,200' and 8,000'. In the south, hills and mountains discontinuous; trend southwest to northeast, and generally between 1,300' and 11,000' above sea level. Highest peak in south is 14,131' in the Mendeb Mountains. Hill and mountain regions scattered throughout rest of country with elevations averaging between 1,000' and 10,000'; highest peak in country is 15,158' in Rasdajan system, in northern exterior. Round to cone-shaped crests and saw-toothed ridges between 500' and 5,000' above bottom of adjacent valleys, passes and plains. (See Terrain).

### Peaks

<u>Mountain</u>	<u>Height</u> <u>(In Meters)</u>	<u>Province</u>
Ras Dashen	4,550	Begemdir
Lageda	4,532	Begemdir
Analu	4,480	Begemdir
Weynober	4,472	Begemdir
Aba Yared	4,460	Begemdir
Tefawalezer	4,456	Begemdir
Piwahit	4,437	Begemdir
Meserya	4,360	Begemdir
Karra	4,340	Arussi
Batu	4,307	Bale
Enello	4,300	Arussi
Kolo	4,300	Wollo
Lalibela	4,276	Wollo
Guna	4,231	Begemdir
Guge	4,200	Gemu Goffa

<u>Mountain</u>	<u>Height (In Meters)</u>	<u>Province</u>
Abune Tosef	4,190	Wollo
Hey	4,173	Begemdir
Birhan	4,154	Gojam
Beda	4,133	Arussi
Talo	4,100	Gojam
Amba Ras	4,077	Begemdir
Karni	4,070	Gojam
Urata	4,066	Gojam
Chilalo	4,036	Arussi
Abuyemda	4,000	Shoa
Sede	3,988	Tigre
Ahba Ferit	3,975	Wollo
Yewel	3,859	Wollo
Kaka	3,820	Arussi
Atse Cedel	3,819	Wollo
Gurage	3,719	Shoa
Woti	3,677	Shoa
Amonewas	3,664	Gojam
Gugu	3,623	Arussi
Yowera	3,611	Wollo
Delo	3,600	Sidamo
Asta Gomaya	3,599	Shoa
Megezez	3,596	Shoa
Aratmererakir	3,577	Gojam
Ambasel	3,567	Wollo
Kanlchi	3,500	Begemdir
Amba	3,485	Shoa
Berez	3,476	Gojam
Aberoha	3,468	Gojam
Garamuleta	3,392	Hararghe
Segedo	3,355	Gojam
Bada Poge	3,350	Shoa
Atse Faris	3,341	Begemdir
Fagagi	3,310	Arussi
Liga	3,246	Begemdir
Dagui	3,228	Gojam
Garatita	3,170	Hararghe
Sabal	3,130	Hararghe
Muktar	3,060	Hararghe
Serirta	3,060	Hararghe
Chef	3,058	Gojam
Zikwala	2,989	Shoa

### Seismicity

Most of Ethiopia subject to seismic activity. Greatest concentration of epicenters within a 200 km-wide belt along eastern escarpment of Great Rift Valley and parallel to Addis Ababa-Asmara highway. Compared with rest of country, 75% of total seismic energy released along this zone. Most quakes tectonic; damages historically minimal. All quakes classified as shallow; focal depth between 4 and 60 km.

## Transportation and Logistics

Mountainous topography, long distances between population centers are major constraints to development of transportation system. In 1975, 23,000 km of roads; 8,600 km all-weather, less than 3,000 km paved. Primary network connects Addis Ababa with Asmara, Assab, other provincial towns, and market places. Estimated that 3/4 of all farms are more than half a day's walking distance from a road. Major recent projects include a "motorway" across desert from Addis Ababa to Assab\*, and virtually complete Ethiopian section of long-awaited Addis Ababa-Nairobi highway. All weather roads as of April 1976:

North - South - Addis to Assab (via Dese), Addis Assab (via Nazareth, Awash), Addis to Massawa (via Dese), Addis to Asmara (via Debre Markos, Gondar), Addis to Bonga, Addis to Hosaina, Addis to Gidole (via Shashamane), Addis to Yabelo (via Shashamane), Addis to Nazareth and Addis to Asela (via Nazareth), Jigjiga to Degeh Bur, Dire Dawa to Dewele (Djibouti border).

