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AREA ASSESSMENT

ECUADOR

Prepared for

Commander-in-Chief
United States Southern Command
Quarry Heights Panama

by

361 Civil Affairs Brigade (361st).

Commander United Sta



REPLY TO
ATTENTION OF

DEPARTMENT OF DEFENSE

UNITED STATES SOUTHERN COMMAND
APO MIAMI 34003

F O R E W O R D

Enclosed are copies of unclassified area assessments prepared by the 361st Civil Affairs Brigade under the direction of the Plans, Policy and Politico-Military Affairs Directorate (J5) of the United States Southern Command.

These area assessments are designed to be used as civil affairs planning guides for exercises and general reference documents for the backgrounds on the countries.

In a continuing effort to improve the quality of these documents, you are encouraged to submit any recommended changes and/or corrections.

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AREA ASSESSMENT

ECUADOR

JUNE 2, 1985

361ST CIVIL AFFAIRS BRIGADE

PENSACOLA, FLORIDA 32504

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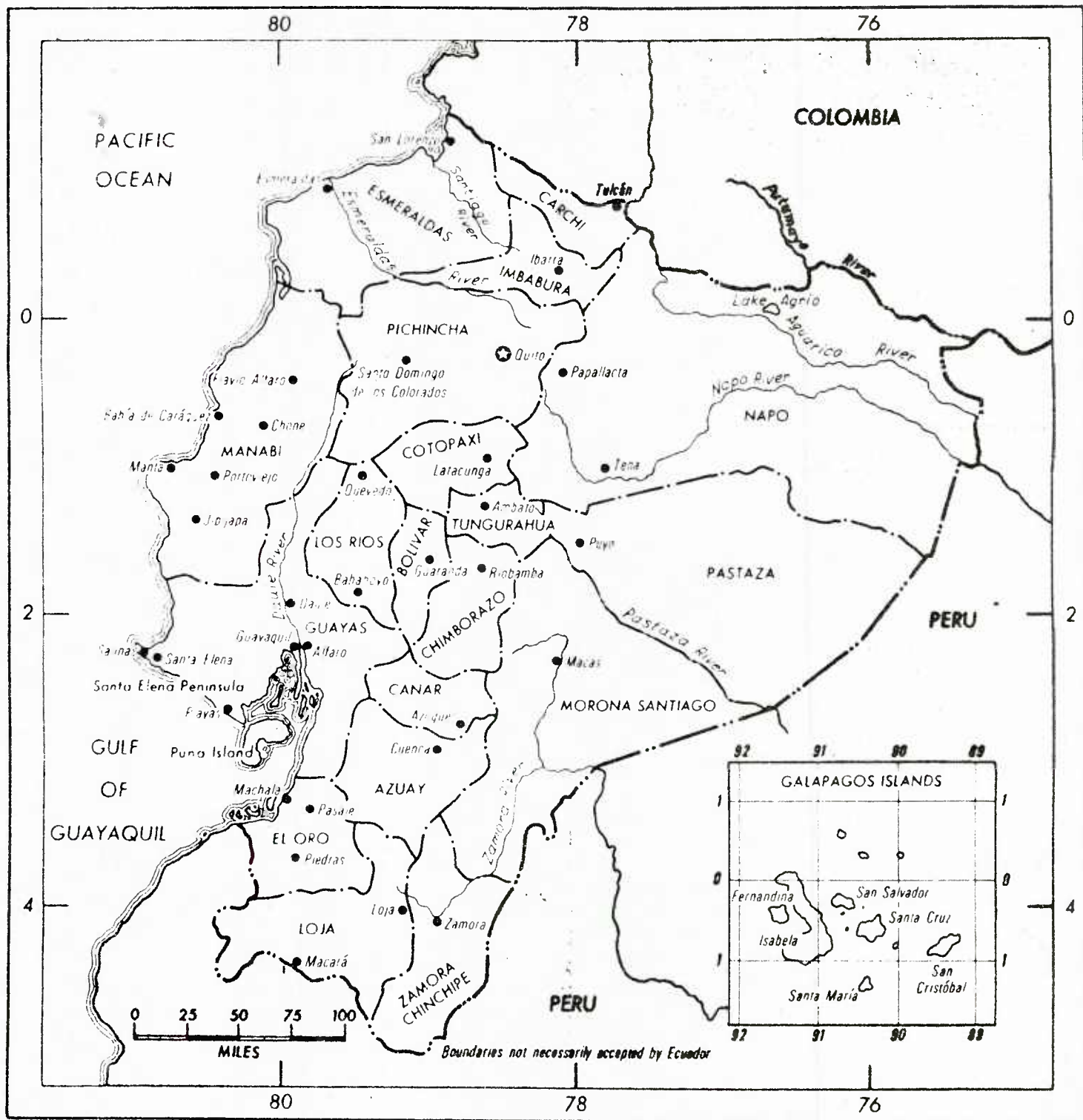
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EXECUTIVE SUMMARY

