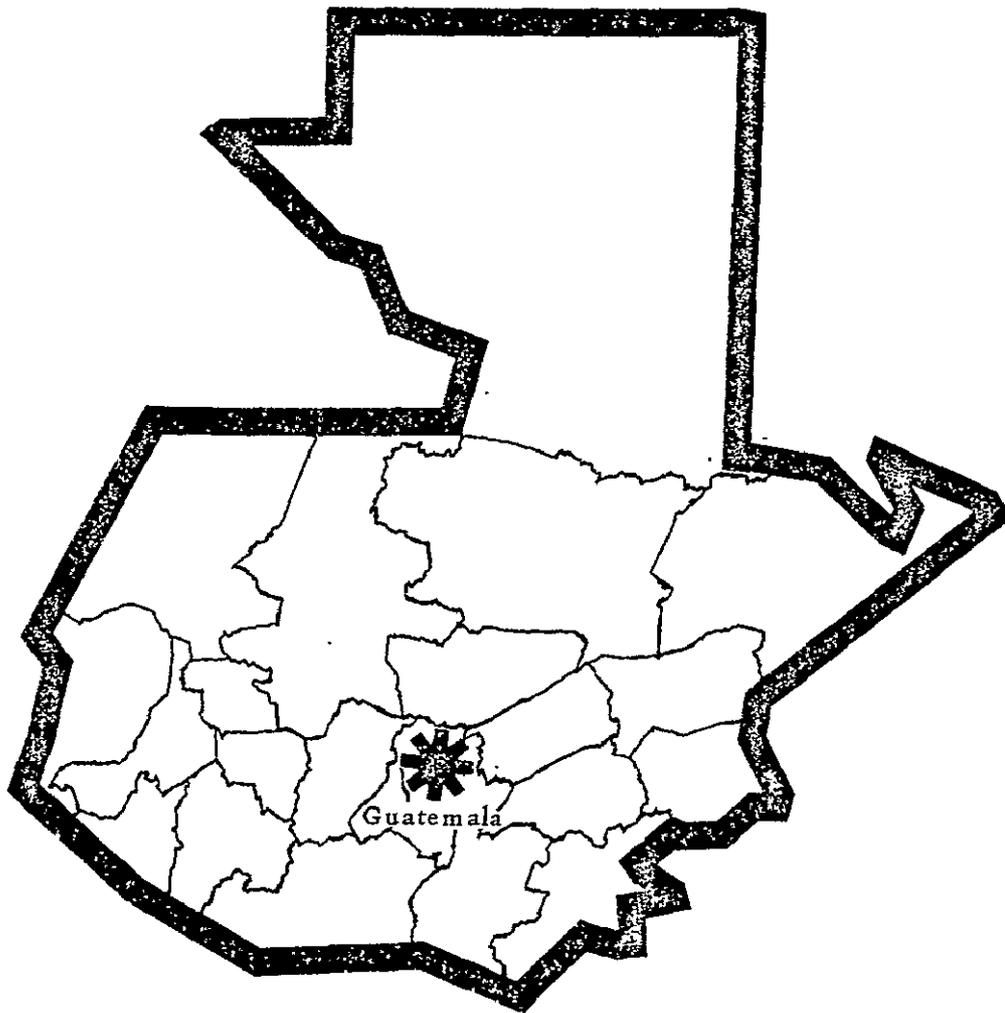


Guatemala

A Country Profile



November 1978

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

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502473 1-76 (541403)
 Lambert Conformal Projection
 Standard parallels 9°20' and 14°40'
 Scale 1:2,800,000

Boundary representation is
 not necessarily authoritative

-  Railroad
-  Road
-  Airport

GUATEMALA: 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-otr-C-1553

The profile on Guatemala is one in a series designed to provide base-line 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.

November 1978

OFDA COUNTRY PROFILES: APRIL 1979

AFRICA

Angola**
Cape Verde
Chad
Djibouti
Ethiopia
Madagascar
Mali
Mauritania
Niger*
Sahel Transportation Survey
Senegal
Somalia
Upper Volta
Zaire

ASIA

Afghanistan
Bangladesh
Burma
India
Indonesia
Malaysia
Nepal
Pakistan
Philippines

CARIBBEAN

CARICOM Regional Profile
Dominican Republic
Haiti

LATIN AMERICA

Bolivia
Brazil
Chile
Ecuador
Guatemala
Honduras
Nicaragua
Peru

NEAR EAST

Lebanon**
Turkey

SOUTH PACIFIC

Fiji
Tonga
Western Samoa

* in preparation

** out of print

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GEOGRAPHIC CODES

AID	520
STATE REGION	ARA
FIPS	GT

COUNTRY NAMES

LEGAL	REPUBLIC OF GUATEMALA
SHORT	GUATEMALA
LOCAL	REPUBLICA DE GUATEMALA

ETHNIC AND SOCIAL GROUPS

TWO DISTINCT ETHNIC TYPES: LADINO AND INDIAN; AFFILIATION OF INDIVIDUAL DEPENDS MORE ON CULTURAL BEHAVIOR THAN ON PHYSICAL TYPE. LADINO RACIAL MAKE-UP MAY VARY FROM EUROPEAN THROUGH MESTIZO TO, PARTICULARLY IN SOME RURAL AREAS, INDIAN; 1950 AND 1964 CENSUSES DESIGNATED AS LADINO ALL PEOPLE NOT CULTURALLY INDIAN, INCLUDING BLACKS AND ASIANS. LADINO CULTURE HISPANIC: SPANISH IS PRIMARY LANGUAGE; WELL-DEFINED CLASS STRUCTURE IS BASED ON DESCENT AND WEALTH; WESTERN FAMILY (NUCLEAR) AND COMMUNITY STRUCTURE, RELIGIOUS OBSERVANCE (SECULAR CATHOLICISM), AND MASS-PRODUCED GOODS ARE PREFERRED; WELFARE OF INDIVIDUAL EMPHASIZED OVER THAT OF COMMUNITY. URBAN ORIENTATION: OCCUPATIONS FALL INTO COMMERCIAL, SERVICE, SEMI-PROFESSIONAL AND PROFESSIONAL CATEGORIES.

IN CONTRAST, INDIAN SOCIAL STRUCTURE IS BASED ON EXTENDED FAMILY AND, IN MANY HIGHLAND COMMUNITIES, A SYSTEM OF RELIGIOUS BROTHERHOODS, COFRADIAS. STATUS DEPENDS ON AGE AND PRESTIGE EARNED THROUGH CONTRIBUTIONS TO COMMUNITY. SPANISH SPOKEN AS SECOND LANGUAGE BY MOST MEN AND SOME WOMEN, BUT LOCAL INDIAN LANGUAGE USED IN HOME.

SUBSISTENCE OR SMALL SCALE, MARKET-ORIENTED FARMING, SUPPLEMENTED BY HANDICRAFTS, IS MAIN SOURCE OF INCOME; EXTENDED FAMILY IS BASIC ECONOMIC UNIT. AGRICULTURAL DAY-LABOR PROVIDES ADDITIONAL INCOME FOR SOME INDIANS; FOR POOREST, IT IS PRIMARY OCCUPATION. SEASONAL MIGRATION TO WORK COMMERCIAL FARMS OF SOUTH COAST INCREASING; AN ESTIMATED 500,000 LABORERS, MOST FROM WESTERN HIGHLANDS, ARE EMPLOYED THERE.

THE 43% OF POPULATION CLASSED AS INDIAN (OR, PREFERABLY, INDIGENOUS) LIVE IN SMALL RURAL VILLAGES. INDIANS PREDOMINATE IN WESTERN AND CENTRAL HIGHLANDS, LADINOS IN THE CAPITAL AREA, THE EASTERN DESERT AND ON THE CARIBBEAN AND SOUTH (PACIFIC) COASTS. LADINO ELITES TRADITIONALLY CONTROL ECONOMIC, SOCIAL AND RELIGIOUS AFFAIRS, THOUGH COMING OF TOWNSHIP GOVERNMENT ELECTIONS HAS DIMINISHED THEIR LOCAL POLITICAL POWER. LADINIZATION, MIGRATION TO URBAN AREAS AND ADOPTION OF SPANISH LANGUAGE AND CULTURE BY INDIANS, INCREASING IN RECENT YEARS, PROVIDES PRIMARY ROUTE OF UPWARD MOBILITY FOR INDIAN.

SMALL NUMBERS OF BLACKS AND CARIB INDIANS, WHOSE CULTURAL AFFINITIES ARE WITH CARIBBEAN RATHER THAN CENTRAL AMERICA, LIVE IN ATLANTIC COASTAL AREAS.

LANGUAGES

SPANISH, THE OFFICIAL LANGUAGE, IS USED IN GOVERNMENT, EDUCATION, COMMERCE. 12-20 INDIGENOUS LANGUAGES AND/OR DIALECTS, MOST BELONGING TO MAYA LANGUAGE FAMILY, ARE PRIMARY LANGUAGES OF UNACCULTURATED INDIANS. RELATIVE ISOLATION OF INDIAN GROUPS HAS PERPETUATED SIGNIFICANT DIFFERENCES IN LOCAL LANGUAGES AND CUSTOMS.

OVERALL LITERACY RATE IS ABOUT 50%, BUT RECENT SURVEYS INDICATE THAT AS MUCH AS 82% OF POPULATION OF INDIGENOUS ORIGIN MAY BE ILLITERATE; LITERACY IN RURAL AREAS, 31%, IS LESS THAN HALF THAT IN CITIES, 70%. INDIAN MEN ARE OFTEN FLUENT (THOUGH ILLITERATE) IN SPANISH; INDIAN WOMEN AND CHILDREN MARKEDLY LESS SO.

RELIGIONS

90% OF POPULATION ROMAN CATHOLIC. LADINO CATHOLICISM CONFORMS TO SPANISH MODEL, BUT INDIAN RITES COMBINE CATHOLIC AND MAYAN ELEMENTS. CHRISTIAN DEITIES AND SAINTS ARE IDENTIFIED WITH AND ASSUME ATTRIBUTES OF THEIR MAYAN COUNTERPARTS; PRE-COLUMBIAN RITUALS WERE ADAPTED TO INCLUDE APPROPRIATE SAINTS. RELIGIOUS BROTHERHOODS (COFRADIAS) ARE IMPORTANT IN COMMUNITY STRUCTURE AND ACTIVITIES IN MOST MAYAN GROUPS.

PROTESTANT SECTS INCLUDE: ASSEMBLIES OF GOD, CENTRAL AMERICAN MISSION, EVANGELICAL PRESBYTERIAN CHURCH, CHURCH OF GOD, FRIENDS, CHURCH OF THE NAZARENE AND SOUTHERN BAPTISTS CONVENTION.

OFFICIAL HOLIDAYS

SEPTEMBER 15 INDEPENDENCE DAY
AUGUST 15 (GUATEMALA CITY ONLY)
OCTOBER 12 COLUMBUS DAY
OCTOBER 20 REVOLUTION DAY
NOVEMBER 1 ALL SAINTS DAY
DECEMBER 24 & 25 CHRISTMAS
JANUARY 1 NEW YEAR'S DAY
EASTER
HOLY THURSDAY
FRIDAY, SATURDAY, SUNDAY
MAY 1 LABOR DAY
JUNE 30 ANNIVERSARY OF THE REVOLUTION
JULY 1 BANK EMPLOYEES DAY (1975)

CURRENCY EXCHANGE RATE

100 CENTAVOS = 1 QUETZAL
1 US DOLLAR = 1.00 QUETZAL (MAY 1978)

HOST MISSION IN USA

CHANCERY: 2220 R ST, NW
WASHINGTON, DC 20008

TELEPHONE: 332-2865-2866

STAFF:

AMBASSADOR.....FELIPE MONTERROSO
MINISTER COUNSELOR.....NORMA J. VASQUEZ
COUNSELOR.....STELLA A. GEORGE
COUNSELOR.....MARIA Z. LANDIS
DEFENSE, MILITARY,
AIR & NAVAL ATTACHE.....COLONEL RICARDO A. PONS
COUNSELOR FOR COMMERCIAL
AND TECHNICAL
ASSISTANCE.....DR. CESAR A. ORANTES

US MISSION TO GUATEMALA

EMBASSY

ADDRESS: 7-01 AVENIDA DE LA REFORMA, ZONE 10
APO MIAMI 34024
PHONE: 31-15-41

STAFF:

AMB.....(VACANCY)
CHG.....JOHN T. BENNETT
ECO/ COM.....EUGENE J. SCHREIBER
COM.....ROBERT W. MILLER
POL.....ARNOLD M. ISAACS
LAB.....RICHARD F. KING
CON.....RAYMOND M. BAILEY
ADM.....RICHARD C. ANDRE
RSO.....GARY D. SCHATZ
AGR.....HARRY C. BRYAN
AID.....ELISEO CARRASCO (ACTING)
PAO.....JACK W. GALLAGHER
ROCAP.....HARRY ACKERMAN

US PRESENCE

	1975
OFFICIAL TOTAL*	12,997
US GOVT PSNL (NOT DOD)	256
MILITARY ATTACHES, ADVISORY GROUP AND OTHER DOD ELEMENTS IN DIP MISSIONS	34
MIL FORCES (INCL CIVS)	0
PEACE CORPS	105
OTHER (INCL INDIRECT CONTRACT WORKERS)	300
DEPENDENTS	302
EST PRIVATE TOTAL	10,500
RESIDENT BUSINESSMEN	2,350
STUDENTS	100
MISSIONARIES/ CLERGY	600
DEPENDENTS OF ABOVE	6,300
OTHERS	1,150

*INCLUDES TOURISTS.

TREATIES AND AGREEMENTS

MULTILATERAL TREATIES AND MEMBERSHIP IN INTERNATIONAL ORGANIZATIONS:

ORGANIZATION OF AMERICAN STATES
INTER-AMERICAN DEVELOPMENT BANK
INTER-AMERICAN INSTITUTE FOR AGRICULTURAL SCIENCES
INTER-AMERICAN INDIAN INSTITUTE
UNITED NATIONS
EACH OF THE UN-RELATED AGENCIES EXCEPT THE INTER-GOVERNMENTAL MARITIME CONSULTATIVE ORGANIZATION, INTERNATIONAL TELECOMMUNICATIONS SATELLITE CONSORTIUM (INTELSAT)

KEY MULTILATERAL TREATIES:

INTER-AMERICAN TREATY OF RECIPROCAL ASSISTANCE
(RIO PACT), 1948
ADDITIONAL PROTOCOL II TO THE TREATY FOR THE PROHIBITION OF NUCLEAR WEAPONS IN LATIN AMERICA (TREATY TLA TELOLCO)
GENERAL TREATY OF CENTRAL AMERICAN ECONOMIC INTEGRATION, 1961
CHARTER OF THE ORGANIZATION OF CENTRAL AMERICAN STATES (ODEBA)

OTHER MULTILATERAL TREATIES:

SINGLE CONVENTION ON NARCOTIC DRUGS, 1961
INTERNATIONAL AIR SERVICES TRANSIT AGREEMENT, 1944
INTERNATIONAL COFFEE AGREEMENT, 1968
CONVENTION ON NATURE PROTECTION AND WILDLIFE PRESERVATION IN THE WESTERN HEMISPHERE, 1952
UNIVERSAL COPYRIGHT CONVENTION, 1952
GENEVA CONVENTIONS ON THE LAW OF THE SEA, 1958:
CONVENTION ON THE HIGH SEAS
CONVENTION ON THE CONTINENTAL SHELF

WITH US:

GENERAL AGREEMENT FOR ECONOMIC AND TECHNICAL COOPERATION, 1954
DEVELOPMENT ASSISTANCE AGREEMENT, 1954
EXTRADITION TREATY, 1903; SUPPLEMENTARY CONVENTION, 1940
AGREEMENTS RELATING TO CONSTRUCTION OF THE INTER-AMERICAN HIGHWAY, 1943, AS AMENDED IN 1963
AGREEMENT REGARDING INVESTMENT GUARANTIES, 1962
PEACE CORPS AGREEMENT, 1962
CONVENTION ON TENURE AND DISPOSITION OF REAL AND PERSONAL PROPERTY, 1901

REGIONAL MILITARY AGREEMENT:

AGREEMENT ON THE ESTABLISHMENT OF THE CENTRAL AMERICAN DEFENSE
COUNCIL

WITH US:

MILITARY ASSISTANCE AGREEMENT, 1955
AGREEMENT ON THE STATUS OF THE ARMY AND AIR FORCE MISSIONS TO
GUATEMALA, 1965
MILITARY AIR TRANSIT AGREEMENT, 1949

TRAVEL AND VISA INFORMATION

VISA (NO CHARGE) OR TOURIST CARD (\$1.00) VALID FOR 6 MONTHS.
OBTAINED FROM CONSULATES OR FROM AIRLINES SERVING GUATEMALA.

HEALTH

SMALLPOX CERTIFICATE REQUIRED IF ARRIVING FROM INFECTED AREA OR
ARRIVING FROM ETHIOPIA WITHIN PRECEDING 14 DAYS.

TIME ZONES

EST - 1, GMT - 6

NATIONAL GOVERNMENT

POLITICAL POWER TRADITIONALLY PERSONAL RATHER THAN INSTITUTIONAL.
1965 CONSTITUTION ESTABLISHING UNITARY REPUBLIC STILL IN EFFECT.
PRESIDENT ELECTED TO 4-YEAR NON-RENEWABLE TERM BY DIRECT VOTE, NAMES
AND PRESIDES OVER COUNCIL OF MINISTERS, IS COMMANDER IN CHIEF OF ARMED
FORCES. SUCCESSFUL PRESIDENTIAL CANDIDATES OFTEN BACKED BY MILITARY;

FRAUD NOT UNKNOWN IN PRESIDENTIAL ELECTIONS. UNICAMERAL LEGISLATURE OF 60 MEMBERS WHO ALSO SERVE 4 YEAR NON-RENEWABLE TERMS. SUPREME COURT JUDGES, THEMSELVES SELECTED BY CONGRESS, NAME LOWER COURT JUDGES.

REGIONAL ORGANIZATION

22 ADMINISTRATIVE DEPARTMENTS ARE HEADED BY GOVERNORS APPOINTED BY PRESIDENT. DEPARTMENTS ARE DIVIDED INTO 326 MUNICIPALITIES UNDER ELECTED MAYORS.

KEY LEADERS (AUGUST 1979)

PRESIDENT.....LUCAS GARCIA, FERNANDO ROMEO,
MAJ. GEN.
VICE PRESIDENT.....VILLAGRAN KRAMER, FRANCISCO
MIN. OF AGRICULTURE.....PONCIANO CASTILLO, EDGAR
MIN. OF COMMUNICATIONS & PUBLIC
WORKS.....BLOCK, KAUFMANN, OTTO ARNOLDO
MIN. OF ECONOMY.....SOLORZANO FERNANDEZ, VALENTIN
MIN. OF FINANCE.....BUCARO GARCIA, HUGO TULIO, COL.
MIN. OF FOREIGN RELATIONS.....CASTILLO VALDEZ, RAFAEL EDUARDO
MIN. OF GOVERNMENT & INTERIOR.....ALVAREZ RUIZ, DONALDO
MIN. OF LABOR & SOCIAL PLANNING.....ALARCON MONSANTO, CARLOS
MIN. OF NATL. DEFENSE.....SPIEGELER NORIEGA, OTTO G., MAJ.
GEN.
MIN. OF PUBLIC EDUCATION.....CASTILLO CORONADO, CLEMENTINO,
COL.
MIN. OF PUBLIC HEALTH & SOCIAL
ASSISTANCE.....RECINOS MENDEZ, ROQUELINO, DR.

1979 STATUS REPORT

RIGHT-WING PARAMILITARY GROUPS, SUPPORTED BY SOME SECTORS OF THE ARMY, HAVE BEGUN ASSASSINATING LABOR AND LEFT-WING OPPOSITION LEADERS IN HOPES OF CRUSHING THE SO-CALLED GUERRILLA ARMY OF THE POOR, ACTIVE IN WESTERN NORTHERN TRANSVERSAL STRIP.

HOST DISASTER PLAN

NATIONAL EMERGENCY COMMITTEE LOCATED AT AIRPORT (TEL. 62003; 62716). MINISTER OF NATIONAL DEFENSE CHAIRS EMERGENCY COMMITTEE, APPOINTS GENERAL COORDINATOR RESPONSIBLE FOR ALL EMERGENCY RELIEF DISTRIBUTION AND FOR DIRECTION OF ALL NATIONAL, INTERNATIONAL VOLAGS. FOLLOWS STANDARD PROCEDURE: ADVANCE WARNING, REFUGE FOR VICTIMS, COMMUNICATIONS, EVACUATION, RESTORATION OF SERVICES, ADMINISTRATION OF RELIEF.

HOST CONTACTS

GENERAL COORDINATOR: GEN. GUILLERMO ECHEVERRIA VIELMAN
SUB COORDINATOR: CAPT. MAURO JOSE HUMBERTO
FUENTES SORIA. OFFICE TEL: 62003.
HOME TEL: 41133.