East - West - Addis to Gimbi (via Leketli), Addis to Jigjiga (via Nazareth and Harar), Addis to Dire Dawa (via Nazareth), Tessenet to Massawa (via Keren), Shashamane to Goba.

\* Note - road transportation from Assab disrupted by dissident groups in areas around Djibouti in 1976; road tankers and trucks destroyed, bridges out. Road from Assab now kept open by Dergue forces.

### All Weather Roads by Maintenance District 1973/74 in kms

<u>Gravel</u>	<u>Asphalt</u>	<u>Surface-To-Traffic</u>	<u>Total</u>
1,001	993	90	2,084 Alemgena
397	565	--	962 Combolcha
846	180	--	1,026 Shashamane
572	241	160	973 Dire Dawa
535	15	30	578 Gondar
365	--	--	365 Debre Markos
525	173	--	698 Jimma
333	566	--	899 Asmara
555	37	--	592 Adigrat
5,127	2,770	280	8,177 Total

## Vehicles

### Issued, Number by Type 1973/74

Private Cars	5,683
Addis Ababa	1,390
Asmara	3,365
Gas Engine Trucks	1,273
Addis Ababa	179
Asmara	883
Diesel Engine Trucks	1,220
Addis Ababa	107
Asmara	777
Motorcycles	307
Addis Ababa	17
Asmara	201
Tractors	12
Addis Ababa	2

1972: 55,350 automobiles, trucks, buses

## Transport Agencies

National Transport Corporation (NATRACOR) main Dergue agency for coordinating road transport. All formerly private truckers now made associate members of NATRACOR. Maximum and minimum freight rates established by autonomous Road Transport Authority.

## Road Equipment

Recent inventory conducted by Louis Berger International of Ethiopian Road Authority equipment (approximately 600 pieces). Conclusions: operational status of equipment varies daily; many items not operational for several years; rebuild kits necessary for re-mobilization of latter; odometers frequently broken or unreliable, hence a poor measure of equipment condition; spare parts procurement should be done according to project priorities; repair of existing equipment not feasible in Arussi, Gojam, Kefa, Sidamo, Tigre and Wollo provinces.

In Kilometers

	Ad	Am	As	Ds	Go	Ha	Jg	Jm	Ma	Na	Te
Addis	-	1076	861	397	748	523	628	335	1166	99	1432
Asmara	1076	-	1189	679	529	1599	1704	1411	115	1175	356
Assab	861	1189	-	510	1469	1384	1489	1196	1279	960	1545
Dessie	397	679	510	-	959	920	1025	732	769	496	1035
Gondar	748	529	1469	959	-	1271	1376	1083	644	847	885
Harrar	523	1599	1384	920	1271	-	105	858	1689	424	1955
Jigjiga	628	1704	1489	1025	1376	105	-	963	1794	529	2060
Jimma	335	1411	1196	732	1083	858	963	-	1501	434	1767
Massawa	1166	115	1279	769	644	1689	1794	1501	-	1265	471
Nazareth	99	1175	960	496	847	424	529	434	1265	-	1531
Tessenei	1432	356	1545	1035	885	1955	2060	1767	471	1531	-

Ad: Addis	Go: Gondar	Ma: Massawa
Am: Asmara	Ha: Harrar	Na: Nazareth
As: Assab	Jg: Jigjiga	Te: Tessenei
Ds: Dessie	Jm: Jimma	

Railroads

Two independent railway lines: 1) 790 km single track, meter gauge line joining Addis Ababa to port of Djibouti; run by Franco-Ethiopian Railway. 2) 306 km single track, narrow gauge line joining Massawa with Asmara and Agordat (in Eritrea). Improved port facilities at Assab, new road links to Addis, contribute to declining RR traffic.

Railroad Agencies

Franco-Ethiopian Railway (Addis Ababa) and Northern Ethiopian Railways Share Co. (Massawa). POB 1051, Addis Ababa; F 1908.

Ports

Port of Assab presently Ethiopia's only effective access to sea; operates well below theoretical capacity of 1 million dry tons of car-

go per year\*. Handled 620,000 tons in 1976, 1/3 one-third of Ethiopia's import/ export tonnage; 350,000 tons first 6 months of 1977. Port is 860 km from Addis; imports distributed entirely by 1,500 trucks (approx.) with an average capacity of 22 MT each; capable of one round trip per week. Port of Massawa on Red Sea 114 km from Asmara and 1,195 km from Addis Ababa on all-weather road. Port of Djibouti is 715 km from Addis Ababa.