A. GENERAL OVERVIEW

Ecuador shares its border to the north and north-west with Colombia, having 586 kilometers of frontier; to the east and south with Peru; and to the west the Pacific Ocean. The Galapagos Islands, 1120 kilometers from the coast, also comes under Ecuadorean jurisdiction.

Ecuador can be divided into four main natural regions. The coastal region, which is an agricultural zone, lying between the Pacific Ocean and the Andes, the Inter-Andean or Sierra region, the jungle region (Oriente) which is located between the Sierra and the eastern border, and the Galapagos Islands.

The population of Ecuador is projected to be 8.5 million in 1985. The density per square kilometer is 30%. Forty-five percent of the population is urban and 49.1 percent reside in the ten mountainous provinces, while 48.9 percent live in the low coastal region. The 'mestizo' is the predominant race, together with white, Indian and negro, but Ecuador has also some pure indigenous groups such as the 'Otavalos of Imbabura' and the 'Colorados' (Coloureds), of which only some 300 remain, and the 'Jibaros' of the east.

B. GOVERNMENT

1984 was a year of political transition. 1985 shapes up as the year structural changes are to be introduced by the Febres Cordero Government.

The political year of 1984 kicked off with the upset victory of Rodrigo Borja in the first round of the Presidential elections. Febres Cordero however, managed to turn the center left tide and carried the run-off, against all expectations. The first round results, however, indicated that traditional voting patterns had broken down, and that the center left was shaping up as the major political leaning. Febres Cordero

managed to win the presidential election by catering to the populist vote.

The constitutional reforms requiring that Congressional elections take place in the first round guaranteed that whoever won the new Presidency would face an opposition legislature. This was indeed the case.

Febres Cordero's first attempt at neutralizing Congress failed. His FRN tried to lure CFP and FRA plus the new independents into a loose, informal alliance geared to administering the Congressional share of the political spoils. It attempted to get FRA and CFP deputies elected to top Congressional positions. The move failed.

Febres Cordero's current economic policy is the liberalization and return to a market based economy, which mean fewer controls on prices; an end to deficit spending; reliance on soft loans from international development institutions, as well as foreign investment, to finance development; and a gradual reduction of industrial incentives to make manufacturing more competitive, less reliant on imports, and more exports. The measures to carry this out would be taken according to a multiple-stage plan featuring first crisis control, then stabilization, with other stages later on.

One of Febres Cordero's first act was to devalue the currency as it related to non-oil foreign trade. Next he changed the pricing policy, raised interest rates and increased the price of gasoline, diesel and fuel oil and electricity.

With the new fiscal measures, exports improved tremendously during the latter part of 1984. During this same period industrial imports were held down.

One goal the government did not achieve was that of harnessing the free currency market. By the last quarter of 1984 the dollar had soared to S/120. During the first quarter of 1985 it appears to have stabilized at this rate.

The Ecuadorean government signed a debt rescheduling agreement with creditor banks, for 1985-89, at the end of 1984. The previous Government had come to an interim agreement for the 1984 debt, befitting its lame duck status. The debt agreement in itself is to be carried out hand in hand with a new stabilization plan, to be approved by IMF.