US PLAN

AMBASSADOR PRINCIPAL LIAISON BETWEEN USG AND GOG; DETERMINES EXTENT AND TIME OF USG RELIEF ACTIVITIES AFTER FORMAL REQUEST FOR AID FROM GOG. USAID DIRECTOR, WITH SUPPORT OF MDRO AND US TEAM, DIRECTS, MOBILIZES USAID DISASTER ACTIVITIES. A DISASTER RELIEF OPERATIONS CENTER WILL BE ESTABLISHED AT EMBASSY OR AIRPORT; DISPATCHES FIELD INSPECTORS FOR LATEST INFORMATION; UTILIZES AVAILABLE US MILITARY RESOURCES.

US TEAM

MDRO: ARTHUR D. SILVER. ALTERNATE MDRO: GEORGE HILL
CHIEF OF MISSION: AMBASSADOR DAVIS EUGENE BOSTER
MISSION DIRECTOR: FRED W. SCHIECK

A. FOOD AND WATER PREPARING, TREATMENT AND DISTRIBUTION

CARL D. KOONE, USAID
AVENIDA LAS AMERICAS 20-72, ZONA 13
65066

CARLOS CROWE, USAID
22 AVENIDA "A" 0-27, ZONA 15
VISTA HERMOS II
691930

LELAND S. HUNSAKER, USAID
8A. CALLE 0-22, ZONA 9
CASA INTERIOR NO. 3
325095

B. MEDICAL SERVICES

E. CROFT LONG, M.D., USAID
7A. CALLE ORIENTE NO. 12
ANTIGUA GUATEMALA, SACATEPEQUEZ
032-292

C. SHELTER AND SURVIVAL SUPPLIES

ARTHUR D. SILVER, USAID
LA. AVENIDA 8-57, ZONA 10
APARTAMENTO NO. 601

GEORGE A. HILL, USAID
0 CALLE 20-45, ZONA 15
VISTA HERMOSA II
690450

LELAND S. HUNSAKER, USAID
(SEE A. ABOVE)

CARL D. KOONE, USAID
(SEE A. ABOVE)

D. ENGINEERING, SANITATION, ELECTRICAL PROBLEMS, DEBRIS CLEARANCE,

BUILDING INSPECTION AND CONDEMNATION, ROAD AND BRIDGE INSPECTION

AND CLEARANCE

BERNARD E. CONNELLY, USAID
14 CALLE 11-30, ZONA 10
680806

E. COMMUNICATIONS

LELAND S. HUNSAKER, USAID
(SEE A. ABOVE)

RICHARD C. ANDRE, EMB
MARTHA MAXWELL, EMB
AVENIDA LAS AMERICAS 15-49, ZONA 14
680225

F. CONSULAR AFFAIRS

RAYMOND BAILEY, CONS

G. TRANSPORTATION AND LOGISTICS, FUEL, SUPPLIES AND DISTRIBUTION

LELAND S. HUNSAKER, USAID
(SEE A. ABOVE)

MAJOR STERLING J. SOWDEN, MILGP
16 AVENIDA 4-05, ZONA 15
692123

RICHARD C. ANRE, EMB
(SEE E. ABOVE)

H. RESCUE AND RELIEF ASSESSMENTS/OPERATIONS

ARTHUR D. SILVER
(SEE C. ABOVE)

GEORGE A. HILL
(SEE C. ABOVE)

MANUEL C. ZENICK, PC
15 CALLE 2-64, ZONA 10
681002

FREDERICK W. SCHIECK, USAID
5A. AVENIDA 6-17, ZONA 9
61016

AMBASSADOR DAVIS EUGENE BOSTER
20 CALLE 4-30, ZONA 10
682414

I. COORDINATION ACTIVITIES

ARTHUR D. SILVER
(SEE C. ABOVE)

GEORGE A. HILL
(SEE C. ABOVE)

J. SECURITY

GERARD J. LOPEZ, EMB
AVENIDA HINCAPIE 21-63, ZONA 13
66987

LELAND S. HUNSAKER
(SEE A. ABOVE)

MAJOR STERLING J. SOWDEN
(SEE G. ABOVE)

K. MONITORING OVERALL ACTIVITY

FREDERICK W. SCHIECK
(SEE H. ABOVE)

L. ADMINISTRATIVE AND REPORTING

ARTHUR D. SILVER
(SEE C. ABOVE)

GEORGE A. HILL
(SEE C. ABOVE)

M. INFORMATION

JACK GALLAGHER, USIS
8A. CALLE 2-26, ZONA 10
62992

N. CLERICAL AND TYPING

LELAND S. HUNSAKER
(SEE A. ABOVE)

CONTACT LIST

RED CROSS: ALONG WITH GUATEMALA MILITARY WILL CARRY OUT ITS
USUAL RELIEF DUTIES. (REFUGEE CENTERS, FOOD DISTRIBUTION ETC.) GUA-
TEMALAN RED CROSS: 3A CALLE 8-40, ZONA 1, GUATEMALA. CABLE: GUATE-
CRUZ, GUATEMALA. TEL: 24648.

INFORMATION ON THE FOLLOWING CAN BE OBTAINED FROM USAID DISASTER RELIEF PLAN, FY 1978, VOL. ONE: SALVATION ARMY, SEVENTH DAY ADVENTISTS, CEMEC, WORLD VISION, CARE, YMCA, PENNY FOUNDATION, MEDICAL ASSISTANCE PROGRAMS, CHURCH WORLD SERVICE, OXFAM.

OTHER CONTACTS

CARITAS: CIUDAD DE GUATEMALA, 11 AVEN. NO. 31-86, GUATEMALA.
CABLE: GUATECARITAS, GUATEMALA. TEL: 606-24.

CRS: 11 AVENIDA 31-86, ZONA 5, APARTADO POSTAL 739, GUATEMALA CITY. CABLE: CATHWEL GUATEMALA. TELEX: 245 ESTAMAS GU. TEL: 65615.

WCC: JUNTA EVANGELICA DE SERVICIO SOCIAL Y CULTURAL, APARTADO 904, GUATEMALA CITY. TEL: 84953.

INTERNATIONAL CONTACTS (USAID)

UNDP: EDIFICIO EL TRIANGULO, NIVEL 15, 7A, AVENIDA 6-53, ZONA 4, GUATEMALA. CABLE: UNDEVPRO GUATEMALA. TELEX: U18, UNDP, GU. TEL: 62033.

OAS: 3A CABLE 5-43, ZONA 9, GUATEMALA CITY. TEL: 65095.

UNESCO: 3A, AVENIDA 13-28, ZONA 1, GUATEMALA CITY. TEL: 82669; 534786.

UNICEF: 8A AVENIDA 17-32, ZONA 1, EDIFICIO EL CIELITO, APT. 214, GUATEMALA CITY. TEL: 25118; 537055; 22253.

FAO: 7A AVENIDA 6-53, ZONA 4, EDIFICIO EL TRIANGULO. TEL: 310597.

PAHO/WHO: 12 CABLE 6-15, ZONA 9, GUATEMALA CITY. TEL: 310980.

ROCKEFELLER FOUNDATION: 5A AVENIDA 12-31, ZONA 9, GUATEMALA CITY. TEL: 310863.

HOST RESOURCES

GOG NEEDS ASSISTANCE WITH DISASTERS OF GREAT MAGNITUDE, ALTHOUGH SELF-SUFFICIENT IN CORN, BEANS AND RICE.

HOSPITAL/LOCATION -----	# BEDS -----
GENERAL HOSPITAL 9A. CALLE 7-56, ZONA 9	546
HOSPITAL FOR OBSTETRICS & GYNECOLOGY 7A. AVENIDA 8-67, ZONE 9	325
ORTHOPEDIC HOSPITAL DIAGONAL 12, 0-23, ZONE 9	319
REHABILITATION HOSPITAL 14 AVENIDA AND 4TH. CALLE, ZONE 12	302
HOSPITAL FOR PULMONARY DISEASES FINCA "LA VERBENA", ZONE 7	60
OUT-PATIENT DEPARTMENTS -----	
POLYCLINIC 7A. AVENIDA Y 17 CALLE, ZONE 1	
CLINIC, ZONE 5 27 CALLE 13-26, ZONE 5	
CLINIC, ZONE 6 19 AVENIDA 7-14, ZONE 6	
CLINIC, ZONE 11 9A. CALLE Y 9A. AVENIDA, ZONE 11 VILLA CANALES, VILLA CANALES	
FIRST AID POSTS -----	
PALENCIA	
FRAIJANES	
FINCA "SANTA LEONARDA", VILLA CANALES	
SAN JUAN SACATEPEQUEZ	

DEPARTMENTAL FACILITIES

<u>DEPARTMENT</u>	<u>LOCATION</u>	<u># BEDS</u>
CHIMALTENANGO	CHIMALTENANGO	10
CHIMALTENANGO	POCHUTA	12
ESCUINTLA	ESCUINTLA	150
ESCUINTLA	STA. LUCIA COTZUMALGUAPA	28
ESCUINTLA	TIQUISATE	17
SANTA ROSA	CUILAPA	13
QUETZALTENANGO	QUETZALTENANGO	56
QUETZALTENANGO	COLOMBA	40
QUETZALTENANGO	COATEPEQUE	60
SUCHITEPEQUEZ	MAZATENANGO	59
SUCHITEPEQUEZ	CHICACAO	13
SUCHITEPEQUEZ	PATULUL	19
RETALHULEU	RETALHULEU	76
SAN MARCOS	EL TUMBADOR	30
SAN MARCOS	MALACATAN	33
HUEHUETENANGO	HUEHUETENANGO	12
ALTA VERAPAZ	COBAN	40
ZACAPA	ZACAPA	20
IZABAL	PUERTO BARRIOS	30
CHIQUIMULA	CHIQUIMULA	13

OUT-PATIENT DEPARTMENTS

SACATEPEQUEZ	ANTIGUA GUATEMALA
ESCUINTLA	LA GOMERA
ESCUINTLA	PERTO SAN JOSE
RETALHULEU	CHAMPERICO
SAN MARCOS	TECUN UMAN
BAJA VERAPAZ	SALAMA
IZABAL	MORALES
JALAPA	JALAPA
JUTIAPA	JUTIAPA

THESE ARE THE PRIVATE HOSPITALS, WITH NUMBER OF BEDS WHERE THIS INFORMATION WAS AVAILABLE:

HOSPITAL INFORMATION	# BEDS
-----	-----
GUATEMALA CITY	

HOSPITAL CENTRO MEDICO 6A. AVENIDA 3-47, ZONA 10 65061/3	79
HOSPITAL COLONIA CHINA 2A. CALLE "A" 13-59, ZONA 6 881057	N.A.
HOSPITAL DE DIA AVE. LA REFORMA 3-43, ZONA 10 64487	N.A.
HOSPITAL DE DIA ITZAMNA CALZ. ROOSEVELT 35-98, ZONA 7 41829	N.A.

HOSPITAL DE OJOS Y OIDOS "DR. RODOLFO ROBLES" DIAGONAL 21 Y 19 CALLE, ZONA 11 460275	N.A.
HOSPITAL HERRERA LLERANDI 6A. AVENIDA 8-71, ZONA 10 66771-5	80
HOSPITAL INSTITUTO ROSSELL 16 CALLE 5-86, ZONA 10 680757	5
HOSPITAL LATINO AMERICANO 7A. AVENIDA "A" 7-50, ZONA 2 24401-3	33
HOSPITAL LOS ARCOS 6A. AVENIDA 20-88, ZONA 10. 682143	N.A.
HOSPITAL MILITAR 6A. AVENIDA ENTRE 4A. Y 6A. CALLES, ZONA 10 62991; 310301	N.A.
HOSPITAL PRIVADO 10A. CALLE 1-52, ZONA 1 22739	N.A.
HOSPITAL PRIVADO BELLA AURORA 10A. CALLE 2-31, ZONA 14 681951-5	62
HOSPITAL SAN PEDRO 28 CALLE 25-28, ZONA 5 67514	N.A.
SANATORIO ESPANOL 4A. AVENIDA 14-64, ZONA 1 28706	17
SANATORIO HERMANO PEDRO 17 AVENIDA 23-49, ZONA 11 481084	67
SANATORIO PRIVADO SAN LAZARO CALLE MARTI 11-35, ZONA 2 882433	12

SANATORIO RODRIGUEZ MONTOYA 8
 13 CALLE 11-58, ZONA 1
 83878

SANATORIO SAN PABLO 13
 VIA 5, 7-47, ZONA 4
 63861

QUETZALTENANGO

CASA DE SALUD HOSPITAL PROVADO N.A.
 6A. CALLE 13-42, ZONA 1
 061-2554

HOSPITAL PRIVADO QUEZALTENANGO N.A.
 CALLE RODOLFO ROBLES 23-51, ZONA 1
 061-4382

HOSPITAL RODOLFO ROBLES N.A.
 DIAGONAL 11, ZONA 1
 061-4229

ALSO IN GUATEMALA CITY, THE MILITARY HOSPITAL AT 6A. AVENIDA
 4-50, ZONA 10 HAS 236 BEDS, AND THE POLICE HOSPITAL, AT 11 AVENIDA
 4-49, ZONA 1, HAS 80 BEDS.

FIRST AID POSTS:

LOCATION -----	MUNICIPALITY/DEPARTMENT -----
EL RANCHO	SAN AGUSTIN ACASAGUASTLAN EL PROGRESO
YEPOCAPA	YEPOCAPA CHIMALTENANGO
FINCA TACANA ZUNIL	TIQUISATE ESCUINTLA
FINCA PANGOLA	LA GOMERA ESCUINTLA
PALIN	PALIN ESCUINTLA

BARBERENA	SANTA ROSA
CHIQUMULILLA	CHIQUMULILLA SANTA ROSA
NUEVO VINAS	NUEVO VINAS SANTA ROSA
SAN LUCAS TOLIMAN	SAN LUCAS TOLIMAN SOLOLA
SAN FELIPE	SAN FELIPE RETALHULEU
SAN RAFAEL PIE	SAN REFAEL PIE SAN MARCOS
NUEVO PROGRESO	NUEVO PROGRESO SAN MARCOS
EL QUETZAL	EL QUETZAL SAN MARCOS
LA REFORMA	LA REFORMA SAN MARCOS
SAN IDELFONSO IXTAHUACAN	SAN IDELFONSO IXTAHUACAN HUEHUETENANGO.
LA DEMOCRACIA	LA DEMOCRACIA HUEHUETENANGO
SANTA CRUZ BARILLAS	SANTA CRUZ BARILLAS HUEHUETENANGO
SAN JUAN COTZAL	SAN JUAN COTZAL EL QUICHE
LA TINTA	PANZOS ALTA VERAPAZ
SENAHU	SENAHU ALTA VERAPAZ
SANTA MARIA CAHABON	SANTA MARIA CAHABON ALTA VERAPAZ

LIVINGSTON

LIVINGSTON
IZABAL

EL ESTOR

EL ESTOR
IZABAL

GUALAN

GUALAN
ZACAPA

PHARMACEUTICAL LABORATORIES:

NAME	STREET ADDRESS & PHONE NO.
ABBOTT LABORATORIOS	CARR. ROOSEVELT KM. 14, ZONA 7 490113
AGENCIAS J.I. COHEN	13 CALLE 3-24, ZONA 1 20895
AMICELCO	5A. AVENIDA 4-12, ZONA 1 83581
BOEHRINGER INGELHEIM	LA. CALLE 7-21, ZONA 9 62826
PARKE DAVIS	CARR. ROOSEVELT KM. 14 1/2, ZONA 7 490689
CIA. FARMACEUTICA UPJOHN	CARR. ROOSEVELT KM. 14 1/2, ZONA 11 490010
CIBA GEIGY LTDA.	LA. CALLE 7-21, ZONA 9 61629
CYANAMID INTER- AMERICAN CORP.	11 CALLE 8-14, ZONA 1 26738
DISFARCA	4A. CALLE 9-57, ZONA 1 20641
ELI LILLY DE C.A.	KM. 15 CARR. ROOSEVELT, ZONA 11 490413
INDUSTRIA FARMACEUTICA INFASA	CARR. ROOSEVELT KM. 15 1/2, ZONA 11 490814

INPROFAR	2A. CALLE 34-92, ZONA 7 42127
JOHNSON & JOHNSON DE CENTROAMERICA	CARR. ROOSEVELT 35-25, ZONA 11 42070
LAB. FARMACEUTICO SQUIBB, S.A.	CARR. AMATITLAN KM. 11 1/2, ZONA 12 460511
LABORATORIOS BONIN	AVENIDA ELENA 14-28, ZONA 3 24139
LABS. ALREDO HERBRU- GER, JR.	CARR. ROOSEVELT KM. 14, ZONA 7 490122
LABORATORIOS FARMACEU- TICOS VIZCAINO	13 CALLE 4-74, ZONA 1 25429
LABORATORIOS FARTE	12 AVENIDA 28-84, ZONA 5 61926
LABORATORIOS FRYCIA	AVE. PETAPA 15-77, ZONA 12 480042
LABORATORIOS ICA	10A. CALLE INTERIOR. FINCA EL ZAPOTE 681121
LABORATORIOS LACER	11 CALLE 8-06, ZONA 1 25982
LABORATORIOS LAFCO	CARR. ROOSEVELT 24-58, ZONA 7 40662
LABORATORIOS LAPRIN	12 CALLE 14-01, ZONA 1 28442
LABORATORIOS LAPROFA	CARR. ROOSEVELT KM. 14 1/2, ZONA 7 490110
LABORATORIOS QUIFARMA	15 CALLE 19-00, ZONA 12 480711
LABORATORIOS SOMAR	22 CALLE 34-30, ZONA 5 871542

LABORATORIOS TEJADA	11 AVENIDA 19-44, ZONA 10 682225
LANCASCO	KM. 5 1/2 RUTA AL ATLANTICO, ZONA 18 881687
MC KESSON	8A. CALLE 2-47, ZONA 1 24818
MERCK CENTROAMERICANA	CARR. ROOSEVELT KM. 13 1/2, ZONA 11 490616
PHARMAKON	36 CALLE "A" 3-40, ZONA 8 41464
PLOUGH EXPORT INC.	CARR. ROOSEVELT KM. 14 1/2, ZONA 11 490984
QUIMICA HOECHST	CARR. ROOSEVELT KM. 15 1/2 490011
RICHARDSON-MERRELL	3A. AVENIDA 10-08, ZONA 13 63238
ROUSSEL CENTROAMERICANA	3A. AVENIDA Y 7A. CALLE, ZONA 2 86850
SANTE DE GUATEMALA	13 AVENIDA 4-27, ZONA 1 880614
SCHERING CORPORATION	AVE. REFORMA 15-54, ZONA 9 62893
UNIPHARM	16 CALLE 3-46, ZONA 1 29924

IN CASE OF A DISASTER, TEMPORARY MEDICAL FACILITIES COULD BE ESTABLISHED IN THE FOLLOWING LOCATIONS IN GUATEMALA CITY:

CUIDAD UNIVERSITARIA	ZONE 12
AURORA JOCKEY CLUB	ZONE 13
CIUDAD OLIMPICA	ZONE 5

PARQUE CENTROAMERICA	ZONE 9
GUATEMALA COUNTRY CLUB	ZONE 11
COLONIA ROOSEVELT	ZONE 11
PARQUE MINERVA	ZONE 2
CAMPO DE MARTE	ZONES 5 AND 10
AEROPUERTO INTERNA- CIONAL "LA AURORA"	ZONE 13

RESOURCE LIST

TRUCKS

A LIST OF COMMERCIAL TRUCKING FIRMS, WITH PHONE NUMBERS AND ADDRESSES, FOLLOWS:

<u>NAME</u>	<u>ADDRESS & PHONE NO.</u>
TRANSPORTES CENTRO-AMERICANOS RELAMPAGO	6A. AVENIDA 2-13, ZONA 13 66100
TRANSPORTES MONY KING	6A. AVENIDA 2-43, ZONA 9 480070
TRANSPORTES TOLEDO	7A. AVENIDA 11-53, ZONA 9 66568
TRANSPORTES AVILA	CALZADA SAN JUAN 31-53, ZONA 7 86046
TRANSPORTES RODRIGUEZ	14 AVENIDA 11-71, ZONA 11 44700
TRANSPORTES GUATEMALA	CALLE MARISCAL 14-38, ZONA 11 481011

TRANSPORTES SAN JUDAS	10A. AVENIDA 6-45, ZONA 11 891323
TRANSPORTES LAINFIESTA	4A. AVENIDA 13-12, ZONA 1 22251
TRANSPORTES PORRAS ARANA	ZARAGOZA, CHIMALTENANGO
TRANSPORTES ARIAS	34 AVENIDA 21-28, ZONA 5 871376
TRANSPORTES ASOCIADOS	8A. AVENIDA 38-37, ZONA 3 40327
TRANSPORTES MICKEY MOUSE	4A. CALLE 16-00, ZONA 6 881510
TRANSPORTES TRANSVITA	6A. AVENIDA 14-84, ZONA 9 62743
TRANSPORTES DIAZ AVILA	CALLE MARISCAL 11-17, ZONA 11 481896
TRANSPORTES ATLAS	AVE. LA REFORMA 3-48, ZONA 9 66953
TRANSPORTES MORALES	10A. AVENIDA 13-29, ZONA 7 COLONIA CASTILLO LARA ---

HEAVY EQUIPMENT

1. THE MINISTRY OF COMMUNICATIONS AND PUBLIC WORKS, DIRECCION GENERAL DE CAMINOS, OPERATES A SUBSTANTIAL AMOUNT OF HEAVY EQUIPMENT. IT IS HEADED BY ING. RODOLFO RUBIO, FINCA LA AURORA, ZONA 13, TELEPHONE 310408.