\* Note - Average import capacity for all three ports unlikely to exceed 100,000 MT.

#### Assab

Lat 13 1' N; long 42 44' E.

Accommodation - breakwater, 711 m long, gives protection to ships in harbor. Good anchorage in 7-8 fms. Two jetties, north half and south half, also piers for small vessels. Three warehouses, each with about 4,800 sq m storage area; cold storage plant. Fresh water and provisions available.

Ore and bulk cargo terminal facilities - no special terminal, but bulk cargo can be discharged at commercial harbor.

Tanker terminals - available. 36 ft draft.

Bunkers - available in unlimited quantity with connection at any berth. Fuel oil and marine diesel oil from mobil. No coal available.

Shiprepairs - minor repairs from local garages.

Towage - not available.

Pilotage - compulsory for all vessels over 100 nrt (except exempted vessels). Pilots board vessels 1 1/2 miles NNE from breakwater and disembark at commercial harbor or at the oil harbor.

Airport - 17 km from port.

Working hours - 06:00 to 14:00, 22 hours on a shift basis.

Massawa

Lat 15 38'N; long 39 28' E.

Accommodation - channel forms harbor well protected and enclosed by peninsula islands. Depth at anchorage, 80 to 100 ft; at entrance 39 ft. HW, 36 ft. LW. No bar. Buoys marking entrance. Six quays (maximum drafts 29 ft): no. 1, length 587 ft; no. 2 length 492 ft; no. 3 length 448 ft; no. 4 length 448 ft; no. 5 length 448 ft; no. 6 length 559 ft. Warehouse and shed facilities total 12,249 sq m; Agip sea terminal length 620 ft, depth 29 ft 6 in. Discharge direct to quay. Provisions available, but no fresh water.

Bunkers - all kinds from Agip, Shell, Total, Mobil, at sea terminal or by truck inside commercial harbor. Fuel by pipeline inside commercial harbor at quay nos. 5 and 6. Only black products.

Shiprepairs - minor repairs; slipway for vessels up to 300 tons gross.

Towage - three tugs available for assistance. Two of 350 hp each and one of 1,000 hp. One tug compulsory, 300 nrt or more.

Pilotage - compulsory for vessels of more than 100 nrt each.

Airport - 6 km from port Massawa to Asmara.

Working hours - from April 1 to October 31, 08:00 to 12:00; 15:00 to 18:00 20:00 to 06:00. From November 1 to March 31, 08:00 to 12:00; 14:00 to 18:00; 20:00 to 06:00.

## Port Djibouti

### Djibouti:

Lat 11° 36' 17.5" N; long 43° 7' 56" E. Principal port for transit trade to and from Ethiopia.

Accommodation - vessels may enter the harbor and berth alongside quays either by day or night. Eleven berths available of which four (nos. 9, 10, 11, and 12) are for bunkering purposes.

	<u>Length</u>	<u>Depth</u>		<u>Length</u>	<u>Depth</u>
Quay No. 1	180 m	31 ft 2 in	Quay No. 8	202 m	31 ft
Quay No. 2	220 m	39 ft 4 in	Quay No. 9	200 m	27 ft
Quay No. 5	230 m	24 ft	Quay No. 10	270 m	36 ft
Quay No. 6	170 m	26 ft	Quay No. 11	170 m	36 ft
Quay No. 6/7	93 m	26 ft	Quay No. 12	270 m	39 ft 4 in
Quay No. 7	170 m	26 ft	Quay No. 13	210 m	32 ft

Anchorage - good holding ground for 12 to 15 ocean going vessels; minimum depth 40 ft.

Development - the rebuilding of quays 3 and 4 and the possibility of a new floating dock, now under discussion.

Tanker Terminals - ten berths. Lengths 500 ft to 900 ft. Drafts 27 ft 3 in to 36 ft 6 in. Night berthing possible. Water and bunkers available.

Bunkers - fuel and diesel oil Soc. Anon Des Petroles De Djibouti (Shell and BP), Total Mer Rouge, Mobil Oil East Africa Ltd, Soc. Anonyme Des Petroles Mory (Mory), Esso Standard.