Ecuador has abandoned a policy of leadership in striving for conformation of a Latin American bloc that could obtain a political solution to the economic crisis. Instead, Ecuador has taken its own path in rescheduling the debt. Also, it has come to an agreement with OPIC, the US entity that grants political insurance to US investment overseas. The latter should contribute to boost foreign investment. The agreement with OPIC includes a controversial acceptance of international arbitration in case of disputes between subsidiaries of US companies and the Ecuadorean Government.

An end to the public sector deficit. The Government is forecasting a public sector surplus of 3.4% of gdp in 1985, after a balanced expenditure in 1984 and a modest .1% deficit in 1983. Public sector oil revenues are expected to increase from S/105 bn to S/166 bn in 1985. The increase in the price of fuels, and a certain rise in oil output, contribute to this. Collections of traditional taxes have also been improving.

The new exchange rate policy would be agreeable to IMF, as exports are no longer discouraged nor imports favored. Perhaps the exception is the maintenance of a twin-track exchange rate. Possibly this will go away, through a devaluation of the official rate, bringing it up to the level now in force for non-oil foreign trade, in what would be a 43% devaluation. In fact, it seems that for oil revenues to grow 58% as projected, such a devaluation would be necessary.

Credit policy seems to be conservative. To November 30, 1984, total BCE credit to both public and private sector, excluding stabilization loans, was US\$101 bn, up 22%, or roughly the same level as the years inflation rate. Banking system credit to the private sector is expected to grow 31.8% in 1985, stabilization credits excluded. Inflation, which dropped throughout the year, started to pick up in November and was about 24% year-on-year for December, according to unofficial sources.

Given the current increase in costs as the lid is eased off prices, be it on the currency, use of money, or fuels, plus the much-heralded housing project that should take off this year (1985), it seems that inflation-control objectives will be quite difficult to meet, and would be a weakness in any IMF stabilization plan.

C. SOCIAL AND ECONOMIC ENVIRONMENT

1. EDUCATION

The educational system in Ecuador is divided into three basic levels: primary, secondary, and superior (university). General authority over the system rests with the Ministry of Education, except that the universities maintain a high degree of autonomy. A National Council of Higher Education exists to coordinate the activities of higher education, but functions primarily to determine budget allocations among universities in the system. In 1979, a National Council of Faculties of Agricultural Sciences (CONFCA) was legally established to coordinate agricultural programs. This group is new and emerging, but not yet effective.

In addition to the public school system, private schools exist at all levels and are supported by church groups (mostly the Catholic Church) and individuals. All schools are subject to Ministry supervision. For children ages 6-14, education is legally compulsory and tuition free in public institutions. Fees are charged in private schools. From 25-30 percent of the national budget goes to education.

2. HOUSING

a. CONSTRUCTION

While well over half of Ecuador's population is rural, the past thirty years have witnessed a rate of rural to urban migration that coupled with a population growth rate of 3.4 percent per year has far exceeded the housing pool available in the country. In order to address an estimated housing deficit of over 800,000 units, the Government of Ecuador (GOE) embarked on an ambitious low income housing program requiring an investment of 41.3 billion sucres over the 1980-1984 period. Recent labor wage reforms, restricted financing, raw material scarcity, and political and economic uncertainties dampened construction activity in Ecuador during these years. The stagnation in the housing construction industry has had its greatest impact on housing starts for the middle class. The recent regulations affecting labor and credit along with the large scale housing programs undertaken by the GOE have made semi-industrialized construction techniques competitive with other construction methods.

b. MIGRATION

One of the most significant demographic trends occurring in Ecuador during the past 30 years has been rural to urban migration. In 1950 approximately 28.5 percent of the total population lived in urban areas. By 1984 this percentage increased to an estimated 44 percent. Considering that Ecuador's total population has been growing at a rate of 3.4 percent a year (one of the highest in the world), over the past 30 years the urban population has more than tripled with an annual growth rate of 4.9 percent, or some 2.5 million persons. The GOE has been unable to effectively halt this economic migration of largely unskilled labor or provide adequate social services to the population at large. The result has been the creation of the tugurio in the sierra and the suburbio in the coastal region. These are illegal settlements established on the hillsides and marshes on the outskirts of the major cities of Quito and Guayaquil with no access to even minimal services of potable water, sewerage and electricity. These areas have traditionally become the focus of political movements which often lead to the gradual provision of municipal services.