2. THE THREE GUATEMALAN ARMY ENGINEER UNITS ARE AS FOLLOWS:

NAME	LOCATION	PRIMARY MISSION
-----	-----	-----
1ST ENGINEER CO.	MODESTO MENDEZ	WORK ON ROAD FROM MODESTO MENDEZ TO ALTA VERAPAZ

2ND ENGINEER CO.	CHAHAL (ALTA VERAPAZ)	WORK ON ROAD FROM ALTA VERAPAZ TO MODESTO MENDEZ
3RD ENGINEER CO.	CHINCHILA (EL PETEN)	WORK ON ROADS IN THE PETEN

THESE ARE LOCAL BUILDING CONTRACTORS:

NAME	ADDRESS & PHONE NO.
----	-----
JOSE R. CASTANEDA	6A. AVE. "A" 35-44, ZONA 11 481300
JORGE M. CHAVEZ	18 CALLE 3-25, ZONA 14 683311
ITURBIDE, TORUNO Y ICA. LTDA.	6A. AVENIDA 3-44, ZONA 9 64132; 65276
ALVAREZ, ROESCH, TOLDEO, S.A.	3A. CALLE 0-55, ZONA 2 28055

FURTHER COORDINATION MAY BE PROVIDED BY THE ASOCIACION GUATEMALTECA DE CONTRATISTAS DE LA CONSTRUCCION, 10A. CALLE 7-70, ZONA 9, TELEPHONE NO. 63943.

DISASTER SUPPLIES

1. ROOFING

PRODUCTOS DURALITA, S.A.	15 AVENIDA 16-12, ZONA 6 880094
DISTUN	20 CALLE 7-62, ZONA 1 81381-4
GALCASA	AVE. LA REFORMA 3-48, ZONA 9 62986; 67263; 62987; 67270
FERRETERIA SAYET	2A. CALLE 6-30, ZONA 9 62222; 65846-7; 62414
CASA PREM	4A. AVENIDA 17-55, ZONA 1 83641-4

2. CEMENT

CEMENTOS NOVELLA, 15 AVENIDA 18-01, ZONA 6
S.A. 880091-3; 881412

3. LUMBER

ASERRADERO 21 CALLE 11-01, ZONA 1
ITALIANO 26711

ASERRADERO 19 CALLE 2-42, ZONA 1
MASSELLI 20925

ASERRADERO LAS 18 CALLE 1-60, ZONA 1
VICTORIAS 21305

SANTA MARGARITA 3A. CALLE 11-60, ZONA 6
880922

ASERRADERO LA 18 AVENIDA 2-40, ZONA 6
HERMITA 880814

LOS ALAMOS KM. 3, CARR. AL ATLANTICO
880362

ASERRADERO SANTA AVE. BOLIVAR 27-72, ZONA 3
ANA 44149

ASERRADERO AVE. BOLIVAR 32-62, ZONA 3
43261

ASERRADERO LA 31 CALLE "A" 2-39, ZONA 8
CASITA 40551

ASERRADERO SINAI CALZ. SAN JUAN 10-06, ZONA 7
43809

ASERRADERO LA CALZ. SAN JUAN 12-02, ZONA 7
UNION 40830

ASERRADERO SAN 16 CALLE 32-76, ZONA 7
MARTIN 44594

ASERRADERO EL LA. AVENIDA 1-61, ZONA 11
TREBOL 45023

EL ESFUERZO	CALZ. AGUILAR BATRES 3-57, ZONA 1 41804
ASERRADERO FAGIANI HNOS.	15 AVENIDA 6-12, ZONA 6 880290
ASERRADERO VASCONIA	CALZ. AGUILAR BATRES 34-77, ZONA 480403
ASERRADERO GARIN	LA. AVENIDA 1-23, ZONA 13 310828

TRANSPORT

BOATS

IN ADDITION TO PRIVATE CRAFT, THE FOLLOWING BOATS ARE IN THE POSSESSION OF THE GUATEMALAN NAVY:

2	36-FOOTERS)	
2	40-FOOTERS)	
5	65-FOOTERS)	
1	63-FOOTERS)	PATROL BOATS
2	85-FOOTERS)	
1	105-FOOTERS)	
1	LCM-6		
1	FLOATING WORKSHOP		
<u>15</u>	TOTAL		

MILITARY AIRCRAFT

FOLLOWING IS A LIST OF AIRCRAFT IN THE GUATEMALAN AIR FORCE:

13 JETS (11 A-37 FIGHTERS; 2 T-33 TRAINERS)

- 10 TURBOPROP (TRANSPORTS - 9 ARAVAS; 1 C-12 SUPER KING AIR)
- 22 PROP (12 TRANSPORTS - 1 DC-6B, 11 C-47'S; 4 UTILITY - 3 CESSNA 206'S, 1 CESSNA 180; 6 TRAINERS - CESSNA 172)
- 14 HELICOPTERS (9 UH-1, 3 ALOUETTE III, 2 LAMAS)

DISASTER TYPES AND HISTORY

MAJOR DISASTERS: EARTHQUAKES. ALSO FLOODS.

EARTHQUAKES REPORTED BY CONQUISTADORES. GUATEMALA CITY AND OLD CAPITAL OF ANTIQUA SEVERELY DAMAGED BY EARTHQUAKES MORE THAN 15 TIMES SINCE EARLY 16TH CENTURY. EPICENTER OF LATEST QUAKE IN MOTAGUA RIVER VALLEY, WITHIN LEAST ACTIVE OF 3 SEISMIC ZONES; IRONIC IN PRODUCING MOST DESTRUCTIVE QUAKE IN RECENT GUATEMALA HISTORY. FIGURES FOR TOTAL DESTRUCTION BY FEBRUARY 1976 QUAKE: 22,868 KILLED, 1.07 MILLION HOMELESS, 254,000 HOUSES DESTROYED, \$1.1 BILLION IN DAMAGES. GUATEMALA CITY RATED AVERAGE INTENSITY. DAMAGES: 1,200 KILLED, 45% DESTROYED. AREA OF GREATEST SHAKING: W GUATEMALA.

THOUSANDS OF LANDSLIDES AS SECONDARY EFFECTS. BLOCKED ROADS, CUT SURFACE COMMUNICATIONS THROUGHOUT C GUATEMALA. MAJOR SLIDES FORMED DAMS; ADDED DANGER OF FLOODING FROM THESE ACCIDENTAL LAKES AND RIVERS.

US VOLAGS

AGENCY	PERSONNEL INTL/LOCAL	PROGRAMS
AGRICULTURAL COOPERATIVE DEVELOPMENT INTERNATIONAL	1/0	COOPS & LOANS; FOOD & AGR
AMERICAN DENTISTS FOR FOREIGN SERVICE	0	EQUIP & MAT AID; MED & PH
AFL-CIO, AMERICAN INSTITUTE FOR FREE LABOR DEVELOPMENT	2/0	COM DEV

AMERICAN NATIONAL RED CROSS	NA	CON, HOUS & PLAN; EQUIP & MAT AID
AMG INTERNATIONAL	7+12+	ED; EQUIP & MAT AID; FOOD & AGR; MED & PH; NUTR
ASSEMBLIES OF GOD	2+10	CON, HOUS & PLAN; EQUIP & MAT AID
BAPTIST WORLD RELIEF	0	CON, HOUS & PLAN; EQUIP & MAT AID; MED & PH
BENEDICTINE SISTERS	6/0	COMM; COM DEV; ED; EQUIP & MAT AID; WOMEN
BROTHER'S BROTHER FOUNDATION	8/50	CON, HOUS & PLAN; EQUIP & MAT AID; FOOD & AGR; MED & PH
THE CARR FOUNDATION	0	COMM; MED & PH
CARE, INC.	5/36	CON, HOUS & PLAN; ED; EQUIP & MAT AID; FOOD & AGR; MED & PH; NUTR; POP. & FAM SERV
CATHOLIC MEDICAL MISSION BOARD	0	EQUIP & MAT AID; MED & PH
CATHOLIC RELIEF SERVICES -- U.S.C.C.	3/7	COMM; COM DEV; CON, HOUS & PLAN; COOPS & LOANS; ED; EQUIP & MAT AID; FOOD & AGR; MED & PH; NUTR
THE CENTRAL AMERICAN MISSION	22/0	COMM; ED; MED & PH
SISTERS OF CHARITY OF THE INCARNATE WORD	4/NA	MED & PH
CHRISTIAN BROTHERS, BROTHERS OF THE CHRISTIAN SCHOOLS	10/65	ED
CHRISTIAN CHILDREN'S FUND, INC.	0/289	CON, HOUS & PLAN; ED; MED & PH; SOC WEL

CHRISTIAN NATIONALS' EVANGELISM COMMISSION, INC.	0/25	ED; EQUIP & MAT AID; MED & PH
CHRISTIAN REFORMED WORLD RELIEF COMMITTEE	5/NA	CON, HOUS & PLAN; EQUIP & MAT AID; MED & PH; NUTR
CHURCH WORLD SERVICE	2/2	COM DEV; CON, HOUS & PLAN; COOPS & LOANS
DARIEN BOOD AID PLAN, INC.	0	EQUIP & MAT AID
DIRECT RELIEF FOUNDATION	21/0	EQUIP & MAT AID; MED & PH
EASTERN MENNONITE BOARD OF MISSIONS AND CHARITIES	5/0	COM DEV; CON, HOUS & PLAN; FOOD & AGR; MED & PH
THE EPISCOPAL CHURCH OF THE U.S.	1/9	COM DEV; ED; MED & PH; YOUTH
THE FORD FOUNDATION	0	ED; MED & PH; NUTR
FRANCISCAN FATHERS, FRANCISCAN MISSIONARY UNION	13/50	ED; MED & PH; NUTR
HEIFER PROJECT INTERNATIONAL	NA	FOOD & AGR
INTERCHURCH MEDICAL ASSISSTANCE, INC.	0	EQUIP & MAT AID; MED & PH
INTERNATIONAL EDUCATIONAL DEVELOPMENT	0	CON, HOUS & PLAN; ED; EQUIP & MAT AID
INTERNATIONAL EXECUTIVE SERVICE CORPS	NA	PUB & BUS ADMIN
INTERNATIONAL INSTITUTE OF RURAL RECONSTRUCTION, INC.	0/10	COOPS & LOANS; ED; FOOD & AGR; MED & PH
HELEN KELLER INTERNATIONAL, INC.	NA	CON, HOUS & PLAN; EQUIP & MAT AID
W. K. KELLOGG FOUNDATION	0	MED & PH

LUTHERAN CHURCH -- MISSOURI SYNOD	5/NA	CON, HOUS & PLAN; COOPS & LOANS
LUTHERAN MEDICAL MISSION ASSOCIATION	0	EQUIP & MAT AID; MED & PH
LUTHERAN WORLD RELIEF	NA	COM DEV; CON, HOUS & PLAN; EQUIP & MAT AID; MED & PH
MAP INTERNATIONAL	NA	CON, HOUS & PLAN; EQUIP & MAT AID; MED & PH
MARYKNOLL FATHERS	50/NA	COMM; COM DEV; CON, HOUS & PLAN; COOPS & LOANS; ED; EQUIP & MAT AID; FOOD & AGR; MED & PH; NUTR; SOC WEL; YOUTH
MARYKNOLL SISTERS OF ST. DOMINIC	29/NA	COM DEV; CON, HOUS & PLAN; ED; EQUIP & MAT AID; MED & PH; SOC WEL; WOMEN; YOUTH
MEALS FOR MILLIONS FOUNDATION	0	ED; NUTR
MEDICAL AND SURGICAL RELIEF COMMITTEE	0	EQUIP & MAT AID; MED & PH
MENNONITE CENTRAL COMMITTEE	25/NA	CON, HOUS & PLAN; EQUIP & MAT AID
MENNONITE ECONOMIC DEVELOPMENT ASSOCIATION	0	COOPS & LOANS; IND DEV
NATIONAL 4-H FOUNDATION OF AMERICA	0/NA	ED; YOUTH
OXFAM-AMERICA	NA	CON, HOUS & PLAN
PAN AMERICAN DEVELOPMENT FOUNDATION	0	COOPS & LOANS; ED; EQUIP & MAT AID; MED & PH
THE PATHFINDER FUND	0	MED & PH; POP & FAM SERV

PEOPLE-TO-PEOPLE HEALTH FOUNDATION (PROJECT HOPE)	4/0	EQUIP & MAT AID
PRIMITIVE METHODIST CHURCH, U.S.A.	16/25	CON, HOUS & PLAN; ED; FOOD & AGR; MED & PH
PROJECT CONCERN	5/40	MED & PH; NUTR
RESEARCH CORPORATION	0	MED & PH; NUTR
THE ROCKEFELLER FOUNDATION	0	FOOD & AGR; MED & PH; NUTR
SALESIANS OF ST. JOHN BOSCO	61/7	CON, HOUS & PLAN; ED; MED & PH; SOC WEL; YOUTH
THE SALVATION ARMY	NA	CON, HOUS & PLAN; ED; EQUIP & MAT AID; SOC WEL
SAVE THE CHILDREN FEDERATION/ COMMUNITY DEVELOPMENT FOUNDATION	9/18	COM DEV; CON, HOUS & PLAN; EQUIP & MAT AID
SEVENTH-DAY ADVENTIST WORLD SERVICE	NA	CON, HOUS & PLAN; MED & PH
SOUTHERN BAPTIST CONVENTION FOREIGN MISSION BOARD	19/14+	ED; EQUIP & MAT AID; MED & PH
SUMMER INSTITUTE OF LINGUISTICS	78/0	CON, HOUS & PLAN; ED; EQUIP & MAT AID
UNITED CHURCH BOARD FOR WORLD MINISTRIES	0	FOOD & AGR
UNITED METHODIST COMMITTEE ON RELIEF	0	COM DEV; CON, HOUS & PLAN; COOPS & LOANS; ED; EQUIP & MAT AID; FOOD & AGR; MED & PH; SOC WEL
WORLD NEIGHBORS	5/80	COM DEV; CON, HOUS & PLAN; COOPS & LOANS; FOOD & AGR; MED & PH; NUTR; POP & FAM SERV; SOC WEL

WORLD REHABILITATION FUND	0	ED; MED & PH
WORLD RELIEF COMMISSION OF THE NATIONAL ASSOCIATION OF EVANGELICALS	0	EQUIP & MAT AID
WORLD UNIVERSITY SERVICE	NA	CON, HOUS & PLAN; ED; EQUIP & MAT AID; MED & PH
WORLD VISION RELIEF ORGANIZATION	1/9	COM DEV; CON, HOUS & PLAN; SOC WEL
Y.M.C.A. OF THE U.S.	0	SOC WEL; YOUTH

KEY:

COMM.....COMMUNICATIONS
 COM DEV.....COMMUNITY DEVELOPMENT
 CON, HOUS & PLAN.....CONSTRUCTION, HOUSING & PLANNING
 COOPS & LOANS.....COOPERATIVES, CREDIT UNIONS & LOANS
 ED.....EDUCATION
 EQUIP & MAT AID.....EQUIPMENT & MATERIAL AID
 FOOD & AGR.....FOOD PRODUCTION & AGRICULTURE
 IND DEV.....INDUSTRIAL DEVELOPMENT
 MED & PH.....MEDICINE & PUBLIC HEALTH
 NUTR.....NUTRITION
 POP & FAM SERV.....POPULATION & FAMILY SERVICES
 PUB & BUS ADMIN.....PUBLIC & BUSINESS ADMINISTRATION
 SOC WEL.....SOCIAL WELFARE
 WOMEN.....WOMEN
 YOUTH.....YOUTH

NATIONAL POPULATION

WITH ONE OF THE WORLD'S HIGHEST ANNUAL GROWTH RATES AT 3%/YEAR,
 GUATEMALAN POPULATION HAS DOUBLED EVERY 37 YEARS BETWEEN 1778 AND
 1950. ESTIMATED 1977 POPULATION OF 6.6 MILLION INCLUDES 1.5 MILLION
 IN GUATEMALA CITY/METRO AREA, 1.3 MILLION WOMEN OF CHILD-BEARING AGE
 (14-44), AND 2.9 MILLION UNDER AGE 15.

OF OFFICIALLY CLASSIFIED RURAL POPULATION, 80% CONCENTRATED IN 3 AREAS: WESTERN HIGHLANDS (42%), SOUTH COAST (22%) AND EASTERN DESERT (15%). THE REST DISTRIBUTED AMONG CENTRAL HIGHLANDS, CAPITAL METRO AREA, ATLANTIC COAST AND EL PETEN AT 11%, 5%, 4% AND 1% RESPECTIVELY. HOWEVER, CENSUS COMPLICATED BY SEASONAL EMPLOYMENT, PRIMARILY ON FINCAS IN AGRICULTURAL SOUTH COAST, WHERE AS MANY AS 500,000 WORKERS EMPLOYED, ATTRACTING 1,500,000 DEPENDENTS. (SEE 1.5.1.3).

POPULATION DENSITIES AS OF 1976: 59.7/SQ KM, AND 142.9/SQ KM ON ARABLE LAND. DENSITIES BY REGION: CAPITAL METRO AREA, 250/SQ KM; WESTERN HIGHLANDS, 169/SQ KM*; EASTERN DESERT, 50/SQ KM; CENTRAL HIGHLANDS, 33/SQ KM; SOUTH COAST, 31/SQ KM; ATLANTIC/CARIBBEAN, 15/SQ KM, AND EL PETEN, LESS THAN 5/SQ KM.

* HAITI'S POPULATION DENSITY, HIGHEST IN LATIN AMERICA, IS 165/SQ KM.

POPULATION BY DEPARTMENTS

DEPARTMENT	POPULATION
ALTA VERAPAZ	276,370
BAJA VERAPAZ	106,909
CHIMALTENANGO	193,557
CHIQUIMULA	158,146
EL PETEN	64,503
EL PROGRESO	73,176
EL QUICHE	300,641
ESCUINTLA	300,140
GUATEMALA	1,127,845
HUEHUETENANGO	368,807
IZABAL	170,864
JALAPA	118,103
JUTIAPA	231,005
QUEZALTENANGO	311,613
RETALHULEU	133,993
SACATEPEQUEZ	99,710
SAN MARCOS	388,100
SANTA ROSA	176,198
SOLOLA	126,884
SUCHITEPEQUEZ	212,017
TOTONICAPAN	166,622
ZACAPA	106,726

MAJOR CITIES

CITY	POPULATION	DEPARTMENT
COBAN	43,538	ALTA VERAPAZ
SALAMA		BAJA VERAPAZ
CHIMALTENANGO		CHIMALTENANGO
CHIQUIMULA		CHIQUIMULA
FLORES		EL PETEN
EL PROGRESO		EL PROGRESO
ESCUINTLA	68,573	ESCUINTLA
GUATEMALA CITY	717,322	GUATEMALA
SANTA CRUZ DEL QUICHE		EL QUICHE
HUEHUETENANGO		HUEHUETENANGO
PUERTO BARRIOS		IZABAL
JALAPA	45,417	JALAPA
JUTIAPA	52,244	JUTIAPA
QUEZALTENANGO	65,733	QUEZALTENANGO
RETALHULEU		RETALHULEU
SACATEPEQUEZ		SACATEPEQUEZ
SAN MARCOS		SAN MARCOS
SOLOLA		SOLOLA
SUCHITEPEQUEZ		MAZATENANGO
TOTONICAPAN	52,599	TOTONICAPAN
ZACAPA		ZACAPA

HEALTH SECTOR OVERVIEW

AN ESTIMATED 60-70% OF POPULATION WITHOUT MODERN MEDICAL SERVICES. HEALTH CARE SYSTEM IMPLEMENTED PRIMARILY BY TWO GROUPS: MINISTRY OF HEALTH (MOH) AND PRIVATE VOLUNTARY ORGANIZATIONS (PVO'S). PVO'S EMPHASIZE OUTREACH PROGRAMS IN RURAL AREAS AND PRIMARY CARE IN SIMPLE FACILITIES OR IN THE HOME, WHEREAS MOH OPERATES MAINLY FROM SOPHISTICATED, IN-PATIENT FACILITIES IN CAPITAL AREA, IS HIGHLY CENTRALIZED, AND HAS VIRTUALLY NO OUTREACH SERVICE; BOTH WORK COOPERATIVELY AT MUNICIPAL LEVEL (PVO'S REFERRING MORE SERIOUS CASES TO MOH FACILITIES), BUT LITTLE COORDINATION AT DEPARTMENTAL LEVEL AND ESSENTIALLY NONE AT NATIONAL LEVEL. HOWEVER, PVO SERVICES CONCENTRATED IN FEW RURAL AREAS.