Towage - one tug of 600 hp, one of 1,320 hp and one tug of 1,500 hp. Two tugs only on duty at the same time.

Local Holidays - Aid El Fathr, Aid El Kebir, Mohammedan New Year (El Mouharam), Mouloud El Nabi.

## Shipping Companies

Irregular services by foreign vessels to Massawa and Assab (Port for Addis Ababa). Much trade goes through Djibouti to Addis Ababa.

A Besse and Co. (Ethiopia) SC:  
POB 1897, Addis Ababa

Filii Biga and Co. SC:  
Head Office: POB 1108 Asmara; f 1965 as a subsidiary of SCAC/  
SOCOPAO (France); branches at Addis Ababa, Massawa  
and Djibouti.

Ethiopian Shipping Lines SC:  
POB 2572, Addis Ababa; f 1964; liner services Red Sea-Europe; 4  
vessels.

Gellatly, Hankey and Co. (Ethiopia) SC:  
POB 906 Asmara; BRS at Addis Ababa, Massawa, Assab and Dire Dawa.

Cie Maritime Auxiliaire D'outre-Mer:  
POB 1230, Addis Ababa

Mitchell Cotts and Co. (ethiopia) Ltd.;  
POB 527, Addis Ababa; f 1960 BRS at Asmara, Massawa, etc.

Fili de Nadai:  
POB 731 Asmara

S A Navigatana:  
POB 1161, Asmara

Savon and Ries (Ethiopian Shipping) Co.:  
POB 215, Asmara

## Aerodromes

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

33 airfields: major ones follow:

Runway Characteristics

Location:	Eleva- tion: M/	<u>Runway Characteristics</u>			Aircraft Strength:	Fuel
Coordinates:	Temp: C	NR/Type:	Slope: %	Aircraft Length: M	CL	Octane:

Addis Ababa/

Haile Selassie Intl (Haab), 5SE, Reg-S

08°58'33" N	2324	07/25	0.29	3700	A	AUW 120	80/87, JP-1
038°55' E	20					LCN86H70 130	100/130, 115/145 JP-4

Remarks: Alternate Aerodromes:--Aden/Intl, Asmara, Yohannes IV, Djibouti/Ambouli, Khartoum, Mogadiscio/Mogadiscio, Nairobi/Nairobi. Operates 0200-2000 GMT and on request. Mountains NW&N. Request 115/145 fuel 24 hrs in advance. Lighting reliable.

Aids: ILS; Runway 25 Class II, DME, VOR, RE, PA Runway 25 Class II, SA Runway 7, VA Runway 7, LR, LTD, LC, LTR, LD, D, MC, T, TD, S, FD, MTX, MD, NB(5, 6, 7, 8, 10), S3, S4, S5, R, H, Stopway Runway 7-25=60.

Runway Characteristics

Location:	Eleva- tion: M/	<u>Runway Characteristics</u>			Aircraft Strength:	Fuel
Coordinates:	Temp: C	NR/Type:	Slope: %	Aircraft Length: M	CL	Octane:

Asmara/

Yohannes IV (Haas), 3.5SSW, Reg-S

15°18' N	2325	07/25	0.33	3000	B	LCN50H44	80/87
038° 55' E	23					64 AUW: 86	100/130, 115-145

Remarks: Alternate Aerodromes:--Addis Ababa/Haile Selassie Intl, Djibouti/Ambouli, Jeddah Intl, Khartoum/Khartoum, Mogadiscio/Mogadiscio. Operates 0300-1500 Z and on request. Request 115/145 fuel 12 hrs in advance. Lighting reliable.

Aids: DME, VOR, RL, PA Runway 7 Class I, VA Runway 7, LR, LTX, BB, LO, D, MG, T, S, FD, MTX, MD, H, R, B, NB(5, 6, 7, 8, 10) Stopway 7-10, 25=60.

Runway Characteristics

<u>Location</u> <u>Coordinates</u>	<u>Eleva- tion M/ Temp C</u>	<u>Nr/Type</u>	<u>Slope</u> <u>%</u>	<u>Aircraft</u> <u>Length M</u>	<u>CL</u>	<u>Aircraft</u> <u>Strength</u> <u>(1000 kg)</u>	<u>Fuel</u> <u>Octane</u>
Assab/ Assab Reg - S							
13'04" N 042'38" E	14 35	13/31	0.36	1306	C	LCN 20	

Remarks: Alternate Aerodromes - Dire Dawa/ Abatena, Dejazmatch Yilma, Djibouti/Ambouli. New Aerodrome.