c. GOVERNMENT PRIORITIES

The 1980-1984 National Development Plan was formulated by the National Development Council (CONADE) under the democratic government installed in August 1979. The Plan coordinates resource use and policy in most sectors of Ecuador's economy, including housing. According to the Plan, the current quantitative and qualitative housing deficit in Ecuador is over 800,000 units, a figure incremented by 42,000 units per year. In order to reduce this deficit, the Plan calls for the construction of 301,500 housing "solutions" during the five-year period with a total estimated investment of 41.3 billion sucres (a "solution" ranges from the provision of land and/or basic infrastructure to a finished housing unit). Additional investments of 300 million sucres to spur the production of raw materials and 30 million sucres to facilitate the introduction of new technology are charged to the Ecuadorean Housing Bank (BEV).

3. HEALTH

As in most developing nations there are more health related problems in Ecuador than there are resources to correct them.

There are however, positive elements to be considered which place Ecuador in a favorable position as regards U.S. Military Medical Humanitarian Assistance as follows:

a. There is a strong verbal commitment from the Ecuadorean Army Commanding General towards civic action.

b. The Ecuadorean Military medical personnel and the line commanders seem genuinely interested in implementing the wishes of the CG Ecuadorean Army with U.S. assistance.

c. USAID intends to cooperate with whatever efforts are coordinated between the Ecuadorean military and the U. S. military.

d. There is a yearly pool of 1200-1400 doctors in training who must dedicate their last year to rural practice and could be used in planned civic action.

D. POTENTIAL THREATS AND THE U.S. ROLE

1. TERRORISTS ACTIVITIES

Terrorists activities have increased during the last few years. The two best known terrorists groups are Alfaro Vive Carajo (Alfaro Lives, Damn it) and M19, a left wing Columbian group that periodically intrudes into Northern Ecuador.

a. The AVC have actively participated in numerous bank robberies and bombings in 1984. They are believed to be responsible for the May 1984 bombing of the U.S. Embassy and the string of bank robberies in the Province of Guayas. A female officer in the AVC was arrested in Costa Rica in 1984 and according to the local press had a list of personnel affiliated with the AVE terrorist group. Indications are the group is receiving support from Nicaragua, Libya and Cuba as are El Salvador. Support within Ecuador is limited primarily to University students, and this support, is estimated to be between 200-250.

b. The M19 terrorist group based out of Columbia have made numerous incursions into the northern sectors of Ecuador during the past few years. These incursions are due in part to the Columbian Government crackdown on drug traffickers. The M19 receives most of its monetary support from drug smugglers and tried to set up a base of operations in the Province of Esmeraldas. The Ecuadorean Government has intercepted this

group on several occasions and driven them back across the border. As long as the Columbian Government continues to pursue the drug traffickers and the border of Ecuador is open, they will continue to intrude into the northern provinces for safety and to establish other areas for the growing and harvesting of the crops.

2. U.S. SUPPORT

U.S. aid and support are funneled through multiple channels. One source of aid is the U.S. Aid Mission in country. Currently they have extensive efforts in providing potable water and sewage facilities for some provinces.

The U.S. Government also furnishes aid in the form of Military Training Teams in support of the Ecuadorean Military to provide preventive medicine to the provinces most needing this attention. The U.S. Government also provides Foreign Military Sales (FMS) credits to allies (Table ES-1).

E. SUMMARY

The major health problems in Ecuador as predicted by a U.S. Medical survey team related to environmental sanitation; potable water and sewage disposal. Water is the single most pressing problem. It is estimated that approximately 10% of the rural areas have access to water of any kind, let alone bacteriologically potable water. An already bad situation became worse following the 1983 floods when already existing water systems and pumps were washed away. Relief funds were generated from AID to correct this problem. USAID is well aware of water needs and is steadily working through the Ecuadorean Institute of Sanitary Works (Instituto Ecuatoriano de Obras Sanitarias), impressing upon them the need to accelerate their programs while refraining from "doing it for them". In this way, albeit tediously, the necessary infrastructure is developed.