LACK OF NATIONAL POPULATION POLICY FURTHER RESTRICTS DELIVERY OF MEDICAL CARE.

PRIMARY HEALTH PROBLEM IS HIGH MORTALITY RATES FOR RESPIRATORY AND GASTRO-INTESTINAL DISEASES, ESPECIALLY FOR CHILDREN 1-5 YEARS OLD; MAIN REASONS FOR SEEKING MEDICAL ATTENTION FOR CHILDREN UNDER 5 WERE DIARRHEA AND ENTERIC DISEASES. SUBSTANTIAL MALNUTRITION IN RURAL AREAS RESULTS IN HIGHER DISEASE INCIDENCE/MORTALITY RATES IN RURAL THAN IN URBAN AREAS. THE 5 LEADING CAUSES OF MORBIDITY IN 1974 WERE ENTERITIS AND OTHER DIARRHEAL DISEASES, ACUTE RESPIRATORY INFECTIONS, AVITAMINOSES AND OTHER NUTRITIONAL DEFICIENCIES, SKIN INFECTIONS, AND ANEMIA. IN ADDITION, THE GENERAL POPULATION SUFFERS FROM HIGH RATES OF PARASITIC INFECTIONS, PRIMARILY FROM INTESTINAL HELMINTHS (ASCARIS, HOOKWORM AND TRICHOCEPHALUS), MALARIA, AND ONCHOCERCIASIS. IN FIRST HALF OF 1977, 6,000 CASES OF MALARIA REPORTED IN DEPT. OF ESQUINTLA; HEAVY USE OF PESTICIDES ON COTTON AND CORN HAS INCREASED NOT ONLY ANOPHELES IMMUNITY BUT TOXIC POISONING OF POPULATON.

FINCAS

APPROXIMATELY 500,000 FULL AND PART-TIME WORKERS AND THEIR 1,500,000 DEPENDENTS EITHER HAVE NO READY ACCESS TO MEDICAL CARE OR ARE NOT COVERED BY MEDICAL PLANS; 80% WORK IN S COAST AREA. HIGHEST RATES OF MALNUTRITION AS WELL AS INTESTINAL AND RESPIRATORY INFECTIONS ARE AMONG FINCA POPULATION. MOST MIGRATE FROM W HIGHLANDS, WORK 90 DAYS AND RETURN. (SEE NATIONAL POPULATION)

MORTALITY %

MORTALITY RATES

RATES FOR 1974: 9 PER 1,000 IN CAPITAL METRO AREA
 21.5 PER 1,000 IN EL PETEN
 19 PER 1,000 IN TOTONICAPAN
 16 PER 1,000 IN EL QUICHE, SOLOLA, ALTA VERAPAZ

MAJOR CAUSES OF DEATH*

RATE PER 10,000 POPULATION AND PERCENTAGE DISTRIBUTION

<u>CAUSATIVE DISEASES</u>		<u>PER 10,000</u>	
		<u>INHABITANTS</u>	<u>%</u>
1. ACUTE RESPIRATORY DISEASES	14,593	25.37	20.83
2. DIARRHEAS	13,063	22.71	18.65

3. NUTRITIONAL DEFICIENCIES	4,783	8.31	6.83
4. PERINATAL MORTALITY	4,228	7.35	6.04
5. INTESTINAL PARASITES	2,306	4.01	3.29
6. RESPIRATORY CONDITIONS	2,210	3.84	3.16
7. CANCER	1,594	2.77	2.28
8. CARDIOVASCULAR DISEASES	1,558	2.70	2.22
9. OTHER CAUSES	25,710	44.86	36.70

* AS OF 1973

SOURCE: SECRETARIA GENERAL CONSEJO NACIONAL DE PLANIFICACION ECONOMICA, PLAN NACIONAL DE SALUD, 1974, VOLUME I, PAGE 12.

HEALTH STATUS

CRUDE BIRTH RATE (1976): 39-40/1,000
 CRUDE DEATH RATE (1976): 14/1,000
 INFANT MORTALITY (1975): 81.1/1,000
 LIFE EXPECTANCY (1976): LADINO 54.3, INDIAN 49.9*
 CHILD MORTALITY (1975): 28/1,000

MORTALITY RATE FOR 2 YEAR OLDS (CONSIDERED A GOOD MEASUREMENT OF NUTRITIONAL STATUS AS WELL) WAS 33.5/1,000 IN 1976; HIGHEST RATES IN DEPARTMENTS OF ESQUINTLA, SOLOLA, TOTONICAPAN, ALTA VERAPAZ, AND QUICHE, ALL OF WHICH PREDOMINANTLY INDIAN.

* COMBINED LIFE EXPECTANCY IS LOWEST IN CENTRAL AMERICA.

HEALTH FACILITIES

POOR MAINTENANCE AND UNDERUSE OF EQUIPMENT A CHRONIC PROBLEM WHICH IN RECENT YEARS HAS INCREASED AS MOST MOH ALLOCATIONS GO TO BUILDING NEW FACILITIES, RATHER THAN REPAIRING OLD ONES. MOH FINANCING HEAVILY FAVORS GUATEMALA CITY OVER RURAL AREAS, CREATING SERIOUS IMBALANCE NOT ONLY FOR HEALTH FACILITIES BUT FOR PERSONNEL, MEDICINES AND INFRASTRUCTURE IN GENERAL; 51% OF MOH BUDGET TO DEPT. OF GUATEMALA. (SEE HEALTH PERSONNEL AND HEALTH SECTOR OVERVIEW)

131 HOSPITALS IN 1977; 37 HOSPITALS RUN BY MOH WITH A TOTAL OF 9,407 BEDS (1.6 BEDS PER 1,000), 60% OF WHICH LOCATED IN CAPITAL DEPARTMENT. GUATEMALAN INSTITUTE OF SOCIAL SECURITY (IGSS) RUNS 35 HOSPITALS WITH 1,767 BEDS, AS WELL AS 20 AMBULATORY CARE UNITS; AGAIN, HALF OF IGSS BEDS IN GUATEMALA CITY. ALSO 59 PRIVATE HOSPITALS WITH 1,200 BEDS, 2/3RDS OF WHICH LOCATED IN CAPITAL. (SEE ALSO HOST RESOURCES)

OTHER HEALTH FACILITIES

MILITARY: WELL DEVELOPED HEALTH CARE PROGRAM; 500 BEDS IN GUATEMALA CITY AND 48 CLINICS THROUGHOUT COUNTRY, ALL STAFFED/OPERATED BY MILITARY PERSONNEL.

NATIONAL POLICE: NATIONAL HOSPITAL IN GUATEMALA CITY AND SMALL CLINIC IN QUEZALTENANGO.

APROFAM: GUATEMALAN AFFILIATE OF INTERNATIONAL PLANNED PARENTHOOD OPERATES 5 CLINICS IN GUATEMALA CITY.

CENTERS AND CLINICS

MOH OPERATES 470 HEALTH PORTS AND 159 HEALTH CENTERS LOCATED IN TOWNS OF 200-2,000 PEOPLE; STAFFED MAINLY BY AUXILIARY NURSES.

PROJECTS

DURING NEXT 5 YEARS IN AND AROUND GUATEMALA CITY: 500 BED ADDITION AT MILITARY HOSPITAL, AND TWO 400 BED UNITS TO REPLACE HOSPITALS OF SAN JUAN DE DIOS AND ANTIGUA DAMAGED BY 1976 QUAKE.

HEALTH PERSONNEL

TRAINING AND DISTRIBUTION OF MD'S CONCENTRATED IN CAPITAL. IN 1977, 928 MOH PHYSICIANS, 410 IN GUATEMALA CITY WHICH HAS 15% OF TOTAL POPULATION BUT 40% OF MD'S, 43% OF DENTISTS, AND 45% OF NURSES AND LAB

TECHNICIANS. APPROXIMATELY 2,000 ACTIVE PHYSICIANS IN GUATEMALA BUT ESTIMATES VARY WIDELY. MOH PHYSICIANS REQUIRED TO WORK 4 HRS A DAY FOR MINISTRY BUT FEW KEEP REGULAR HOURS, AND MOST SUPPLEMENT INCOMES WITH PRIVATE PRACTICE.

DESPITE VOCIFEROUS PROTEST FROM MEDICAL ORGANIZATIONS, GOM INCREASING NUMBER AND TRAINING OF RURAL HEALTH TECHNICIANS (TSR'S) WHO ACT AS MID-LEVEL HEALTH WORKERS AND COMMUNITY ORGANIZERS; SERVE IN PREDOMINANTLY INDIAN AREAS; 30% SPEAK INDIAN LANGUAGES, ALL SPEAK SPANISH. TSR'S INSTRUMENTAL IN ASSISTING DEVASTATED COMMUNITIES DURING 1976 QUAKE: IDENTIFIED COMMUNITY LEADERS, GAVE FIRST AID, AND ORGANIZED COMMITTEES.

DISTRIBUTION OF HEALTH PERSONNEL

LOCATION OF TSR GRADUATES

BY DEPARTMENT

DEPARTMENTS	TSR GRADUATES
TOTONICAPAN	8
EL QUICHE	21
EL PETEN	3
EL PROGRESO	13
ZACAPA	15
ALTA VERAPAZ	16
BAJA VERAPAZ	13
SAN MARCOS	13
CHIQUIMULA	11
HUEHUETENANGO	8
QUETZALTENANGO	24
CHIMALTENANGO	17
SACATEPEQUEZ	10
SOLOLA	8
JUTIAPA	7
SUCHITEPEQUEZ	4
JALAPA	4

IZABAL	4
GUATEMALA	1
INDAPS, QUIRIGUA	5
ACADEMY OF MEDICAL, PHYSICAL AND NATURAL SCIENCES	3
DIVISION OF HUMAN RESOURCES, MOH	1

TOTAL	209

	DEPT. OF GUATEMALA	REST OF THE COUNTRY
	NUMBER OF PERSONNEL	NUMBER OF PERSONNEL
	-----	-----
DOCTORS	410	518
PROFESSIONAL NURSES	312	241
AUXILIARY NURSES	1,163	1,502
SANITARY INSPECTORS	63	127
RURAL HEALTH TECHNICIANS	--	102
SUPERVISORS	46	6
LABORATORY TECHNICIANS	254	96
DENTISTS	44	49
	-----	-----
TOTAL	2,292	2,641

SOURCE: HEALTH UNIT OF THE PLANNING COUNCIL

TRADITIONAL MEDICINE

IN 1975, HEALERS (CURANDEROS) AND MIDWIVES (COMADRONAS) STILL UBIQUITOUS PROVIDERS OF HEALTH CARE ESPECIALLY IN RURAL AREAS. APPROXIMATELY 9,000 HEALERS AND 16,000 MIDWIVES.

DIET/NUTRITION

NUTRITIONAL DEFICIENCIES A MAJOR PROBLEM; CALORIC DEFICIT OF POOREST HALF OF POPULATION 40% OF MDR. DURING LAST 7 YEARS REAL

CONSUMPTION OF CORN DECLINED FROM 555 GM PER DAY IN 1968 TO 278 GM PER DAY IN 1976. BEAN CONSUMPTION (MAIN SOURCE OF PROTEIN) REMAINED STEADY FOR LAST 8 YEARS AT 28 GM PER DAY. DESPITE PRICE SUBSIDIES, INCAPARINA HAD LIMITED NUTRITIONAL IMPACT; PRICES STILL HIGH RELATIVE TO LOW PURCHASING POWER. OTHER MOH PROGRAMS: FORTIFICATION OF SUGAR WITH VITAMIN A AND IODIZATION OF SALT.

EMERGENCY FOODS

ALTERNATIVE STAPLE: RICE, WHEAT-FLOUR, OATS
ALTERNATIVE ACCOMPANIMENT: PULSES, MILK-POWDER

MEALS

BREAKFAST - BEANS, TORTILLAS OR BREAD, COFFEE, CHEESE, IF AVAILABLE. MILK, EGGS, AND CREAM ARE LUXURIES

LUNCH - CALDO (SOUP) CONTAINING MEAT LEFTOVERS, VEGETABLES, RICE AND TORTILLAS. COFFEE

DINNER - LEFTOVERS FROM LUNCH, BEANS, TORTILLAS, POSSIBLY FRIED PLANTAINS. COFFEE

COOKING - INSIDE HOUSE, URBAN HOUSEHOLDS USE KEROSENE STOVES OR BURNERS, RURAL, OPEN ADOBE OVENS, BURNING WOOD OR CHARCOAL

UTENSILS - CLAY, LESS OFTEN METAL, POTS OR SLIGHTLY ROUNDED PANS CHEAP LIGHT METAL CUTLERY

BEVERAGES

COFFEE MOST COMMON DRINK. IF AVAILABLE, AFFORDABLE, COLAS, REFRESCOS (FRUIT DRINKS)

CONTAINER - METAL, CLAY, GLASS CUPS. GOURDS CUT IN HALF USED BY VERY POOR

FOODS

FLOUR - CORN, WHEAT. LATTER USED IN FRENCH TYPE BREAD, BUNS;
CASSAVA (BLACK CARIBS)

FATS - ANIMAL AND VEGETABLE. LARD IN RURAL AREAS BECAUSE
BUTTER, MARGARINE, OIL MORE EXPENSIVE

VEGS AND FRUITS - VEGS GROWN IN HIGHLANDS - CABBAGE, POTATOES,
PEAS, BEANS, CARROTS, RADISHES, BEETS --
CONSUMED FRESH, NO STORAGE FACILITIES
SEASONAL FRUITS EATEN FRESH: BANANA, PAPA-
YA, ORANGES, PINEAPPLE

MILK - TOO EXPENSIVE FOR MOST FAMILIES. AVAILABLE MILK IS
DRUNK (MAY BE GOAT'S). CREAM SOMETIMES USED WITH
MASHED BLACK BEANS. CHEESE IS LIKED

MEAT - CONSUMED FRESH. MOSTLY BEEF, ALSO PORK, MUTTON, GOAT
CHICKEN - ONLY COMMONLY USED FOWL
FISH - LITTLE USED. BOTH FRESH AND SALT WATER FISH
AVAILABLE. DRIED FISH USED IN SAUCES, OTHERWISE FRESH

CHILDRENS - INFANTS BREASTFED UNTIL 2 YRS OLD; SUPPLEMENTARY
DIET FOODS INCLUDE BANANAS, WEAK COFFEE FROM BOTTLES
CHILDREN'S DIET LIKE PARENTS', BUT MEAT USUALLY
RESERVED FOR ADULTS

UTENSILS

FOR COOKING: METAL AND CLAY CONTAINERS
FOR SERVING, EATING AND DRINKING: METAL, CHINA, GLASS, WOOD
FOR CARRYING WATER: PLASTIC AND CLAY JUGS

TRADITIONAL HOUSING

MOST HOUSING FOR RURAL AND URBAN POOR BUILT WITH MATERIAL MOST
VULNERABLE TO QUAKES: ADOBE. HEAVY DAMAGE TO ADOBE HOUSING FROM 2/76
QUAKE, ESPECIALLY IN HIGHLANDS DEPARTMENTS OF CHIMALTENANGO AND
QUICHE. COMPLETE DESTRUCTION OF HOUSES IN MUNICIPALITIES OF SAN PEDRO

SACATEPEQUEZ, EL JICARO, SUMPANGO, TECPAN AND GUALAN. BAJAREQUE (WOOD FRAME AND LATH, MUD WALL SPACE) LESS LIKELY TO COLLAPSE THAN ADOBE. WOOD EVEN STURDIER. PUERTO BARRIOS AND SANTO TOMAS, MANY WOODEN STRUCTURES; MINIMAL DAMAGE. PATTERN OF DAMAGE CORRESPONDS TO DISTRIBUTION OF INTENSITIES; ADOBE HIGHEST.

HOUSING DEVELOPMENT

IN GUATEMALA CITY CONSIDERABLE ADOBE DAMAGE, SCATTERED DAMAGE TO BRICK, CONCRETE AND STEEL STRUCTURES, ESPECIALLY TO ELEVATED STEEL WATER TANKS AND CORRUGATED STEEL GRAIN SILOS. HOWEVER, OVERALL BUILDING PERFORMANCE RATED AS GOOD TO EXCELLENT, PARTICULARLY IF REINFORCED. FAILURES WERE SPECTACULAR EXCEPTIONS: PRESTIGIOUS SCHOOL, HOSPITAL, NEW CHURCH, PRINCIPAL HOTEL. LIGHT-MASS, ALL METAL SURFACE STRUCTURES RATED AS EXCELLENT: WAREHOUSES AND HANGARS.

DESPITE RELATIVELY LOW DAMAGE RATE AND DEATH RATIO (1:600), ENGINEERING ANALYSIS INDICATES DANGEROUS LACK OF CONSTRUCTION INDUSTRY STANDARDS, ESPECIALLY BUILDING CODES AND SPECIFICATIONS. AMONG THEM: WIDESPREAD FAILURE TO USE NON-STRUCTURAL MASONRY WALLS IN REINFORCED-CONCRETE FRAMED STRUCTURES (VULNERABLE TO LATERAL LOADS AND DISPLACEMENT); LACK OF REINFORCED-CONCRETE COLUMNS FRAMING MASONRY. (VULNERABLE TO COLLAPSE); PREFERENCE FOR BUILDINGS WITH HEAVY PARAPETS (EXTREMELY DANGEROUS TO PEOPLE AT STREET LEVEL.) ADAMANT RECOMMENDATION FROM US GEOLOGICAL SURVEY ON 2/76 QUAKE: ADOPTION AND ENFORCEMENT OF MINIMUM STANDARDS OF STRUCTURAL REINFORCEMENT, REGARDLESS OF MATERIAL USED.

WHILE STILL A MAJOR PRIORITY, LESS EMPHASIS ON HOUSING CONSTRUCTION IN 1978 COMPARED TO 1977. NATIONAL BANK PROJECT UNDERWAY FOR LOW-COST HOUSING FOR 10,000 FAMILIES IN GUATEMALA CITY; FURTHER CREDIT EXTENSIONS IN 10 OTHER CITIES TO CONTINUE REPAIRS AFTER 1976 QUAKE.

TEMPORARY HOUSING

ALDEAS (VILLAGES) USUALLY HAVE ONE-ROOM (5X6M) PRIMARY SCHOOL BUILDING SUITABLE FOR SHELTER. 300 2-ROOM (5X16M) BUTLER BUILDINGS BUILT AFTER QUAKE OF 1976. ALL MUNICIPIOS HAVE AT LEAST ONE, 4-ROOM PRIMARY SCHOOL (4X6M/ROOM, APPROX.); SOME HAVE 6 OR MORE ROOMS. ALL DEPARTMENT CAPITALS HAVE AT LEAST ONE 6-ROOM PRIMARY SCHOOL; MANY HAVE OTHER ADMINISTRATIVE BUILDINGS SUITABLE FOR REFUGE.

OVERVIEW OF ECONOMY

ECONOMY BASED ON AGRICULTURE (PRINCIPAL EXPORTS: COFFEE, COTTON, SUGAR, BEEF), MANUFACTURING AND TOURISM; MINING AND PETROLEUM PRODUCTION ARE POTENTIALLY IMPORTANT. RESOURCES INCLUDE LARGE AREAS OF HIGH-QUALITY FARMLAND ON THE PACIFIC COASTAL PLAIN AND IN THE PETEN, COMMERCIALY EXPLOITABLE OIL, NICKEL, COPPER AND OTHER MINERALS, PINE AND HARDWOOD FORESTS, FISH AND SHELLFISH AND EXCEPTIONAL LOCATION AND SITES FOR TOURISM.

MANUFACTURING CONCENTRATES ON PRODUCTION OF CONSUMER GOODS (75% OF OUTPUT AND VALUE-ADDED). FOOD PROCESSING, BEVERAGES, CLOTHING AND FOOTWEAR AND METAL PRODUCTS ARE IMPORTANT INDUSTRIES. CHRONIC SHORTAGE OF SKILLED AND SEMI-SKILLED WORKERS. ONE FOURTH OF PRODUCTION IS EXPORTED, HALF OF THIS TO CENTRAL AMERICAN COMMON MARKET COUNTRIES.

INFRASTRUCTURE CONNECTS MAJOR PRODUCTION AND CONSUMPTION CENTERS AND PRINCIPAL PORTS, BUT DOES NOT SERVE ATLANTIC DEPARTMENTS OR PETEN ADEQUATELY; SERIOUS SHORTAGE OF RURAL ALL WEATHER FARM-TO-MARKET ROADS.