Runway Characteristics

<u>Location</u> <u>Coordinates</u>	<u>Eleva- tion M/ Temp C</u>	<u>Nr/Type</u>	<u>Slope</u> <u>%</u>	<u>Aircraft</u> <u>Length M</u>	<u>CL</u>	<u>Aircraft</u> <u>Strength</u> <u>(1000 kg)</u>	<u>Fuel</u> <u>Octane</u>
Dire Dawa/ Aba Tenna Dejazmatch Yilma (Hadr), Adj N, Reg-S							
09'38" N 041'52" E	14 35	15/33	1.86	2200	C	LCN30H29	80/87, JP-4 100/130

Remarks: Alternate Aerodromes - Addis Ababa/Haile Selassie 1st, Djibouti/Ambouli.

Aids: RL, LR, LTX, LD, D, MC, T, S, ED, TX, MO. Operates 0300-1500 Z.

Key

Radio Aids

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

Lighting Aids

PA - Precision Approach Lighting System  
SA - Simple Approach Lighting System  
VA - Visual Approach Slope Indicator System

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

#### Marking Aids

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

#### Key

#### Additional Lighting Aids

1. Portable Runway Lights (Electrical)
  2. Boundary Lights
  3. Runway Flood Lights
  4. Low Intensity Runway Lights
  5. Low Intensity Approach Lights
  6. High Intensity Runway Lights
  7. High Intensity Approach Lights
  8. Sequenced Flashing Lights
  9. Visual Approach Slope Indicator (VASI)
- (an asterisk (\*) preceding the element (\*L4) indicates lighting available on prior request by phone, telegram, etc.)

#### Personal and Aircraft Entry Requirements

Passport: required

Visa: Issued at any Ethiopian Embassy or consulate and also at Addis Ababa and Asmara Aerodromes of entry to per-

sons staying less than 30 days or in transit. 30-day extensions may be obtained.

Health: smallpox and yellow fever certificate required. Cholera certificate required for all arrivals (for infants under 1 year a letter from a recognized health authority may be accepted in lieu of cholera certificate. It should state that vaccination should not be given due to high risk with young child.)

### Aircraft

Authorization for landing for overflight or all civil aircraft must be requested from Civil Aviation Administration (CAA), PO Box 978, Addis Ababa.

Authorization for landing or overflight of all state aircraft must be requested through diplomatic channels from the ministry of foreign affairs.

Clearance requests must include: type of aircraft; name of the pilot, crew, and passengers; citizenship; owner of aircraft; registration number; route of entry/exit by coordinates; purpose of flight and complete itinerary.

Telegraphic clearance requests must arrive at CAA 5 work days before scheduled departure and with a prepaid telegraphic reply. Requests submitted by mail must arrive at CAA 7 work days before departure.

### Airlines

Ethiopian Airlines: Haille Selassie I Airport POB 1755, Addis Ababa; operates regular domestic and international services; fleet of five Boeing 720 B, Two DC-6B, One DC-6A, five light aircraft and a developing helicopter fleet.

Air Djibouti, Air France, Air India, Alitalia, British Airways, EAAC, Egypt Air, Lufthansa, Sudan Airways and Saudi Arabian Airlines serve Addis Ababa; Saudi and Yemen Airways serve Asmara only.

Air Distances

In Statute Miles

Addis Ababa to:

Aden	499	Gondar	262
Arbamintch	216	Gure	299
Assab	384	Hosana	118
Asmara	436	Jeddah	864
Athens	2,207	Jimma	164
Bahardar	203	Juba	570
Beirut	1,728	Khartoum	622
Bujumbura	1,071	Makale	314
Cairo	1,536	Malaka	318
Damascus	1,693	Malarbit	462
Danghila	203	Mogadiscio	657
Dar-Es-Salaam	1,100	Mombasa	900
Debra Markos	117	Nairobi	723
Dessie	157	Port Sudan	740
Dire Dawa	214	Riyan	812
Djibouti	345	Taiz	470
Entebbe	757	Tel Aviv	
Goba	157		