The possible use of U.S. military medical personnel in civic actions should optimally be considered in combination with engineering personnel and equipment for the purpose of improving the critical water supply needs of this country. USAID would be a willing and able partner in this combined effort. The medical civic action programs could be coordinated through COL. Ignacis Hernandez-Fragoso, MC, USA, assigned to the Surgeon General's

office at the U. S. Southern Command for duty in Quito as the Medical Civic Action Coordinator.

A key recommendation by the U.S. Embassy staff is to use part of the 5.0 million FY-85 FMS credits to purchase engineering /medical Civic Action equipment and supplies.

TABLE ES-1

U. S. FMS CREDIT PROGRAM STATUS REPORT
AS OF 30 SEP 84
(DOLLARS IN THOUSANDS)

I. ACTIVE FMS LOANS

<u>---LOAN---</u>	<u>DATE OF LOAN</u>	<u>VALUE</u>	<u>COMMITTED</u>	<u>DISBURSED</u>	<u>UNCOMMITTED</u>	<u>UNDISBURSED</u>
771G EC-02	15 Sep 77	15,000	14,994	15,000	6	
811G EC-05	10 Jul 81	4,000	3,844	3,833	156	167
821G EC-06	23 Aug 82	4,500	4,500	4,432		68
841G EC-08	10 Sep 84	6,000			6,000	6,000
TOTAL		29,500	23,338	23,265	6,162	6,235

II. PROJECTED REPAYMENTS FOR 30 SEP 84 THRU 31 MAR 86

<u>---LOAN---</u>	<u>DATE OF LOAN</u>	<u>PAYMENT NUMBER</u>	<u>DUE DATE</u>	<u>PRINCIPAL</u>	<u>INTEREST</u>
811G EC-05	10 Jul 81	7	25 Nov 84	364	152*
847D RESCD	19 Mar 84	2	30 Nov 84		327
821G EC-06	23 Aug 82	5	20 Dec 84	409	222*
847E RESCD	19 Mar 84	2	31 Dec 84	365	23
801G EC-04	10 Sep 80	10	25 Jan 85	273	89
841G EC-08	10 Sep 84	1	31 Jan 85		*
781G EC-03	18 Aug 78	13	01 Feb 85	770	86
831G EC-07	29 Sep 83	3	15 Mar 85		236
811G EC-05	10 Jul 81	8	25 May 85	364	130*
847D RESCD	19 Mar 84	3	31 May 85		325
821G EC-06	23 Aug 82	6	20 Jun 85	409	198*
801G EC-04	10 Sep 80	11	25 Jul 85	273	72
841G EC-08	10 Sep 84	2	31 Jul 85		*
781G EC-03	18 Aug 78	14	01 Aug 85	770	42
831G EC-07	29 Sep 83	4	15 Sep 85		240
811G EC-05	10 Jul 81	9	25 Nov 85	364	112*
847D RESCD	19 Mar 84	4	30 Nov 85		327
81G EC-06	23 Aug 82	7	20 Dec 85	409	177*

ECUADOR

Table ES-1 Continued....

801G EC-04	10 Sep 80	12	25 Jan 86	273	58
841G EC-08	10 Sep 84	3	31 Jan 86		*
831G EC-07	29 Sep 83	5	15 Mar 86		236
TOTAL				5,043	3,052

*Estimate based upon loan funds disbursed to date.
 Actual interest due will be greater if additional funds are drawn from the loan.