IN LAST TWO DECADES, ECONOMY WAS CHARACTERIZED BY STEADY AND SUBSTANTIAL ECONOMIC GROWTH, AVERAGING 5.7% PER YEAR. GOVERNMENT DEFICITS SMALL IN COMPARISON TO GDP; CENTRAL BANK FINANCING MINIMAL. IN COMBINATION WITH RELATIVELY LIBERAL TRADE POLICY, ABOVE FACTORS KEPT INFLATION VERY LOW UNTIL 1973 OIL CRISIS. EXTERNAL BORROWING MINIMAL DUE TO LOW CURRENT ACCOUNTS DEFICIT, SURPLUS IN TRADE ACCOUNT AND LIMITED PUBLIC SECTOR DEFICITS. MAJOR ECONOMIC FLUCTUATIONS AVOIDED: QUETZAL RECENTLY CHOSEN AS A WORLD RESERVE CURRENCY BY IMF.

BUT, LIMITED ROLE OF PUBLIC SECTOR IN DEVELOPMENT CONTINUES TO REINFORCE ISOLATION OF RURAL INDIGENOUS POPULATION (OVER 40% OF NATION), OUTSIDE THE MONETIZED ECONOMY. GAP BETWEEN LADINO AND INDIAN IN HEALTH, EDUCATION AND INCOME HAS CHANGED LITTLE SINCE 1950'S. LOW PRODUCTIVITY IN TRADITIONAL AGRICULTURE AND WEAK DOMESTIC DEMAND FOR CONSUMER PRODUCTS, SIGNIFICANT CONSTRAINTS ON GROWTH, NECESSITATE EXPANSION OF ECONOMIC AND SOCIAL SERVICES.

ECONOMICALLY ACTIVE POPULATION IS ONLY 29.9% OF TOTAL POPULATION, ONE OF LOWEST RATES IN LATIN AMERICA. 13% OPEN UNEMPLOYMENT; ACTUAL UNEMPLOYMENT AND UNDEREMPLOYMENT PROBABLY SUBSTANTIALLY HIGHER, AS MUCH AS 12% IN URBAN AREAS AND 42% IN COUNTRYSIDE. GROWTH RATES FOR EMPLOYMENT LOW, ESPECIALLY IN AGRICULTURE, IN COMPARISON WITH ECONOMIC

GROWTH RATES; REVERSE OF SITUATION IN MOST LATIN AMERICAN COUNTRIES. INCOME DISTRIBUTION HEAVILY CONCENTRATED AT UPPER END OF SCALE, WITH RELATIVE EQUALITY IN LOWER 3 QUARTILES. PRODUCTIVITY AND INCOME DISPARITY BETWEEN RURAL AND URBAN ECONOMIC ACTIVITIES, AND GREAT DIFFERENCES WITHIN URBAN AREAS, ARE PROBABLE CAUSES.

RECENT TRENDS

SINCE 1973, RISING WORLD PRICES FOR FOOD AND OIL SLOWED GROWTH OF DOMESTIC ECONOMY, ACCELERATED INFLATION. RISING COSTS OF IMPORTS OFFSET SOMEWHAT BY HIGHER COFFEE PRICES. INCREASED EXPORTS TO CACM AND INCREASED BASIC FOODSTUFF PRODUCTION ARE IMPORTANT TO CONTINUED GROWTH.

1976 EARTHQUAKE PROVED SOCIAL, BUT NOT ECONOMIC, DISASTER. RECONSTRUCTION PROGRAM HAS RESTORED INFRASTRUCTURE (AT LEAST ON TEMPORARY BASIS). INCREASED IMPORTS OF CONSTRUCTION MATERIALS/EQUIPMENT AND CONSUMER GOODS STIMULATED EXPANSION OF CONSTRUCTION AND MANUFACTURING, REDUCING UNEMPLOYMENT AND RAISING WAGES IN AGRO-EXPORT AND CONSTRUCTION SECTORS. GREATEST IMPACT ON HOUSING SITUATION: 1/5 OF POPULATION HOMELESS; BY MID-1976, DEFICIT OF 674,000 HOUSING UNITS, PLUS 223,000 UNITS DAMAGED BY EARTHQUAKE, IN NEED OF REPAIR OR COMPLETE RECONSTRUCTION.

FUTURE PROSPECTS

SHOULD BE ABLE TO MAINTAIN EXPORT GROWTH RATES; NO SIGNIFICANT RESTRAINTS ON CAPACITY TO IMPORT GOODS NEEDED FOR GROWTH AND PUBLIC INVESTMENT PROGRAM. MOST IMMEDIATE NEED IS FOR INCREASED SPENDING ON STAFF, TRAINING AND ASSOCIATED SUPPORTING CAPITAL INVESTMENTS FOR SOCIAL DEVELOPMENT PROGRAMS.

GROSS DOMESTIC EXPENDITURES BY PERCENTAGES, 1960-1976

CONCEPT	DISTRIBUTION /A			GROWTH RATES /B		
	1960	1970	1976	60-70	70-75	75-76
CONSUMPTION	91.6	86.5	84.3	4.7	4.8	6.6

PRIVATE	83.9	78.6	77.8	4.7	4.9	6.7
GOVERNMENT	7.7	8.0	6.5	4.6	3.4	6.1
GROSS DOMESTIC INVESTMENT	10.3	12.8	19.9	7.6	5.5	32.2
FIXED	9.8	12.5	20.3	7.5	5.2	40.7
PRIVATE	7.2	10.2	15.0	8.5	4.3	31.1
GOVERNMENT	2.5	2.4	5.3	3.9	9.2	74.0
CHANGE IN STOCKS	0.5	0.3	-0.4	14.2	14.2	----
GROSS DOMESTIC EXP. (GDX=C+I)	101.9	99.3	104.2	5.0	4.9	9.9
EXPORTS (GOODS & NFS)	12.6	18.4	21.8	10.1	7.5	8.1
TERMS OF TRADE ADJ (TADJ)	----	----	----	15.5	34.4	2.3
EXPORTS (IMPORT CAPACITY)	----	----	----	9.6	1.2	11.3
IMPORTS (GOODS & NFS)	14.5	17.7	26.0	6.8	3.7	22.5
RESOURCE BALANCES						
EXPORTS - IMPORTS (RB)	-1.9	0.7	-4.2	----	22.5	-26.7
IMP CAPACITY - IMPORTS	----	----	----	----	----	157.0
NET FACTOR INCOME (FSY)	-1.0	-2.0	-1.6	14.9	2.2	-7.3
NET CURRENT TRANSFERS (NCT)	----	0.9	4.6	1.2	24.3	153.6
CUR A/C BAL = EXT SAVINGS	-2.9	-0.4	-1.3	-7.0	15.6	----
PRODUCT						
GROSS DOMESTIC (GDX+RB)	100.0	100.0	100.0	5.6	5.6	7.6
GROSS NATIONAL (GDP+FSY)	99.0	98.0	98.4	5.4	5.7	7.9
INCOME						
GROSS DOMESTIC (GDP+TADJ)	----	----	----	5.4	4.5	8.0
GROSS NATIONAL (GDY+FSY)	----	----	----	5.3	4.5	8.4
SAVINGS						
GROSS DOMESTIC (GDY-C)	8.4	13.5	15.7	11.9	2.1	18.8
GROSS NATIONAL (GDS+FSY+NCT)	7.4	12.4	18.7	9.9	4.8	49.3

SOURCE: BANK OF GUATEMALA. BOLETIN ESTADISTICO
 /A BASED ON CURRENT PRICES
 /B BASED ON CONSTANT PRICES

SECTOR ANALYSIS BY PERCENTAGES

ITEM	DISTRIBUTION		GROWTH RATES			
	1960	1975	1976	60-70	70-75	75-76
PRIMARY PRODUCTION	30.5	28.1	27.4	4.4	6.1	5.0
AGRICULTURE	30.3	28.0	27.3	4.4	6.1	4.9
MINING	0.2	0.1	0.1	-1.1	4.3	28.6
SECONDARY PRODUCTION	15.6	18.4	20.2	7.4	5.4	18.2
MANUFACTURING	12.9	15.1	15.5	7.6	4.7	10.4
CONSTRUCTION	2.0	1.9	3.3	3.2	9.1	88.4
PUBLIC UTILITIES	0.7	1.4	1.4	11.4	8.8	7.9
SERVICES	53.9	53.5	52.4	5.5	5.4	5.4
TRANSPORT & STORAGE	4.8	6.4	6.6	6.9	9.0	10.5
COMMERCE	26.2	27.6	27.8	6.6	4.6	8.5
BANKING, INSURANCE & FIN.	1.8	2.6	2.6	8.5	7.7	6.9
HOUSING	9.0	5.9	4.4	2.8	2.1	-19.2
PUBLIC ADMIN. & DEFENSE	6.1	5.0	5.0	3.2	6.3	7.0
PERSONAL SERVICES	6.1	6.0	5.9	4.4	7.3	7.5
GROSS DOMESTIC PRODUCT	100.0	100.0	100.0	5.5	5.6	7.6
GROSS DOMESTIC PRODUCT (Q MLS)	1,049.2	2,352.7	2,531.8	74.4	112.0	179.1

SOURCE: BANK OF GUATEMALA AND STATISTICAL ANNEX TABLE 3.1

EXPORTS

PRODUCT	1970	1975	1976	1977	1978
AGRICULTURAL PROD. - VALUE	163.5	294.7	389.2	701.1	590.1

COFFEE					
VALUE	100.6	164.2	242.5	542.8	431.3
VOLUME	95.1	133.8	117.8	124.1	129.1
PRICE	105.7	122.7	205.8	437.7	334.4
COTTON					
VALUE	27.2	74.0	83.7	93.8	89.5
VOLUME	57.7	96.4	93.1	89.9	92.6
PRICE	47.1	76.7	89.9	104.4	96.8
BANANAS					
VALUE	13.6	34.5	41.3	40.6	42.2
VOLUME	200.4	236.8	265.9	282.7	296.8
PRICE	6.8	14.6	15.5	14.4	14.3
OTHER AGRICULTURAL PROD.					
VALUE	22.1	22.0	21.7	23.8	27.0
MINERAL PRODUCTS - VALUE	4.4	8.2	8.2	12.6	80.5
INDUSTRIAL GOODS - VALUE	129.2	338.0	396.9	434.3	507.6
PROCESSED AG. PROD. - VALUE	21.9	132.5	131.8	126.0	144.5
SUGAR					
VALUE	9.2	115.6	111.0	100.7	113.1
VOLUME	57.3	200.7	302.7	322.4	338.5
UNIT VALUE	16.0	57.6	36.7	31.2	33.4
BEEF					
VALUE	12.7	16.9	20.8	25.3	31.5
VALUE	12.1	12.2	14.5	15.2	16.0
UNIT VALUE	104.9	138.5	143.4	166.7	197.2
MANUFACTURED GOODS /A					
VALUE	107.3	205.5	265.1	308.2	363.1
TOTAL VALUE	297.1	640.9	794.3	(1,148.0)	1,178.2

SOURCE: BANK OF GUATEMALA (TO 1976) WORLD BANK ESTIMATES
/A INCLUDES MISCELLANEOUS PROCESSED AGRICULTURAL PRODUCTS

IMPORTS

BY END USE, IN MILLIONS OF DOLLARS

<u>CATEGORY</u>	<u>1970</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>
CONSUMER GOODS	87.7	164.9	196.7	230.5	250.8
NON-DURABLES	60.2	111.1	121.3	-----	-----
(FOOD)	24.7	-----	-----	-----	-----
DURABLES	27.5	53.8	75.4	-----	-----
INTERMEDIATE GOODS	146.1	398.7	454.0	536.5	603.4
GENERAL MATERIALS	108.3	253.4	267.5	-----	-----
METAL	12.4	22.5	29.2	-----	-----
NON-METAL	95.9	230.9	238.3	-----	-----
CONSTRUCTION MATERIALS	18.5	37.5	68.8	-----	-----
PETROLEUM & LUBRICANTS	14.9	103.3	110.0	137.7	143.8
(CRUDE OIL)	10.9	-----	-----	-----	-----
OTHER /A	4.4	4.5	7.7	-----	-----
CAPITAL GOODS	61.4	171.7	255.9	261.0	280.9
AGRICULTURE	5.7	19.4	23.3	-----	-----
INDUSTRY & MINING	42.9	99.8	167.8	-----	-----
TRANSPORT EQUIPMENT	12.8	52.5	64.8	-----	-----
TOTAL	295.2	735.3	906.6	(1,028.0)	1,135.1
MEMO ITEMS:					
CONSUMER GOODS EXCL. FOOD	63.0	-----	-----	-----	-----
INT. GOODS EXCL. PETROLEUM	131.2	295.4	344.0	-----	-----

SOURCES: BANK OF GUATEMALA (TO 1976), WORLD BANK ESTIMATES
/A INCLUDES MISCELLANEOUS PROCESSED AGRICULTURAL PRODUCTS

OVERVIEW OF AGRICULTURE

SECTOR CONTRIBUTES OVER 25% OF GDP, 3/5THS OF TOTAL EMPLOYMENT,
2/3RDS OF EXPORT VALUE. EXPORT AGRICULTURE HAS CONTRIBUTED A SUB-

STANTIAL SHARE OF INVESTMENT RESOURCES; AGRICULTURAL RAW MATERIALS (SUGAR CANE, CATTLE) SERVE AS BASE FOR INDUSTRIAL EXPANSION. NEVERTHELESS, LIMITED PUBLIC AND PRIVATE INVESTMENT IN AGRICULTURE, ESPECIALLY IN TRADITIONAL CROPS (COFFEE AND BASIC GRAINS) IS MAJOR CAUSE OF LAGGING PRODUCTIVITY AND STAGNATING INCOMES FOR GRAIN PRODUCERS.

LAND TENURE, LAND USE AND GOVERNMENT'S ROLE IN AGRICULTURE ARE DOMINANT THEMES OF 1970'S. LAND DISTRIBUTION HIGHLY SKEWED: 60% OF POPULATION ON 26% OF LAND AREA IN WESTERN HIGHLANDS. AVERAGE FAMILY DOES NOT HAVE ENOUGH LAND TO PROVIDE FOR BASIC NEEDS. EROSION AND REDUCED PRODUCTIVITY ARE CONSEQUENCES OF OVERUSE OF MOUNTAIN TERRAIN. IN CONTRAST, COASTAL AND PETEN LANDS, MORE SUITED TO FARMING, ARE UNDERUSED, ESPECIALLY THOSE HELD BY NATIONAL AGRARIAN TRANSFORMATION INSTITUTE. RECENT HIGH PRICES FOR EXPORT CROPS, COMBINED WITH GOG MARKETING POLICY OF PROVIDING IMPORTED GRAIN BELOW COST IN URBAN AREAS, RESULTED IN SHIFT FROM GRAINS AND BEANS TO SUGAR AND COTTON BY PACIFIC COAST GROWERS. IN 1974, REVISED GOVERNMENT POLICY 1) DEMANDED THAT LARGE FARMS HAVE AT LEAST 10% OF LAND UNDER BASIC GRAINS; 2) MADE AVAILABLE IMPROVED CREDIT FOR GRAIN PRODUCTION; 3) PROHIBITED GRAIN EXPORTS; 4) RAISED GUARANTEED PRICE OF BASIC GRAINS AS MUCH AS 100%. BY 1976, IBRD REPORTED SUBSTANTIALLY INCREASED PRODUCTION. AS OF 1977, GOG HAD ALSO INCREASED APPROPRIATION OF FUNDS FOR AGRICULTURE AND PROVIDED LARGER GRAIN STORAGE CAPACITY. GOVERNMENT CONTROLS PRICES FOR MANY RAW AND PROCESSED FOOD COMMODITIES (MEAT, GRAINS AND CEREALS, VEGETABLE OILS, SUGAR, MILK), IMPORT AND EXPORT LICENSING AND QUOTAS.

CROPS PLANTED AND PRODUCTION TECHNIQUES USED VARY WITH REGION, ETHNIC AFFILIATION AND SOCIOECONOMIC STATUS OF PRODUCERS. MOST BASIC GRAINS GROWN BY TRADITIONAL SUBSISTENCE METHODS (SLASH AND BURN AGRICULTURE, INTENSIVE CULTIVATION, HAND LABOR ON SMALL FAMILY PLOTS) IN WESTERN HIGHLANDS. IN DRIER EASTERN ALTIPLANO, TROPICAL FRUITS AND LIVESTOCK ARE PRIMARY PRODUCTS, SINCE GRAINS AND TOBACCO REQUIRE IRRIGATION THERE. PACIFIC COASTAL PLAIN PRODUCES COFFEE ON MOUNTAIN SLOPES, SUGAR CANE, COTTON AND LIVESTOCK IN TRANSITION ZONE AND COTTON, RUBBER, BANANAS, SUGAR CANE, TROPICAL FRUITS AND CATTLE ON LARGE FARMS OF COASTAL PLAIN. PETEN AND NORTHERN SLOPES, OVER 40% OF NATIONAL TERRITORY, HAVE GOOD AGRICULTURAL POTENTIAL, BUT ARE LITTLE DEVELOPED AT PRESENT, DUE TO LACK OF INFRASTRUCTURE.

PRODUCTION

CULTIVATED AREA, PRODUCTION AND YIELD OF PRINCIPAL CROPS
(^{'000} HECTARES, ^{'000} METRIC TONS AND KG/HA)

PRODUCT	1970	1975	1976
BASIC GRAINS			
CORN			
CULTIVATED AREA	711.9	582.0	559.0
PRODUCTION	703.7	756.7	800.0
YIELD	988.5	1,299.6	1,449.0
BEANS			
CULTIVATED AREA	184.9	97.9	110.0
PRODUCTION	62.5	62.4	73.0
YIELD	340.0	645.4	672.0
RICE			
CULTIVATED AREA	9.3	12.2	18.7
PRODUCTION	14.5	19.0	32.2
YIELD	1,500.0	1,575.0	1,743.2
WHEAT			
CULTIVATED AREA	30.0	45.9	46.6
PRODUCTION	31.0	55.0	55.9
YIELD	1,030.0	1,200.0	1,200.0
SORGHUM			
CULTIVATED AREA	51.0	74.0	56.6
PRODUCTION	46.0	59.6	91.7
YIELD	900.0	815.6	1,640.9
EXPORT PRODUCTS			
COFFEE			
CULTIVATED AREA	203.6	247.8	247.8
PRODUCTION	112.0	138.0	138.0
YIELD	550.0	575.5	576.0
COTTON			
CULTIVATED AREA	84.5	110.9	80.3
PRODUCTION	56.8	102.9	88.9
YIELD	670.0	939.6	1,185.1

SUGAR CANE			
CULTIVATED AREA	31.4	64.2	88.2
PRODUCTION (MLS MT)	2.0	4.2	5.7
YIELD (THS MT/HA)	64.4	65.0	65.0
BANANAS			
CULTIVATED AREA	4.4	5.0	5.0
PRODUCTION	195.0	213.0	267.1
YIELD	44,500.0	42,700.0	53,400.0
RUBBER			
CULTIVATED AREA	3.5	-	-
PRODUCTION	2.9	-	-
YIELD	816.6	-	-
SUGAR			
SUGAR CANE (MLS MT)	2.0	4.2	5.7
REFINED SUGAR (THS MT)	184.6	384.0	544.5
YIELD (KG/MT)	91.2	95.0	92.0
TOTAL AREA CULTIVATED	1,314.6	1,239.9	1,212.2
BASIC GRAINS	987.1	812.0	790.9
EXPORT CROPS	327.5	427.9	421.3

SOURCE: IBRD ESTIMATES

VALUE OF PRODUCTION

(IN MILLIONS OF 1958 QUETZALES)

ITEM	1970	1975	1976
----	----	----	----
CROPS	320.3	452.8	473.7
EXPORT CROPS	162.9	233.5	234.6
COFFEE	108.5	140.8	134.1
COTTON FIBER	29.6	54.5	56.9
BANANAS	16.8	27.0	29.2
COTTON SEED	3.3	5.2	6.3
CARDAMON	3.3	5.3	6.7
OTHER	1.4	0.7	1.4

CROPS FOR LOCAL CONS.	121.2	149.3	147.0
	-----	-----	-----
BASIC	63.6	78.3	73.5
CORN	36.3	43.8	39.4
BEANS	25.8	29.1	28.3
POTATOES	1.5	5.4	5.8
OTHERS	57.6	70.9	73.5
FRUITS	21.4	24.9	25.7
VEGETABLES	19.7	22.9	23.7
LIMA BEANS	1.2	1.4	1.4
PEANUTS	0.1	0.1	0.1
LENTILS	-	-	-
OTHER	15.3	21.6	22.6
INDUSTRIAL RAW MATERIALS	36.1	70.1	92.1
	-----	-----	-----
SUGAR CANE (NATURAL)	13.2	28.6	40.9
SUGAR CANE (PURE SYRUP)	2.8	6.2	9.0
SUGAR CANE (BROWN SUGAR)	6.6	14.3	20.9
WHEAT (UNMILLED)	4.1	6.7	6.2
RICE	2.5	5.0	2.6
TOBACCO	2.1	4.1	4.0
RUBBER	2.3	2.5	3.7
TE DE LIMON	0.9	0.3	0.2
KENAF FIBER	0.8	0.8	0.9
CITRONELLA	0.1	0.2	0.2
SESAME SEED	0.4	0.5	2.1
COCOA	0.2	0.9	0.4
BARLEY	-	-	-
LIVESTOCK SECTOR	172.6	210.4	228.8
	-----	-----	-----
NON-MEAT PRODUCTS	92.9	111.8	125.9
MEAT PRODUCTS	62.4	69.7	73.2
BEEF	30.7	36.5	41.9
PORK	31.0	32.3	30.5
SHEEP	0.6	0.8	0.7
GOATS	0.1	0.1	0.1
FOWL	17.3	29.0	29.7
FORESTRY	41.1	48.3	53.5
	-----	-----	-----
HUNTING AND FISHING	5.4	6.0	6.2
	-----	-----	-----

INPUTS TO AGRICULTURE SECTOR	49.6	66.0	70.1
	-----	-----	-----
VALUE ADDED BY SECTOR	489.7	651.5	692.1
	-----	-----	-----
GROSS VALUE OF PRODUCTION	539.3	717.6	762.2
	-----	-----	-----

SOURCE: BANCO DE GUATEMALA, ESTUDIO ECONOMICA Y MEMORIA DE LABORES

PESTICIDE USE

SINCE 1950, HEAVY USE OF INSECTICIDES (ESTIMATED AT 80 KG/HA, AMONG WORLD'S HIGHEST) ON COTTON CROP, DUE TO NATURALLY OCCURRING SEVERE INSECT INFESTATIONS, HAVE RESULTED IN INCREASING PEST RESISTANCE AND LOSS OF NATURAL PREDATOR/PARASITE CONTROLS. RISE IN NUMBER OF SPRAYS NEEDED PER SEASON, FROM 8 TO 30-40, PARALLELED BY RISE IN COST OF PRODUCTION; HOWEVER, YIELDS FALLING. HUMAN POISONINGS, MOST FROM PARATHION, COMMON AMONG FARM WORKERS. HIGH RESIDUES OF INSECTICIDES IN BEEF AND MILK, BEEF EXPORTS PERIODICALLY AFFECTED. DEVELOPMENT OF RESISTANCE TO INSECTICIDES AMONG MOSQUITO VECTORS OF MALARIA ON COASTAL PLAINS (ONLY LANDRIN MAY STILL BE EFFECTIVE) INCREASES COST OF MOSQUITO CONTROL AND THREAT OF RESURGENCE OF DISEASE.