## Electric Power

306,000 kw installed capacity, 1974 25 kwh per capita. 1973/74 hydroelectric capacity of 206,784 kw, thermal-68,435. Hydroelectric generating facilities in Aba Samuel, Addis Ababa, Awash I (Koka), Awash II (Nazreth II), Awash II, Bahar Dar, Debre Birhan, Debre Markos, Dambidollo, Derso, Ghion, Hagere Hiwot, Jimma. Thermal generating facilities in 43 locations. Total production 1973/74 in ('000) kwh: 413,196; hydro - 282,935; thermal 130,261. Great power potential.

## Telecommunications

Telecommunications Services of Ethiopia (TSE), autonomous, state-owned; responsible for all public, national, international telecommunication services in the country, and for transmission components of the national radio broadcasting system.

## Radio Network

Radio Ethiopia: POB 1020, Addis Ababa; broadcasts in Amharic, Afar, Arabic, Somali, English and French. From Addis, 50% of broadcasts in Amharic, 16% in English. From Asmara studio, broadcasts in Tigre and Tigrinya; from Harar studio in Oromo. Total listening audience 9.6 million.

Radio Voice of the Gospel: POB 654, Addis Ababa; Lutheran World Federation Broadcasting Service; medium-wave local services; short-wave services in thirteen languages to Asia, the middle East Africa and Madagascar; Amharic, English and French most important broadcast languages.

## Telephone Network

Long distance and telegraph service to large towns, many African countries; to US and most European nations. 54,500 telephones: 90% in major cities (Addis, Asmara, Dire Dawa); good accessibility to local service.

(All figures at December 31 or for whole year, ending on same date)

	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>
<u>Telephone System</u>				
Exchange capacity lines	63,630	67,470	68,455	70,210
% automatic	82	81	81	81
Main lines in service	39,062	43,986	48,188	50,670
Telephones in service	54,483	60,788	65,685	68,879
Waiters			2,100 <sup>a/</sup>	
Public coinbox telephones	328	421	509	517
Local + LD calls (millions)	82.1	102.2	126.0	160.1
National out-calls (thousands)	36.4	48.7	54.5	66.3

## Telex System

Exchange capacity lines	334	334	334	543
Subscribers	220	261	277	277
Inland messages (thousands)	33.5	39.0	36.1	27.5
National out messages (thousands)	49.3	71.8	81.3	81.2

## Telegraph System

Telegraph offices	13	13	13	13
Inland messages (thousands)	108.3	115.2	109.6	131.7
National out messages (thousands)	116.0	122.9	111.8	86.2

a/ June 1974

## Growth of Connected Lines and Phones

<u>Ethiopia</u>	<u>Lines</u>	<u>Growth %</u>	<u>Phones</u>	<u>Growth %</u>
1974	48,203	9.6	66,060	8.7
1975	50,962	5.7	68,894	4.3

<u>Addis Ababa</u>	<u>Lines</u>	<u>Growth %</u>	<u>Phones</u>	<u>Growth %</u>
1974	28,865	9.5	42,272	8.2
1975	30,093	4.3	43,923	3.9
<u>Asmara</u>				
1974	6,687	9.6	8,809	7.1
1975	7,163	8.0	9,277	5.3

June 2, 1976

### Television

20,000 sets in Addis Ababa; 2 stations. Service started 1964. A few sets for communal viewing installed in city squares, parks, hotels, public places. Weekly, 2 1/2 hours educational programming for Addis Ababa schools. In Asmara, closed circuit service with 1,000 receivers for US armed forces.

Ethiopian Television Service: POB 1020, Addis Ababa; operated by the government; equally divided between Amharic and English broadcasts.

## Checklist

Reports of widespread political detention and torture of "counter-revolutionaries" as part of so called "Red Terror" campaign. Reprisal killings by Dergue for Eritrean successes said to be common. Unsafe to travel in Eritrea, parts of Tigre and Wollo, West Gondar, and isolated pockets of southern Ogaden region. In Dec. 1978, Ethiopian troops captured Keren, stronghold of Eritrean guerrillas, and road from Massawa to Asmara reopened. The EPLF will probably revert to hit and run guerrilla tactics used earlier in war.

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