IN-COUNTRY . SUMMARY MATRIX

RESOURCE ANALYSIS

Chapter 1
GEOGRAPHY,
HISTORY, PEOPLE

<i>Resource Category</i>	<i>Estimate of Availability Status</i>
GEOGRAPHY	<p>Area - 104,505 sq. miles. Situated between Colombia and Peru on West Coast of South America on the Equator. Has 4 distinct topographic regions: 1) Costa, 2) Sierra, 3) Oriente and 4) Galapagos Islands.</p>
HISTORY/BACKGROUND	<p>Invaded by Spanish Conquistadors in 1528. Spanish subjected Indians to extreme cruelty-forced into poor regions of country and confiscated all wealth. Spanish defeated in 1821 by Simon Bolivar.</p>
PEOPLE	<p>According to 1982 Census Ecuador's population totaled 8.04 million. Estimate for 1985 are 8.5 million. Ethnic composition is estimated as 1) Indians 40 percent, 2) Mestizos 40 percent, 3) Whites 10 percent 4) Negroes 5 percent, 5) Other 5 percent.</p>

CHAPTER 1

GEOGRAPHY, HISTORY, PEOPLE

A. GEOGRAPHY

1. The Land

Ecuador is located on the northwest coast of the South America continent straddling the equator, from which it derives its name. It occupies an area of 104,505 square miles extending 444 miles N to S and 409 miles E to W. The length of the Pacific coastline is 527 miles. The national territory includes the Archipelago of Columbus, more familiarly known as the Galapagos Islands, a cluster of over 60 islands scattered over 23,000 square miles of ocean with a total land area of 3,000 square miles. The six largest of these islands are Isabela, Santa Cruz, Santiago, Fernandina, Floreana and San Cristobal. The Islands have achieved scientific reknown as the home of 15 species of giant tortoises, considered to be the oldest living creatures on earth with a lifespan of over 200 years and weighing up to 500 lb. Since 1835 when Charles Darwin visitied the islands, they have been intensively studied by naturalists. In 1936 Calapagos was declared a national park.

Ecuador shares its total land boundary of 1,151 mi with two neighbors: Colombia 334 miles and Peru 818 miles. The border with Peru is based on a protocol signed in Rio de Janeiro in 1942 under which 70,000 square miles of diputed territory were awarded to Peru. The protocol blocked Ecuadors's access to the Amazon, and served to inflame nationalist feelings against Peru. In 1972 Ecuador unilaterally repudiated the agreement. Over 90% of the border has been demarcated but the remaining sections continue to be actively disputed. The border with Colombia has been entirely demarcated, but here again claims and counterclaims continue to present sources of friction.

The country is divided into four distinct topographic regions: the Costa, or coastal plain, the Sierra, or the highlands, the Oriente, or eastern jungle, and the Galapagos.

The Costa, comprising 16.5% of the national territory,

is a rich agricultural belt stretching from the Pacific Ocean to the Andes Mountains. Its width varies from 15 miles to 125 miles, and it is widest between Cape Pasado and Santa Elena Peninsula.

The Sierra, comprising 24.3% of the national territory is a plateau, 8,000 ft to 10,000 ft above sea level, between two parallel spines of the Andes, the Cordillera Occidental and the Cordillera Central, the latter a series of lofty peaks. Between these ranges is a trench called the Avenue of the Volcanoes broken up into a series of hoyos, or basins, by traverse hill systems. Some geographers identify a third cordillera, the Cordillera Oriental, to the east with elevations of up to 13,000 ft. The Sierra is studded with 22 massive volcanoes, the highest among which are the Chimborazo 20,576 ft, Cotopaxi 19,344 ft, the world's third highest active volcano, Cayambe 18,996 ft, Antisana 18,714 ft and Sangay 17,159 ft. The Sierra is subject to occasional severe earthquakes.

The Oriente, comprising 57.4% of the national territory, is a flat and gently undulating expanse of tropical rain forest, east of the Andes and toward the upper reaches of the Amazon tributaries.

The Galapagos islands are largely barren regions that comprise 1.8% of the national territory. Of the dozen islands and several hundred islets, only five are permanently inhabited.