1977 STATUS

1977 OUTPUT ESTIMATED AT 3.6% BELOW 1976, DUE TO EXTREMES OF WET AND DRY WEATHER; PRODUCTION OF COFFEE AND SUGAR FELL SHARPLY. INCREASED PLANTINGS MAINTAINED COTTON PRODUCTION LEVELS, CONTRIBUTED TO SOME DEGREE OF RECOVERY IN CORN AND SORGHUM, BUT PRODUCTION OF OTHER GRAINS DECLINED. STRONG DOMESTIC DEMAND INCREASED MEAT PRODUCTION BY ABOUT 17% OVER 1976.

PLANTING/HARVESTING SEASONS

COMMODITY	PLANTING SEASON	HARVEST SEASON
BEVERAGES:		
CACAO:		
FIRST CROP.....	---	AUGUST - MARCH
SECOND CROP.....	---	FEBRUARY - APRIL
COFFEE (FIELD PLANTING OF SEEDLINGS):		
LOWER ELEVATION.....	APRIL - MAY	AUGUST - DECEMBER
HIGHER ELEVATION.....	APRIL - MAY	OCTOBER - MARCH
CEREALS AND GRAINS:		
CORN:		
FIRST CROP UP TO 5,500 FEET.....	APRIL - MAY	AUGUST - SEPTEMBER
FIRST CROP OVER 5,500 FEET.....	MARCH - MAY	OCTOBER - JANUARY
SECOND CROP UP TO 4,000 FEET.....	SEPTEMBER - NOVEMBER	JANUARY - MARCH
GRAIN SORGHUM:		
MAIN CROP.....	MAY - JULY	SEPTEMBER - OCTOBER
SECONDARY CROP.....	NOVEMBER - FEBRUARY	MAY - JUNE
RICE.....	APRIL - MAY	AUGUST - DECEMBER
WHEAT:		
LOWER ELEVATION.....	MAY - JULY	OCTOBER - NOVEMBER
HIGHER ELEVATION.....	MAY - JULY	DECEMBER - JANUARY
(MAIN CROP)		
FEEDSTUFFS:		
GRAIN SORGHUM.....	MAY - JULY	DECEMBER - FEBRUARY
FIBERS:		
COTTON.....	MAY - JUNE	NOVEMBER - FEBRUARY
ABACA.....	---	THROUGHOUT YEAR
FRUITS:		
BANANAS:		
ATLANTIC COAST.....	---	THROUGHOUT YEAR
PACIFIC COAST.....	---	THROUGHOUT YEAR

OILSEEDS:

PEANUTS.....	APRIL - JULY	NOVEMBER - DECEMBER
SESAME.....	MAY - SEPTEMBER	OCTOBER - JANUARY

SUGAR CANE (CUTTINGS).....	APRIL - MAY	DECEMBER - APRIL
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VEGETABLES:

BEANS.....	MAY - JUNE	AUGUST - JANUARY
SWEET POTATOES (SLIPS)..	MARCH - APRIL	THROUGHOUT YEAR

IMPORTS

1977 IMPORTS VALUED AT \$52 MILLION, INCLUDED WHEAT, CORN, FEED-STUFFS, VEGETABLE OILS, ANIMAL FATS AND DAIRY PRODUCTS. US IS MAJOR TRADING PARTNER: IMPORTS FROM US TOTALLED \$43 MILLION, UP 7% OVER 1976. IN 1978, WHEAT IMPORTS EXPECTED TO REACH 80,000 TONS, BEANS, 15,000 TONS. CORN IMPORTS ALSO LIKELY TO RISE.

EXPORTS

AGRICULTURAL EXORTS REACHED VALUE OF \$544 MILLION IN 1977, 46% OF TOTAL TRADE EARNINGS. EXCEPTIONAL GAINS IN COFFEE, PRIMARY EXPORT, SUPPORTED BY STRONG COTTON AND SUGAR SALES AND HIGH PRICES FOR MEAT, SPICES AND VEGETABLES. 1978 TRADE OUTLOOK LESS FAVORABLE: LOWER PRODUCTION OF COTTON, LESS COFFEE AVAILABLE FOR EXPORT. EXPORTS OF SUGAR, BANANAS AND MEAT MAY INCREASE.

SEE ALSO ECONOMIC IMPORTS AND EXPORTS

CLIMATE

LOCATION DEPT/CITY -----	TEMP MAX/MIN -----	ANNUAL PRECIP(MM) -----	DAYS OF RAIN -----
SANTA ROSA (LA MORENA)	29.6/19.9	779.5	55
QUICHE (LA PERLA)	31.2/11.0	3,228.0	140
BAJA VERAPAZ(SAN JERONIMO)	27.9/13.8	1,581.6	91
ALTA VERAPAZ(STA MARGARITA)	25.6/13.9	2,056.0	138

EL PETEN (EL PORVENIR)	31.5/19.8	1,417.1	153
GUATEMALA (NATE OBSERV.)	24.2/14.6	1,398.7	125
EL PROGRESO (SANARATE)	25.5/20.0	808.0	80
SACATEPEQUEZ (FLORENCIA)	23.0/13.8	1,124.0	92
CHIMALTENANGO (LOS APOSENTO)	21.3/ 9.0	968.1	85
ESCUINTLA (MAURICIO PMC)	33.9/21.3	825.4	39
IZABAL (PAWNES PLAYITAS)	30.7/21.8	1,383.9	132
SOLOLA (SANTO TOMAS)	25.3/15.0	3,198.0	162
ZACAPA (PASABIEN)	33.3/20.6	867.4	75
QUEZALTENANGO (PATZULIN)	25.0/13.7	3,026.8	121
SUCHITEPEQUEZ (LAS NUBES)	25.2/13.7	4,161.5	175
RETALHULEU (LAS DELICIAS)	34.5/15.5	2,389.0	119
SAN MARCOS (EL ROSARIO)	25.9/17.6	5,885.8	213
HUEHUETENANGO (HUEHUETENAN)	25.9/ 9.2	869.10	114
CHIQUMULA (CAMOTAN)	32.2/19.9	1,477.20	125
JALAPA (LA CEIBITA)	28.5/14.0	897.2	101
JUTIAPA (ASUNCION MITA)	32.1/19.9	1,579.8	128

PRECIPITATION

LOCATION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
GUATEMALA (OBSERVATORIO NACIONAL)	1	-	-	12	115	262	187	289	374	133	25	1
EL PROGRESO (SANARATE)	-	-	-	-	201	189	82	130	83	91	32	-
SACATEPEQUEZ (FLORENCIA)	-	-	-	-	153	220	149	232	201	170	-	-
CHIMALTENANGO (LOS APOSENTO)	-	-	2	3	-	248	-	332	235	116	30	1
ESCUINTLA (MAURICIO PHC)	1	-	-	315	509	-	-	-	-	-	-	-
SANTA ROSA (LA MORENA)	780	-	2	-	-	242	249	287	-	-	-	-
QUICHE (LA PERLA)	89	-	40	182	143	-	278	736	328	877	344	221
BAJA VERA (SAN JERONIMO)	28	1	-	9	128	225	161	400	157	427	28	17
ALTA VERA (SANTA MARGARITA)	78	-	56	-	150	163	139	299	298	444	243	186
PETEN (EL PORVENIR)	23	18	-	39	367	128	169	237	232	-	158	44
IZABAL (PAWNES PLAYITAS)	36	58	30	109	100	263	138	135	103	141	181	89

SOLOLA (SANTO TOMAS)	2	-	1	149	364	510	529	777	412	386	60	8
ZACAPA (PASABIEN)	-	-	-	-	-	242	208	193	120	85	21	-
QUEZALTENANGO- (PATZULIN)	-	35	15	-	509	847	579	-	-	719	227	95
SUCHITEPEQUEZ- (LAS NUBES)	-	-	14	263	791	623	497	1151	434	-	350	39
RETALHULEU (LAS DELICIAS)	1	-	-	220	300	-	411	441	500	430	70	16
SAN MARCOS (EL ROSARIO)	-	18	48	434	584	779	607	957	851	940	583	85
HUEHUETENANGO- (HUEHUETENANGO)	-	-	2	30	126	-	67	307	97	212	11	18
CHIQUIMULA (CAMOTAN)	-	-	1	30	197	492	227	144	136	190	57	4
JALAPA (LA CEIBITA)	-	-	10	2	50	251	-	184	180	198	21	2
JUTIAPA (ASUNCION MITA)	-	-	-	59	171	302	170	362	186	266	50	14

SEASONS

CLIMATE VARIES WITH ALTITUDE AND EXPOSURE TO COASTAL AIR MASSES: GENERALLY, PACIFIC AND CARIBBEAN COASTAL LOWLANDS HAVE YEAR-ROUND HIGH TEMPERATURES AND RELATIVE HUMIDITY (AVERAGE ANNUAL TEMPERATURES: 77 DEGREES F ON PACIFIC COAST, 80 DEGREES F ON CARIBBEAN; RELATIVE HUMIDITY AVERAGES OVER 80% ON BOTH COASTS.) LIKE COASTS, LOWLANDS OF EL PETEN AND THE VALLEYS OF THE RIO MOTAGUA AND RIO DULCE-LAKE IZABAL-RIO POLOCHIC SYSTEMS ARE HOT AND HUMID. HIGHLAND CLIMATES FALL INTO THE WARM-TEMPERATE-COOL RANGE, COOL TEMPERATURES OCCURRING ABOVE 5-6,000', WITH OCCASIONAL FROST IN THE NOVEMBER-APRIL DRY SEASON. THE ORIENTE REGION (EAST OF THE CAPITAL, FROM THE MOTAGUA RIVER VALLEY SOUTH TO SIERRA MADRE AND EAST TO HIGHLANDS OF THE HONDURAN FRONTIER) IS HOT AND ARID, MUCH LIKE DESERTS OF NORTHERN MEXICO AND SOUTHWESTERN USA. APRIL-OCTOBER RAINY SEASON PREVAILS OVER MOST OF COUNTRY, WITH HIGHEST RAINFALL MONTH AUGUST OR SEPTEMBER. RAINFALL VARIES FROM LESS THAN 20" ANNUALLY IN ORIENTE TO NEARLY 200" ON WESTERN SLOPES OF SIERRA MADRE AND IN RIO DULCE BASIN. LOWER ELEVATIONS OF HIGHLAND SYSTEM, SHIELDED FROM CARIBBEAN AND PACIFIC AIR MASSES, RECEIVE 20-80" ANNUALLY. (FOR DETAILS, SEE CLIMATE AND PRECIPITATION)

LANDFORMS

42,000 SQ MI IN AREA, GUATEMALA EXTENDS 280 MI N-S, FROM 17 DEGREES 49' N TO 13 DEGREES 42' N AND 250 MI E-W, FROM 92 DEGREES 30' W TO 88 DEGREES 10' W. BOUNDED BY MEXICO ON N AND W, THE PACIFIC OCEAN IN SW, EL SALVADOR AND HONDURAS IN SE, THE CARIBBEAN SEA IN E AND BELIZE IN NE, ITS LANDFORMS RESULT FROM MEETING OF CARIBBEAN AND NORTH AMERICAN PLATES (ALONG MOTAGUA FAULT ZONE) AND SUBDUCTION OF COCOS PLATE UNDER CARIBBEAN PLATE ALONG MIDDLE AMERICAN TRENCH OFF PACIFIC COAST. E-W RANGES OF ANTILLEAN MOUNTAIN SYSTEM, WHICH EXTEND EASTWARD INTO CARIBBEAN AS GREATER ANTILLES ISLAND GROUP, FOLLOW JUNCTURE OF NORTH AMERICAN AND CARIBBEAN PLATES; NW-SE TRENDING SIERRA MADRE RANGES, WHICH INCLUDE THE CENTRAL AMERICAN VOLCANOES MOST ACTIVE IN RECENT GEOLOGIC TIME, BELONG TO PACIFIC CORDILLERA. GREAT DIVERSITY OF HILLS, PLATEAUS AND MOUNTAINS, DISSECTED BY NETWORK OF WATER-COURSES, WITH STEEP SLOPES ESPECIALLY COMMON IN CENTRAL AND WESTERN HIGHLANDS. NUMEROUS RAPID-FLOWING STREAMS DRAIN PACIFIC MOUNTAIN SLOPES; LARGER CARIBBEAN RIVERS PARALLEL ANTILLEAN RANGES; THEIR BROAD VALLEYS EXTEND CARIBBEAN COASTAL LOWLANDS DEEP INTO EASTERN HIGHLANDS.

HIGHLANDS CONSTITUTE 50% OF TOTAL LAND AREA. PETEN LOWLANDS AND THE ADJACENT TRANSITIONAL ZONE BETWEEN PETEN AND ALTIPLANO, THE NORTHERN SLOPES, MAKE UP ANOTHER 40%. THESE NORTHERN REGIONS ARE PART OF VAST LIMESTONE PLAIN OF YUCATAN PENINSULA, WHICH SLOPES FROM HIGHLANDS ALONG GUATEMALA-BELIZE BORDER (1,000-3,000' ELEVATIONS) NORTHWARD INTO GULF OF MEXICO. REGION IS CHARACTERIZED BY EXTENSIVE UNDERGROUND DRAINAGE SYSTEM -- SURFACE WATER TAKES FORM OF MEANDERING NORTH-FLOWING RIVERS AND NUMEROUS SMALL LAKES AND WATER-FILLED SINKHOLES. SWAMPY AREAS COMMON, ESPECIALLY ALONG RIVERS.

LAND USE BY DEPARTMENTS

1. CHIMALTENANGO, SOLOLA, TOTONICAPAN, SAN MARCOS, EL QUICHE, HUEHUETENANGO, QUEZALTENANGO, DOMINATED BY CONTEMPORARY MAYAN COMMUNITIES; AGRICULTURE RESTRICTED TO SMALL FAMILY PLOTS.
2. ESCUINTLA, SANTA ROSA, SUCHITEPEQUEZ, RETALHULEU WITH FEW TRADITIONAL MAYAN COMMUNITIES; INDIANS MIGRANT WORKERS OR SETTLED FARMERS.
3. EL PROGRESO, JUTIAPA, CHIQUIMULA, ZACAPA DOMINATED BY COMMERCIAL AGRICULTURE SURROUNDING MOTAGUA RIVER AND TRIBUTARIES; FEW INDIANS WHO DO LIVE HERE ARE EITHER MIGRANT LABORERS OR NEW RESIDENTS.



4. GUATEMALA, SACATEPEQUEZ DOMINATED BY CAPITAL, AND COMMERCIAL INTERESTS.
5. ALTA AND BAJA VERAPAZ POPULATED BY VARIED INDIAN GROUPS AS SUBSISTENCE FARMERS.
6. IZABAL -- 20% COVERED BY LAKE IZABAL; FEW TRADITIONAL INDIAN GROUPS. COMMERCIAL ACTIVITY DOMINATED BY PUERTO BARRIOS (ATLANTIC PORT OF ENTRY), AND EL ESTOR, A NICKEL MINING AREA.
7. EL PETEN -- SUBSISTENCE AGRICULTURE WITH COMMERCIAL ACITIVITY LIMITED TO HARVESTING LUMBER, CHICLE AND RUBBER WITH MIGRANT LABOR FROM NEIGHBORING DEPARTMENTS.
(SEE NATIONAL POPULATION)

LAND DISTRIBUTION

312,800 OF SMALLEST FARMS ON LOTS TOTALING 1,424,000 ACRES, OR 4.55 ACRES PER FARM; MANY LESS THAN 2 ACRES. 900 OF LARGEST FARMS (FINCAS) COVER 2,617,000 ACRES, OR 2,900 ACRES PER FARM; ALMOST EXCLUSIVELY ON S COAST AND EXPORT ORIENTED.

SOIL EROSION

SEVERE SOIL EROSION IN W HIGHLANDS; POPULATION PRESSURE FORCES GREATER CULTIVATION OF STEEP SLOPES AND, COMBINED WITH VIRTUALLY NO SOIL CONSERVATION PRACTICES, RESULTS IN SHEET, RILL AND GULLY EROSION. IN ADDITON, OUT-MIGRATION TO EL PETEN HAS INTENSIFIED DESTRUCTION OF GROUND COVER WITH CONSEQUENT SOIL EROSION. 1979 HAS BEEN DECLARED THE YEAR OF REFORESTATION IN ATTEMPTS TO REMEDY EROSION AND WATER LOSS PROBLEMS.

MAJOR NAVIGABLE WATERWAYS

MOTAGUA RIVER, PRINCIPAL HEADSTREAM: RIO GRANDE, RISES IN DEPARTMENT OF EL QUICHE NEAR CHICHICASTENANGO. UPPER 120 MILES OF RIVER ARE SHALLOW, EASILY FORDED IN DRY SEASON. FLOW AND DEPTH VARY CONSIDERABLY WITH SEASONS; DEPTHS AVERAGE BETWEEN 6 AND 15 FEET, WITH

LOWEST LEVELS APRIL-MAY. WIDESPREAD FLOODING IN LOWER VALLEY AND DELTA DURING RAINY SEASON. LOWER 120 MI NAVIGABLE AT MOST TIMES; RIVER PARALLELED BY ROAD AND RAIL SYSTEMS WHICH LINK COAST AND CAPITAL. POLOCHIC RIVER BASIN, WHICH INCLUDES LAKE IZABAL, COMPRISES POLOCHIC RIVER, RISING IN ALTA VERAPAZ AND FLOWING 149 MI INTO LAKE IZABAL (25 MI LONG, 12 MI WIDE), THE LAKE ITSELF AND ITS EFFLUENT, THE DULCE RIVER, WHICH EMPTIES INTO THE CARIBBEAN AT THE BAHIA DE AMATIQUE. DEPTHS VARY FROM 16-100' IN DULCE RIVER, 36-48' IN LAKE IZABAL AND 4-16' IN RIO POLOCHIC. THE DULCE AND THE LAKE ARE NAVIGABLE YEAR-ROUND BY SMALL CRAFT. THE POLOCHIC IS NAVIGABLE DOWNSTREAM FROM PANZOS BY BOATS OF 8' DRAFT AND UPSTREAM BY BOATS OF 2-3' DRAFT, EXCEPT IN VERY DRY YEARS.

COASTS

CARIBBEAN: IRREGULAR, DEEPLY EMBAYED, 85 MI LONG. SHELTERED BAHIA DE AMATIQUE, INTO WHICH RIO SARSTUN AND RIO DULCE EMPTY, ENCOMPASSES OVER HALF THE COASTLINE; MOTAGUA RIVER DEBOUCHES INTO GULF OF HONDURAS.

PACIFIC: 165 MI LONG, BROAD COASTAL PLAIN RIMMED BY TIDAL LAGOONS AND MARSHES, SANDBARS AT RIVER MOUTHS. SURF SOMETIMES HEAVY.

MOUNTAIN SYSTEMS

TWO MAJOR ARCS OF ANTILLEAN SYSTEM, EACH COMPRISING 3 RANGES, SWING E-W ACROSS COUNTRY. NORTHERN ARC INCLUDES (W-E): SIERRA DE LOS CUCHUMATANES, WITH PLATEAUS AT 7-8,000' ELEVATIONS AND INDIVIDUAL PEAKS UP TO 12,000'; SIERRA DE CHAMA, HIGHEST ELEVATION 8,600', AND SIERRA SANTA CRUZ, HIGHEST POINT 4,000'. RIO SELEGUA, RIO SALINAS AND RIO POLOCHIC MARK DIVISION BETWEEN NORTHERN AND SOUTHERN ARCS. SOUTHERN ARC MADE UP OF SIERRA DE CHUACAS, SIERRA DE LAS MINAS, MONTANAS DEL MICO. ALTITUDES RANGE FROM 8,000' IN W TO 9-10,000' IN CENTRAL SIERRA DE LAS MINAS AND 3-4,000' IN EAST.

PACIFIC RANGES CONSTITUTE BACKBONE OF COUNTRY AND WATER DIVIDE, CONTAIN COUNTRY'S HIGHEST PEAKS. CHAIN OF ACTIVE VOLCANOES FOLLOWS SW EDGE OF HIGH PLATEAU; IN EAST, WHERE ELEVATIONS ARE LOWER, VOLCANIC PATTERN IS LESS REGULAR. ELEVATIONS IN WEST: PLATEAUS 7-9,000', PEAKS UP TO 14,000'. ELEVATIONS IN CENTRAL SIERRA MADRE ARE SOMEWHAT LOWER, WITH PEAKS RANGING FROM 8-13,000'. ELEVATIONS IN EAST DROP TO 3-4,000', WITH OCCASIONAL VOLCANIC CONES RISING TO 6,000'.

VOLCANOES

NAME	HEIGHT	ACTIVITY	LOCATION	LAST ERUPT
TAJUMULCO	13,812			
TACANA	13,335*			
ACATENANGO	12,992			
FUEGO	12,582			
SANTA MARIA QUEZALTENANGO	12,362			
AGUA	12,310	(DESTROYED THE OLD CITY OF GUATEMALA IN 1541)		
ZUNIL	11,591			
ATITLAN	11,565			
PACAYA	8,346			

*GIVEN ALSO AS 13,976

SEISMICITY

QUAKE OF 2/4/76 OCCURRED WITHIN MOTAGUA FAULT ZONE, ACTIVE BOUNDARY BETWEEN CARIBBEAN AND N AMERICAN PLATES. FUTURE MODERATE TO MAJOR QUAKES MOST LIKELY TO OCCUR NEAR ENDS OF FAULT: GUATEMALA CITY AND PUERTO BARRIOS.

MAIN FAULT (STRIKE-SLIP TYPE) IN MOTAGUA VALLEY, 240 KM LONG; MOST EXTENSIVE SURFACE RUPTURE IN N HEMISPHERE SINCE SAN FRANCISCO QUAKE OF 1906. EXTENDS FROM QUEBRODAS TO PATZAJ; COMES WITHIN 25 KM OF GUATEMALA CITY. SUBSIDIARY FAULTS AND SPLAYS SCARCE. SECONDARY FAULTS HIGHLY UNUSUAL, OCCURRING 30 KM FROM MAIN FAULT; RARE FOR STRIKE-SLIP TYPES BUT DESERVE STUDY BECAUSE PASS THROUGH GUATEMALA CITY.

SEISMIC AREAS

3 MAIN AREAS: COCOS PLATE THRUSTING UNDER CARIBBEAN PLATE AT DEPTH OF 50-250 KM; AT SHALLOW DEPTHS BENEATH VOLCANOES AND SOURCE OF MANY MODERATE-SIZE QUAKES; FAULT SYSTEM CROSSING CENTRAL GUATEMALA, INCLUDING MOTAGUA VALLEY. SEISMIC GAPS: FROM 1902 UNTIL 1976, MOTAGUA FAULT ZONE RELATIVELY INACTIVE; NOW, MAJOR GAP ON W COAST OF CENTRAL AMERICA BETWEEN 88 AND 91 DEGREES W LONGITUDE. DATA FOR QUAKE: 7.5 RICHTER; 100,000 SQ KM AREA; EPICENTER FOCAL DEPTH, 120 KM.

PORTS

BARRIOS

PUERTO BARRIOS - ATLANTIC PORT

LOCATION: 15.43N,88.36W

ACCOMMODATION: DEPTH IN CHANNEL APPROACHES 28 FT. GOOD ANCHORAGE SW OF PIER W NEARLY 5 FMS OF WATER. R OF T LESS THAN 12 INCHES. ONE PIER 2,112 FEET LONG, BELONGING TO RAILWAYS OF GUATEMALA, WITH ONE INNER BERTH, DEPTH 25' AT OUTER END, 21' AT INNER END. ON THE SOUTH SIDE OF APPROACH TO PIERHEAD, ONE OUTER BERTH WITH 23 FT AND ONE INNER BERTH WITH 16 FT.

STORAGE: PIER SHEDS OF 400 FT BY 80 FT AND 580 FT BY 41 FT. NO CRANES ON PIER BUT 15-TON MOBILE CRANE AND 5-TON CRAWLER CRANE AVAILABLE IN YARDS. WATER AVAILABLE. PILOTAGE COMPULSORY; TOWAGE OPTIONAL.

AIRPORT: 1 MILE.

SANTO TOMAS

SANTO TOMAS DE CASTILLA (MATIAS DE GALVEZ) - ATLANTIC PORT

LOCATION: 15.42N,88.37W

ACCOMMODATION: A MODERN PORT IN A WELL-PROTECTED BAY WITH GOOD ANCHORAGE. CONTROLLING DEPTH AT ENTRANCE(VILLED0 LIGHTHOUSE 2 1/2 MILES DISTANT)26 FT. DEPTH IN DREDGED CHANNEL 32 FT, IN TURNING BASIN 30FT. DEPTH AT WHARF 33 FT; 6 SHIPS UP TO 10,000 TONS EACH CAN MANEUVER AT THE SAME TIME. PIER 3,000 FT LONG, WITH A WAREHOUSE OF 376,544 FT AND UN-COVERED STORAGE AND CIRCULATION AREA OF 1,540,600 SQ FT. PILOTAGE COMPULSORY; TOWAGE OPTIONAL.

AIRPORT: PUERTO BARRIOS, 8KM.

SAN JOSE

SAN JOSE - PACIFIC PORT

LOCATION: 12.55.10N, 90.50W, 107 KMS SOUTH OF GUATEMALA CITY.

ACCOMMODATION: OPEN ROADSTEAD; SHIPS ANCHOR ABOUT 1/4 MILE FROM PIER-HEAD IN 8-9 FMS ; SAND, NOT VERY GOOD HOLDING GROUND. INFREQUENT HEAVY SWELLS; FROM MID-JUNE UNTIL OCTOBER, VIOLENT WINDS & RAIN STORMS OF SHORT DURATION, "CHUBASCOS", PARTICULARLY AT NIGHT. STEEL PIER OWNED BY FERROCARRILES DE GUATEMALA (FEGUA). OPERATED BY AGENCIA MARITIMA, SOUTH AMERICA; SERVES LIGHTERS FOR LOADING/DISCHARGING VESSELS IN THE ROAD. 3 5-TON WINCHES

1 HEAVY DUTY WINCH OF 20 TONS (CAPACITY,22 SHORT TONS)
9 LIGHTERS OF 35-TON CAPACITY EACH
4 TUGS
1 DISPATCH BOAT

MINOR REPAIRS POSSIBLE.

SEE ALSO PUBLIC HOLIDAYS

CHAMPERICO

CHAMPERICO - PACIFIC PORT

LOCATION: 14.18N, 91.56W

ACCOMMODATION: OPEN ROADSTEAD SUBJECT TEMPORARILY TO HEAVY SWELLS.

ANCHORAGE IN 43 FT, ONE MILE FROM WHARF. CARGO LOADED AND DISCHARGED BY LIGHTERS. PIER LENGTH 1,132 FT, WIDTH 82 FT, HEAD 82 FT, BRIDGE 27 FT.

2 10-TON, 2 15-TON, AND 1 25-TON WINCH (CAPACITY 40 TONS)

4 TUGS

11 30-TON LIGHTERS

2,000 M RAILWAY, 4 LOCOMOTIVES, 150 CAR PLATFORMS, 15-TON, 7 CRANES, NO BUNKERS.

STORAGE: COVERED WAREHOUSES: 35,100 CU M TOTAL PORT AREA: 52,000 SQ M CONCRETE PAVED. OPEN AND PAVED WAREHOUSES IN TOTAL AREA OF 30,000 SQ M. PORT RAIL TRACKS, 6,000 LINEAL FT

PILOTAGE NOT NECESSARY.

NOTE: AIRPORT, RETALHULEU, 20 MILES NORTHWEST OF PORT.

LIVINGSTON

LIVINGSTON - PACIFIC PORT

LOCATION: 15.49N, 88.52W, ON EL RIO DULCE.

ACCOMMODATION: DEPTH AT ENTRANCE 10 FT, ON BAR 5-8 FT AND ALONGSIDE WHARF, 5-6 FT. VESSELS DRAWING MORE THAN 6 1/2 FT ANCHOR 2 MILES OUT IN 4-9FMS. 2 WHARVES SUITABLE ONLY FOR LIGHTERS; CARGO LANDED BY LIGHTERS OF 80 TONS.

STORAGE: MUNICIPAL WHARF AT CUSTOMS HOUSE, 2 DOCKS: 134 FT X 67 FT AND 50 FT X 32 FT.

PILOTAGE NOT AVAILABLE.

SUMMARY

ATLANTIC PORTS, PUERTO BARRIOS AND SANTO TOMAS DE CASTILLO, BOTH ON BAY OF AMATIQUE, CONTROLLED BY FEGUA; ALSO HANDLE CARGO FOR EL SALVADOR. LESS THAN 10 KM APART, THEY TEND TO BE COMPLEMENTARY IN ACTIVITY: SANTO TOMAS IS GENERAL CARGO PORT, PUERTO BARRIOS, AGRICULTURAL COMMODITY PORT, BEFORE 1976 EARTHQUAKE SERIOUSLY DAMAGED IT. PACIFIC PORTS, CHAMPERICO, SAN JOSE, ARE CONSIDERED INADEQUATE; CONSTRUCTION OF NEW PACIFIC PORT MAY BEGIN IN 1979; ALTERNATIVELY, SAN JOSE MAY BE EXPANDED.

AIRPORTS

AIR TRANSPORT IS PARTICULARLY IMPORTANT IN AGRICULTURAL AND TOURIST SECTORS. REGULAR AIR SERVICE NECESSARY FOR TRANSPORT OF GOODS AND PASSENGERS TO REMOTE AREAS LIKE PETEN. 381 USABLE AIRFIELDS: 7 WITH PERMANENT-SURFACE RUNWAYS, 17 WITH RUNWAYS OVER 1,220 M; 1 SEA-PLANE STATION. LA AURORA AIRPORT, GUATEMALA CITY, CONSIDERED BEST IN CENTRAL AMERICA, CAN ACCOMODATE JET AIRCRAFT. RAINY SEASON MAY LIMIT USE OF SMALLER AIRFIELDS.

DEVELOPMENT PLANS FOR 1977-82 PERIOD INCLUDE CONSTRUCTION OF A NEW AIRPORT AT SANTA ELENA IN THE PETEN AND THE FIRST PHASE OF UP-GRADING LA AURORA AIRPORT.

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.

-----RUNWAY CHARACTERISTICS-----								
LOCATION	ELEVA- TION M/ COORDINATES	TEMP C	NR/TYPE	SLOPE %	AIRCRAFT/ LENGTH M	CL	AIRCRAFT/ STRENGTH (1,000 KG)	FUEL/ OCTANE
CHAMPERICO	N/A							100
14 18' N	N/A		N/A	N/A	N/A	N/A	N/A	
91 50' W								

REMARKS: LONGEST RUNWAY 3,600', NOT HARD SURFACED.

AIDS: VFR ONLY.

-----RUNWAY CHARACTERISTICS-----								
LOCATION	ELEVA- TION M/ COORDINATES	TEMP C	NR/TYPE	SLOPE %	AIRCRAFT/ LENGTH M	CL	AIRCRAFT/ STRENGTH (1,000 KG)	FUEL/ OCTANE
GUATEMALA/ LA AURORA								100,JA1
14 34' 55" N	1506		01/19	0.87	2987	A	AUW 160/4	
90 31' 39" W	23.7							

REMARKS: ALTERNATE AERODROMES: COZUMEL/INTL, MANAGUA/LAS MERCEDES #, MERIDA/LIC. CRESCENCIO REJON INTL, MEXICO/LIC. BENITO JUAREZ INTL, SAN SALVADOR/ILOPANGO INTL.

AIDS: DME, VOR, AV(01+), R, L4, L5, L9, LTX, B, LO, D, MC, T, MTD, S, MTX, MO. NO TELEX.

-----RUNWAY CHARACTERISTICS-----							
LOCATION COORDINATES	ELEVA- TION M/ TEMP C	NR/TYPE	SLOPE %	AIRCRAFT/ LENGTH M	CL	AIRCRAFT/ STRENGTH (1,000 KG)	FUEL/ OCTANE
MELCHOR DE MENCOS	348						
17 03' N 89 09' W	N/A	N/A.	N/A	N/A	N/A	N/A	NONE

REMARKS: LONGEST RUNWAY 3,000', NOT HARD SURFACED. NO AIR-GROUND COMMUNICATIONS.

-----RUNWAY CHARACTERISTICS-----							
LOCATION COORDINATES	ELEVA- TION M/ TEMP C	NR/TYPE	SLOPE %	AIRCRAFT/ LENGTH M	CL	AIRCRAFT/ STRENGTH (1,000 KG)	FUEL/ OCTANE
PUERTO BARRIOS/ PUERTO BARRIOS							100
15 44' N 88 35' W	2 30.1	12/30	0.56	1800	B	AUW 41	

REMARKS: NO ALTERNATE AERODROMES LISTED BY ICAO.

AIDS: L4, MD, MC, MT. 3 HOUR ADVANCE NOTICE FOR FUEL. NO TELEX.

-----RUNWAY CHARACTERISTICS-----							
LOCATION COORDINATES	ELEVA- TION M/ TEMP C	NR/TYPE	SLOPE %	AIRCRAFT/ LENGTH M	CL	AIRCRAFT/ STRENGTH (1,000 KG)	FUEL/ OCTANE
SAN JOSE/ SAN JOSE							
13 55' 50" N 90 50' 07" W	8 30.3	15/33	0.16	1574	B	AUW 41	100

REMARKS: NO ALTERNATE AERODROMES LISTED BY ICAO.

AIDS: L4, MD, MC, MT. NO TELEX.

*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
- LC - RUNWAY CENTER LINE LIGHTING
- LTD - RUNWAY TOUCHDOWN ZONE LIGHTING
- LTX - TAXIWAY LIGHTING
- B - AERODROME OR IDENTIFICATION BEACON
- LO - OBSTRUCTION LIGHTING

MARKING AIDS

- D - RUNWAY DESIGNATION MARKINGS
- MC - RUNWAY CENTER LINE MARKINGS
- T - RUNWAY THRESHOLD MARKINGS
- MTD - RUNWAY TOUCHDOWN MARKINGS
- S - RUNWAY SIDESTRIPE MARKINGS
- FD - FIXED DISTANCE MARKINGS
- MTX - TAXIWAY CENTER LINE & HOLDING POSITION MARKINGS
- MO - OBSTRUCTION MARKINGS

ADDITIONAL AIDS (L)

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.)

RAILROAD SYSTEM

SYSTEM TOTALS NEARLY 1,000 MI, MOST OF IT GOVERNMENT-OWNED AND OPERATED (SEE PORTS). MAIN LINE RUNS FROM PUERTO BARRIOS TO GUATEMALA CITY AND SAN JOSE ON PACIFIC COAST. BRANCH LINES RUN FROM VICINITY OF MASAGUA WEST ALONG PACIFIC COAST TO TECUN UMAN ON MEXICAN BORDER; FROM ZACAPA SOUTH TO SALVADOREAN BORDER; AND FROM PUERTO BARRIOS TO SANTO TOMAS DE CASTILLO.

FERROCARRIL VERAPAZ, PART OF GOVERNMENT-OWNED-HIGHWAY-RAIL-BARGE LINKAGE, OPERATES 29 MI LINE LINKING ALTA VERAPAZ COFFEE REGION WITH RIVER OUTLET TO CARIBBEAN PORT OF LIVINGSTON.

UNITED FRUIT CO. AND CIA. AGRICOLA DE GUATEMALA OPERATE SOME 207 MI OF TRACK; FORMER ALSO HAS 180 MILES OF PLANTATION TRACK. VERAPAZ RAILWAY, LIVINGSTON, IZABAL 46.4 KM, PANZOS-PANCACHE, SERVES THE COFFEE DISTRICT. THE COMPANY (UNDER GOVERNMENT MANAGEMENT) OWNS RIVER DULCE STEAMERS.

ROAD NETWORK

ALL MAJOR PRODUCTION AND CONSUMPTION CENTERS AND PRINCIPAL PORTS ARE CONNECTED BY 2,600 KM PAVED ROAD NETWORK; UNPAVED ROADS TOTAL 11,300 KM. HIGHWAY DENSITY GREATEST IN PACIFIC LOWLANDS AND CENTRAL HIGHLANDS, LOWEST IN PETEN AND ATLANTIC DEPARTMENTS. SERIOUS SHORTAGE OF ALL WEATHER FARM-TO-MARKET ROADS. FEEDER AND PENETRATION ROADS PARTICULARLY NEEDED IN PETEN.

MAJOR ROUTES:

PACIFIC HIGHWAY CROSSES PACIFIC COASTAL PLAINS VIA LAS PALMAS, COATEPEQUE, RETALHULEU, MAZATENANGO, ESCUINTLA AND CHIQUIMULLA TO SALVADOREAN BORDER.

INTERAMERICAN HIGHWAY EXTENDS FROM MEXICAN TO SALVADOREAN BORDERS, PASSING THROUGH CENTRAL HIGHLANDS AND GUATEMALA CITY. INTEROCEANIC HIGHWAY FOLLOWS MOTAGUA RIVER VALLEY, CROSSES HIGHLANDS VIA CAPITAL TO PACIFIC PORT OF SAN JOSE.

ADDITIONAL PAVED ROAD SYSTEMS CONNECT CAPITAL AND JALAPA WITH JUTIAPA AND SAN SALVADOR, EL SALVADOR; JOIN ZACAPA AND CHIQUIMULA WITH SAN SALVADOR AND WITH INTEROCEANIC HIGHWAY; CONNECT QUETZALTENANGO WITH TAPACHULA, MEXICO (E-W), AND (N-S) WITH CHAMPERICO ON PACIFIC COAST AND SAN CRISTOBAL ON INTERAMERICAN HIGHWAY. PAVED ROAD RUNS NORTH FROM EL PROGRESO TO COPAN, CONTINUES, UNPAVED, TO FLORES ON LAKE PETEN.

ROAD NETWORK CONSIDERABLY DAMAGED BY 1976 EARTHQUAKE (US \$48 MILLION ESTIMATED COST); INTEROCEANIC HIGHWAY CLOSED FOR 6 WEEKS DUE TO LANDSLIDES, COLLAPSED AND DAMAGED BRIDGES. INTERAMERICAN HIGHWAY BETWEEN ANTIGUA AND CAPITAL ALSO BLOCKED BY LANDSLIDES.

DOMESTIC AND FOREIGN AIRLINES

AVIATECA - EMPRESA GUATEMALTECA DE AVIACION, GUATEMALA CITY, OPERATES INTERNAL SERVICE CONNECTING ALMOST ALL PRINCIPAL TOWNS WITH THE CAPITAL; EXTERNAL SERVICES TO MERIDA, MEXICO DF, MIAMI, NEW ORLEANS, SAN PEDRO SULA AND SAN SALVADOR. FLEET CONSISTS OF BAC 111-500, DC6'S AND DC3'S.

FOREIGN AIRLINES SERVING GUATEMALA ARE AIR PANAMA, IBERIA, PAN AMERICAN, SABENA, SALISA(HONDURAS), TACA (EL SALVADOR).

RAIL CARRIERS

FERROCARRILES DE GUATEMALA -- FEGUA: 9A AVDA. 18-03, ZONA I, GUATEMALA CITY; GOVERNMENT OWNED; 1,782 KM OPEN FROM PUERTO BARRIOS AND SANTO TOMAS DE CASTILLA ON THE ATLANTIC COAST TO TECUN UMAN ON THE MEXICAN BORDER, VIA ZACAPA, GUATEMALA CITY AND SANTA MARIA. BR. LINES: SANTA MARIA-SAN JOSE; LAS CRUCES-CHAMPERICO. FROM ZACAPA ANOTHER LINE BRANCHES SOUTHWARD TO ANGUIATU ON THE BORDER WITH EL SALVADOR; OWNS THE PORTS OF BARRIOS (ATLANTIC) AND SAN JOSE.