Numerous rivers rise in the mountains and flow either west to the Pacific coast or east to the Amazon River. The coastal region is drained primarily by the Guayas River system which is formed by the following rivers: the Guayas, Daule, Babahoyo, Vinces, and Salado Estero. The Esmeraldas and Santiago rivers also flow into the ocean across Esmeraldas Province. In El Oro Province, the Jubones River flows past Machala into the Gulf of Guayaquil. While all major rivers in the Costa are navigable, their headwaters in the Sierra are swift and their courses meandering.

Although the rivers of the Oriente carry a tremendous volume of water, the region's drainage is poor. The Napo is the most important river receiving the Coca and Aguarico rivers as well as other large tributaries as it takes its course toward Peru, where it joins the Amazon. The Putumayo, along the border with Colombia, also flows into the Amazon.

2. The Weather and Other Geographical Factors

a) General

Although situated in the tropics, Ecuador has a tropical climate only in certain regions. Temperatures are uniformly high in the Costa, with monthly temperatures averaging 80 degrees F. In the Guayaquil area there are two seasons: a hot, rainy period from January to May and a cool, dry season the rest of the year, when the sea breezes and the Humboldt Current modify the equatorial heat.

As one approaches the Sierra the temperature decreases by 1 degree F for every 360 ft of elevation. The annual mean temperature here varies between 50 degrees F to 60 degrees F and Ecuador is perhaps the only country in the world where 0 degree C has been recorded at 0 degree latitude. The climate of Quito has been described as a perpetual spring with an average temperature of 55 degrees F. Because of the equatorial location there is virtually no seasonal change and days and nights are of equal duration throughout the year. However, diurnal changes are often extreme and temperatures may vary by as much as 40 degrees F during a single day. The temperatures of the Oriente are lower than those of the Costa, but the humidity is more uncomfortable.

Rainfall is heavy throughout the Amazon Basin and in the Costa but scanty in the Andean plateau, and a coastal area adjacent to the Peruvian frontier is almost rainless. Precipitation ranges from 14 inches at Ancon on the dry Santa Elena Peninsula to 45 inches in Guayaquil, 58 inches in Quito, 100 inches in the Oriente. Snow falls on the high peaks of the plateau.

The prevailing winds blow from the east across the Amazon Basin and from the west across the warm Equatorial Current in the rainy season and the cold Humboldt Current in the dry season.

b) Floods

Flooding occurs annually along populated and agricultural areas of the Costa. The severity and geographical scope of the floods depend on the relative positions of the cold, highly saline Humboldt current, and the warm equatorial current (Warm Intertropical Convergence Zone-ITCZ). During the rainy season from December through April, the ITCZ displaces

the Humboldt current from its stationary position north of the equator. The resulting movement of warm tropical water along the coast brings in vast convective air movements which produce rainfall. Occasionally the tropical air mass shifts farther south causing intense and persistent rainfall throughout the Costa including normally arid areas (i.e. southern El Oro province, the Santa Elena peninsula in western Guayas province, and parts of Manabi province). This phenomenon, known as El Nino, has been observed in 1917, 1925, 1932, 1939, 1953, 1966, 1972 and 1982-3. During the most recent episode, the rainy season began two months early in October. In some areas of the Costa daily precipitation approximated 25-30% of the total average annual precipitation.

During a normal rainy season, rivers in El Oro, Guayas, and Los Rios provinces overflow their banks. This includes the Jubones River which flows past the provincial capital of Machala (El Oro) and the Guayas River and its tributaries: the Vinces, Babahoyo, and Daule rivers in Los Rios and Gyayas provinces. In the Sierra where the rainy season usually begins two months earlier than in the Costa, floods are less common. Despite rainy and misty conditions year-round, most mountain basins remain dry. However, the saturation of soils along steep slopes and stream channels increases land and mudslide potential. In contrast, river banks throughout the Oriente's extensive fluvial network are frequently inundated, but the threat to lives and property is minimal because of sparse population and little infrastructure development.

The severity of flood damage in Ecuador is closely tied to settlement patterns and the relative development of public services. Both rural and urban communities throughout the Costa are located along flood-prone river banks. Although stilt supports protect cane houses from rising flood waters, an intense and long rainy season can produce widespread damage. In addition to structural damage, standing water exacerbates already poor sanitary and health conditions. Little attempt has been made to mitigate health dangers associated with water stagnation and, as a result, the risk of dermatological diseases and gastrointestinal ailments is high.