SINCE 1974, REPLACEMENT OF OBSOLETE STEAM LOCOMOTIVE FLEET, MAN-POWER REDUCTION AND RISE IN AVERAGE TARIFFS FOR SHIPPERS HAVE IMPROVED FEGUA'S FINANCIAL STATUS.

ROAD CARRIERS

SEE HOST RESOURCES

SHIPPING LINES

SERVICE FROM:

NEW YORK AND NORTH ATLANTIC PORTS UNITED FRUIT CO.

NEW ORLEANS AND GULF PORTS

FLOTA MERCANTE GRANCOLOM-
BIANA
LYKES CARIBBEAN LINE
STANDARD FRUIT & S.S. CO.
UNITED FRUIT CO.

SAN FRANCISCO AND PACIFIC PORTS

GRACE, INDEPENDENCE & LLOYD
LINES

CHARLESTON AND BALTIMORE

COSTA RICA LINE

CANADA

SWEDISH AMERICAN LINE

U.K.

ROYAL MAIL LINE

SERVICES ARE PROVIDED BY FRENCH, GERMAN AND DUTCH LINES FROM THE
CONTINENT.

DOMESTIC SHIPPING

FLOTA MERCANTE GRAN CENTRO-AMERICANA, S.A.: 1A CALLE 7-21, 5
DEGREES, ZONA 9 GUATEMALA CITY; SERVICES FROM EUROPE (IN ASSOCIATION
WITH WITASS), GULF OF MEXICO, US ATLANTIC AND EAST COAST CENTRAL
AMERICAN PORTS AND FROM THE FAR EAST TO WEST COAST CENTRAL AMERICAN
PORTS IN ASSOCIATION WITH JAPANESE LINES.

PERSONAL ENTRY REQUIREMENTS

PASSPORT REQUIRED.

VISA REQUIRED; HOWEVER, TOURIST CARDS MAY BE USED IN PLACE OF A
VISA FOR UP TO 90 DAYS. CHOLERA AND YELLOW FEVER VACCINATIONS RE-
QUIRED FOR ARRIVALS FROM INFECTED AREAS.

AIRCRAFT ENTRY REQUIREMENTS

ALL PRIVATE AND NON-SCHEDULED COMMERCIAL AIRCRAFT OVERFLYING
OR LANDING FOR COMMERCIAL OR NON-COMMERCIAL PURPOSES MUST OBTAIN
PRIOR PERMISSION FROM THE DIRECTORATE GENERAL OF CIVIL AERONAUTICS,

LA AURORA AIRPORT, GUATEMALA CITY, GUATEMALA (TELEGRAPHIC ADDRESS: DAEROCIVIL GUATEMALA/TELEX: NONE) AT LEAST 24 HOURS IN ADVANCE. REQUESTS MUST INCLUDE: TYPE OF AIRCRAFT AND REGISTRATION MARKS, AIRCRAFT OWNER, ORIGIN AND DESTINATION OF FLIGHT, DATE AND TIME OF LANDING OR OVERFLIGHT, NAME OF PILOT AND CO-PILOT, PURPOSE OF FLIGHT, NUMBER OF PASSENGERS AND TYPE AND AMOUNT OF CARGO.

A RESPONSE TO THE REQUEST WILL NOT BE RECEIVED UNLESS PERMISSION IS DENIED OR UNLESS RESRICTIONS ARE PLACED UPON THE FLIGHT. IF NO RESPONSE IS RECEIVED WITHIN 24 HOURS, THE REQUESTOR MAY ASSUME THAT PERMISSION IS GRANTED. IF A DEFINITE ANSWER TO THE REQUEST IS DESIRED, THE REQUESTOR MUST INCLUDE PROVISION FOR PRE-PAID REPLY. A COPY OF THE REQUEST SHOULD BE KEPT AND CARRIED ALONG ON THE FLIGHT TO PROVE THAT THE REQUEST HAD BEEN SENT.

AIR DISTANCES

FROM GUATEMALA CITY TO:

HOUSTON	1382 STATUTE MILES
MANAGUA (NICARAGUA)	338 STATUTE MILES
MEXICO CITY	655 STATUTE MILES
MIAMI	1022 STATUTE MILES
NEW ORLEANS	1073 STATUTE MILES
SAN FRANCISCO	2535 STATUTE MILES
SAN SALVADOR (EL SALVADOR)	113 STATUTE MILES
TEGUCIGALPA (HONDURAS)	225 STATUTE MILES

LAND MILEAGES

FOUR CHARTS BELOW GIVE APPROXIMATE DISTANCES IN KILOMETERS BETWEEN 45 CITIES IN GUATEMALA. THE DISTANCE BETWEEN 2 CITIES IS FOUND AT THE INTERSECTION OF THE ROW IDENTIFIED BY ONE CITY AND THE COLUMN IDENTIFIED BY THE OTHER. DISTANCES BASED ON ROUTES CONSIDERED MOST CONVENIENT FOR THE TRAVELER.

ANTIGUA, GUATEMALA
 198 ASUNCION
 182 262 CHAMPERICO
 23 205 204 CHIMALTENANGO
 205 96 389 215 CHIQUIMULA
 107 134 229 129 201 CHIQUIMULILLA
 179 359 86 203 381 226 COATEPEQUE
 203 253 330 197 227 294 315 COBAN
 398 571 337 376 545 471 322 359 COMITAN, MEXICO
 103 94 269 113 161 41 266 252 488 CUILAPA
 108 122 289 118 96 172 286 130 450 132 EL PROGRESO
 44 197 166 66 219 64 163 244 408 104 122 ESCUINTLA
 249 128 430 259 50 235 427 278 598 195 147 265 ESQUIPULAS
 211 152 392 221 55 259 389 222 542 219 102 227 108GUALAN
 40 156 221 50 164 104 218 189 425 64 67 56 210GUATEMALA
 232 402 171 210 376 305 156 190 170 322 279 242 429HUEHUETENANGO
 136 60 317 146 80 167 314 192 512 127 61 152 114JALAPA
 171 26 337 181 93 109 334 250 556 69 119 172 127JUTIAPA
 80 233 150 102 255 100 147 280 392 140 158 37 301LA DEMOCRACIA
 237 417 144 246 436 284 59 243 352 324 342 221 485NALACATAN
 117 297 66 139 319 164 63 299 308 204 222 101 385MAZATENANGO
 288 244 469 298 147 351 466 296 616 311 179 304 200MORALES
 267 101 397 277 198 169 394 355 639 165 224 232 232NUEVA SAN SALVADOR*
 60 195 182 82 203 80 179 228 424 103 106 17 249PALIN
 38 220 191 16 228 144 188 210 361 128 191 81 274PATZICIA
 337 293 518 347 196 400 515 210 665 360 228 353 249PUERTO BARRIOS
 164 346 98 142 254 224 75 345 248 254 257 161 400QUEZALTENANGO
 143 323 40 165 345 190 47 239 298 230 248 127 391RETALHULEU
 180 341 200 158 315 285 185 289 231 270 218 222 368SACAPULAS
 137 187 318 131 161 228 315 129 385 188 64 180 214SALAMA
 94 108 275 104 110 158 272 65 464 116 13 110 162SANARATE
 93 246 215 115 268 113 212 144 457 253 171 50 314SAN JOSE
 37 180 218 31 188 128 215 203 406 88 91 80 234SAN JUAN SACATEPEQU
 177 86 258 187 39 193 355 165 553 153 102 193 73SAN LUIS JILOTEPEQU
 214 396 133 192 404 273 48 233 298 304 307 210 450SAN MARCOS
 304 474 243 282 448 377 228 289 242 394 351 314 501SAN RAFAEL LA INDEP
 218 115 411 291 212 188 408 262 653 179 238 246 246SAN SALVADOR*
 214 48 360 224 145 132 357 369 599 112 171 195 179SANTA ANA
 180 312 150 108 320 235 135 179 281 220 223 172 366SANTA CRUZ DEL QUIC
 77 230 132 99 252 97 130 274 375 137 155 34 298SANTA LUCIA COTZUMA
 303 353 430 297 327 394 415 99 461 354 230 346 380SEBOL
 94 276 170 72 284 189 155 225 315 184 187 126 330SOLOLA
 252 432 159 274 464 299 74 369 378 339 357 236 500TAPACHULA, MEXICO
 138 320 116 116 328 243 101 213 261 228 231 180 374TOTONICAPAN
 180 121 361 190 24 228 358 202 522 128 71 196 772ZACAPA

GUALAN

170 GUATEMALA
 371 259 HUEHUETENANGO
 136 97 343 JALAPA
 149 132 290 57 JUTIAPA
 261 92 226 286 208 LA DEMOCRACIA
 445 276 186 370 392 205 MALACATAN
 325 156 142 250 272 85 119 MAZATENANGO
 91 249 447 228 243 340 522 404 MORALES
 254 228 473 162 130 268 450 332 348 NUEVA SAN SALVADOR*
 209 40 258 134 171 53 235 117 288 246 PALIN
 234 65 195 159 196 114 229 126 313 290 97 PATZICIA
 140 298 496 277 292 389 272 453 58 395 337 362 PUERTO BARRIOS
 360 191 82 285 322 145 103 61 439 390 177 127 486 QUEZALTENANGO
 351 182 132 176 298 111 103 27 430 356 143 152 477 51RETALHULEU
 310 207 62 280 338 206 213 171 386 432 238 143 433 111SACAPULAS
 156 125 216 126 186 216 367 253 232 289 164 146 279 265SALAMA
 116 55 295 47 107 146 328 210 195 210 94 119 242 245SANARATE
 274 105 291 199 221 86 268 150 353 279 66 130 400 210SAN JOSE
 194 25 240 119 156 116 271 153 273 250 64 46 320 172SAN JUAN SACAT
 95 138 384 40 85 229 411 293 189 188 177 202 236 328SAN LUIS JILOT
 410 241 132 335 372 194 53 110 489 439 226 177 536 51SAN MARCOS
 443 331 73 413 462 298 256 214 519 543 330 267 566 154SAN RAFAEL LA
 268 242 487 176 144 282 464 346 362 13 262 306 409 406SAN SALVADOR*
 201 175 433 109 77 231 413 295 295 52 211 239 342 355SANTA ANA*
 326 157 112 251 288 156 162 121 405 382 188 93 452 61SANTA CRUZ QUI
 258 89 209 183 205 18 186 68 337 263 50 97 384 128SANTA LUCIA CO
 322 291 292 292 352 382 343 401 398 455 330 312 445 341SEBOL
 290 121 149 215 252 110 183 122 369 346 142 57 416 81SOLOLA
 460 291 212 385 407 220 25 136 539 465 252 257 586 131TAPACHULA,MEX
 334 165 95 259 296 164 129 87 413 390 195 101 460 27TOTONICAPAN
 30 141 353 109 107 232 414 298 124 223 180 205 171 331ZACAPA

RETALHULEU

161 SACAPULAS
 279 153 SALAMA
 236 232 80 SANARATE
 176 269 229 159 SAN JOSE
 179 186 101 79 127 SAN JUAN SACATEPEQUEZ
 319 321 169 90 240 162 SAN LUIS JILOTEPEQUE
 94 159 315 295 257 222 378 SAN MARCOS
 204 132 288 367 361 312 456 202 SAN RAFAEL LA INDEPENDENCIA
 372 446 305 226 293 266 204 453 559 SAN SALVADOR*
 321 379 238 159 242 199 137 402 505 68 SANTA ANA*

111	49	205	211	219	138	294	109	184	398	329	SAN CRUZ DEL QUICHE			
94	187	213	143	81	113	226	175	281	279	226	139	SANTA LUCIA COTZUMAL		
391	229	167	246	393	267	335	389	364	471	402	281	376	SEBOL	
131	95	202	178	172	102	258	129	221	362	293	47	93	325	SOLOLA
120	239	388	345	283	288	428	79	284	481	428	191	203	469	211TACACHULA,M
77	83	239	219	227	146	202	75	167	406	337	35	147	313	55TOTONICAPAN
322	290	138	87	243	165	66	379	425	239	170	297	229	302	261ZACAPAN

TACACHULA, MEXICO
 157 TONONICAPAN
 431 303 ZACAPA

*EL SALVADOR

NOTE: CITY NAMES WHICH NEVER APPEARED ENTIRELY ON THE CHART:
 SANTA LUCIA COTZUMALGUAPA

TELECOMMUNICATIONS

A GOVERNMENT-OWNED AND OPERATED ORGANIZATION, GUATEMALA TELECOMMUNICATIONS (GUATEL), IS RESPONSIBLE FOR NATIONAL AND INTERNATIONAL COMMUNICATIONS, INCLUDING CONNECTION INTO CENTRAL AMERICAN MICROWAVE NET. DESPITE RECENT TELEPHONE SYSTEM EXPANSION, TELEPHONE DENSITY IS NEXT-TO-LOWEST IN CENTRAL AMERICA (8.25 LINES PER 1,000 INHABITANTS). MODERN TELECOM FACILITIES AVAILABLE ONLY IN GUATEMALA CITY, CONCENTRATION OF TELECOMMUNICATIONS IN CAPITAL LIMITS DEVELOPMENT INITIATIVES IN RURAL AREAS. (92.7% OF TELEPHONES IN CAPITAL, REMAINDER IN OTHER MAJOR CITIES.) TELEPHONE CONNECTIONS WITH EL SALVADOR AND MEXICO. TELEGRAPHIC SERVICES WIDELY AVAILABLE IN COUNTRY, WITH CONNECTIONS TO MEXICO AND REST OF CENTRAL AMERICA.

1976 EARTHQUAKE DAMAGED CENTRAL SWITCHING STATIONS AND PRIVATE INSTALLATIONS AS WELL AS GUATEL TELEGRAPH FACILITIES. EMERGENCY RADIO RELAY STATIONS USED TO RESTORE BASIC COMMUNICATIONS.

RADIO/TV NETWORK

DIRECCION GENERAL DE RADIODIFUSION Y TELEVISION NACIONAL: 5A, AVDA. 13-18, ZONA I, GUATEMALA CITY; GOVERNMENT SUPERVISORY BODY:

RADIO

5 GOVERNMENT AND 6 EDUCATIONAL STATIONS, INCLUDING:

LA VOZ DE GUATEMALA: 5A, AVDA. 13-18, ZONA I, GUATEMALA CITY;
GOVERNMENT STATION; 60KC/S FREQUENCY; 2,000 KW POWER.

RADIO CULTURAL TGN-TGNA: 4A AVDA. 30-09, ZONA 3, APDO. 601,
GUATEMALA CITY; RELIGIOUS AND CULTURAL STATION; PROGRAMS IN SPANISH
AND ENGLISH, QUICHE AND CAKCHIQUEL.

77 COMMERCIAL STATIONS OF WHICH THE MOST IMPORTANT ARE:

LA VOZ DE LAS AMERICAS: II CALLE 2-69, ZONA I, GUATEMALA CITY.

RADIO CINCO SESENTA: CALLE 17 Y 19, AVDA. 4, GUATEMALA CITY.

RADIO CONTINENTAL: 13 CALLE 12-26, ZONA I, GUATEMALA CITY.

RADIO FABULOSA: APDO. 1466, RUTA 4, NO. 6-32, ZONA 4, GUATEMALA
CITY.

RADIO NUEVO MUNDO: 6A AVDA. 10-45, ZONA I, APDO. 281, GUATEMALA
CITY.

RADIO PANAMERICANA: KM 12, CARRETERA ROOSEVELT, GUATEMALA CITY.

SUPER RADIO: 6A AVDA. 15-40, ZONA I, GUATEMALA CITY.

262,000 RADIO RECEIVERS IN 1976.

TELEVISION

RADIO-TELEVISION GUATEMALA, S.A.: 30A AVDA. 3-40, ZONA II, APDO.
1367, GUATEMALA CITY; F. 1956; COMMERCIAL STATION; GEN. MAN. W.G.
CAMPBELL.

TELE ONCE: 20 CALLE 5-02, ZONA 10, GUATEMALA CITY; COMMERCIAL;
DIR. A. MOURRA.

TELEVICENTRO-CANAL 7: 3A CALLE 6-24, ZONA 9, APDO. 1242, GUATE-
MALA CITY; F. 1964; COMMERCIAL STATION CHANNEL 7; DIR. DR. J.
VILLANUEVA P.

110,000 TELEVISION RECEIVERS IN 1976.

ELECTRIC POWER

60% OF INSTALLED CAPACITY THERMALLY GENERATED. LARGE HYDROELECTRIC POTENTIAL (4,300 MW) COULD SUPPLY ALL POWER NEEDS. PRESENT GENERATION CAPACITY STRECHED TO LIMIT: INDUSTRIAL PRODUCTION LOSSES DUE TO POWER OUTAGES LED TO INSTALLATION OF 100 MW CAPTIVE GENERATING PLANT -- NEARLY 1/3RD OF NATION'S TOTAL CAPACITY.

ELECTRICITY SUPPLY IS AC, 60 CYCLES, 100-220 V.

NATIONAL ELECTRICITY INSTITUTE (INDE) IS MAINLY RESPONSIBLE FOR GENERATING AND GUATEMALA ELECTRICITY ENTERPRISE (EEG) FOR DISTRIBUTING

ELECTRIC SYSTEMS

NATIONAL AND ATLANTIC

ENERGY REQUIREMENTS (GWH)	1975	1976	1978	1980
(ACTUAL)				
INDE	117	142	190	270
EEG	730	723	932	1097
LOSSES	108	131	171	209
TOTAL	955	996	1293	1576
DEMAND (MW)	185	190	246	300

PLANTS	CAPACITY (MW) INSTALLED	(MW) FIRM	ENERGY 1/ (GWH)				
INDE: (EXISTING)							
HYDRO (VARIOUS)	96	55	293	283	293	293	293
THERMAL:							
ESCUINTLA I (STEAM)	33			268	251	241	288
ESCUINTLA I (GAS)	15			40	63	-	-
ESCUINTLA II (GAS)	15			37	62	-	-
SAN FELIPE (DIESEL)	2.5			15	20	-	-
MELENDRES (DIESEL)	1.3			11	11	-	-
PUERTO BARRIOS	3.0			12	13	14	25
	165.8						

EEG: (EXISTING)

LA LAGUNA (STEAM)	34	230	238	199	115
LA LAGUNA (GAS)	11	50	33	-	-
LA LAGUNA (DIESEL)	4	4	5	-	-
LA CASTELLANA (DIESEL)	5	5	7	-	-

54

INDE: (FUTURE)

ESCUINTLA II (STEAM)	53	-	-	397	420
ESCUINTLA III (GAS)	25	-	-	74	15
ESCUINTLA IV (GAS)	25	-	-	75	-
PALIN II (HYDRO)	5	2.5	25	-	25
AGUACAPA (HYDRO)	90	90	395	-	395
CHIXOY (HYDRO)	300	240	1720	-	-
MOYUTA (GEOTHERMAL)	30	-	-	-	-

528

TOTAL GENERATION		955	996	1293	1576
INSTALLED CAPACITY (MW)		220	220	331	402
LARGEST UNIT (MW)		33	33	53	53
FIRM CAPACITY (MW)		187	187	278	349

1/ AVERAGE ANNUAL

CHECKLIST

AS OF JANUARY 1977, DAMAGE REMAINING FROM FEBRUARY 1976 EARTHQUAKE WAS CAUSING LEAKAGE LOSS OF 25% OF WATER SUPPLIED, AT RATE OF MORE THAN 10 GAL/MIN. OF 1300 KNOWN MAJOR LEAKS, ONLY 600 HAD BEEN ADDRESSED; 40% OF SYSTEM HAD NOT YET BEEN CHECKED FOR LEAKAGE. 70% OF THE MUNICIPAL SYSTEM WAS NOT RECEIVING WATER EXCEPT FOR 30-40 MIN/24 HR PERIOD. IN THE NORTHEAST, WATER SYSTEMS WERE COMPLETELY NON-FUNCTIONAL; ONLY POTABLE SUPPLY WAS 1-4 GAL/CAPITA/DAY FROM PRIVATE ENTERPRISE AND UN TRUCKS. PEOPLE RESORTING TO CONTAMINATED STREAMS OR BREAKING INTO WATER MAINS AS SUPPLEMENTARY SOURCES. FIRE FIGHTING CAPACITY IN GUATEMALA CITY WAS ALMOST NON-EXISTENT; EVEN HIGH INCOME AREAS OUT OF WATER.

DIFFICULTIES COMPOUNDED BY MUNICIPALITY'S HOLDING MONEYS ALLOCATED FOR REHABILITATION AND RESTORATION OF SYSTEM FOR OTHER PURPOSES. POLITICAL DIFFERENCES BETWEEN MUNICIPALITY AND NATIONAL GOVERNMENT INCREASING BECAUSE OF ELECTIONS IN 1978.

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