Annual flooding in Babahoyo, the capital of Los Rios Province, exemplifies the relationship between inadequate public services and the adverse consequences of flooding. Each year the Babahoyo River overflows and inundates Babahoyo's north

bank which consists of cane houses supported by stilts. During the 1982-83 floods, the business district in the south bank was also flooded. Flood water contaminated the already poor water supply and infiltrated the town's sewage network, resulting in a discharge of raw sewage from the town's culverts. The USG provided assistance to rehabilitate Babahoyo's water system and also loaned two water purification units to provide potable water until the flood waters receded. These measures would probably not have been necessary had the town's sewage and water systems been properly designed and maintained. Unlike most communities in Ecuador, Babahoyo does have water and sewerage systems; however, the town's experience reflects the deficiencies in public services found throughout the Costa.

c) Earthquakes

Ecuador is located along the circum-Pacific earthquake belt. The northwestern coast, the Gulf of Guayaquil, and most of the Interandean plateau are prime seismic areas.

Earthquakes occurring along the northwest coast usually have epicenters in the Pacific Ocean. These earthquakes threaten the port and refinery facilities at Esmeraldas as well as other coastal settlements. A serious earthquake in 1945 destroyed nearly all of Esmeraldas' newly built brick structures; during the reconstruction period, most residents reverted to traditional housing materials such as bamboo and wood. These structures proved to be sturdier during a comparable earthquake in 1958.

Although the central and southern coast of Ecuador is less seismically active, the Gulf of Guayaquil is considered to be highly vulnerable. A severe earthquake could damage the only bridge across the Guayas River which links Guayaquil to Duran and major roads connecting important agricultural areas in the Guayas basin and El Oro Province. Fortunately, coastal shipping is not entirely dependent on the port of Guayaquil, so other coastal ports could be relied upon in the event of serious damage to Guayaquil's facilities.

The Inter-Andean Plateau is also a highly seismic area; nearly every Andean community has been damaged to some extent by seismic activity. The most vulnerable areas include Riobamba, Quito, Ibarra, Tulcan, Loja, Latacunga, and Cuenca.

Outside Quito, the most critical fault area is located at Ichimbra Guapulo.

d) Volcanic Activity

Active volcanoes are situated in the Sierra and the Galapagos Islands. The greatest threat in the Sierra is posed by explosions of rock fragments (pyroclastic flows) and ash. Pyroclastic flows have triggered avalanches and floods downstream which have occasionally reached agricultural areas of the Costa. Although ash usually spreads westward away from populated basin areas, Quito has been repeatedly subject to ash cover from Guagua Pichincha volcano, located west of the city.

Cotopaxi volcano in Cotopaxi province is the world's most active volcano. Its eruption can provoke dangerous mud flows in populated areas to the west. El Sangay volcano, 50 km southeast of Riobamba in Morona-Santiago Province is continuously active. Because of its remote location, it does not pose a serious threat, although ash has fallen over Riobamba, Guamote, and Palmira. El Reventador volcano, 90 km northeast of Quito in Napo Province has erupted numerous times during the last two decades causing ash fall over Quito and other populated areas of the Sierra. Tungurahua volcano, 35 km southeast of Ambato in Tungurahua Province poses considerable danger to settlements along the northern and western flanks of the volcano. An eruption could cause vast ash falls in the western portion of the province and flooding along the Pastaza River. The Galapagos Islands contain 14 volcanoes, seven of which have erupted in historical times.

Very few efforts have been made to identify the volcanic risks to populated areas and agriculture in Ecuador. However, an American professor at Escuela Politecnica Nacional, is presently conducting a comprehensive vulnerability study of Ecuador's volcanoes.

e) Landslides

Earthquake and flood activity in Ecuador expose the country's infrastructure and population to significant landslide risk. The incidence of landslides is heightened by continuing deforestation throughout the country and occasional volcanic eruptions. Every rainy season, slides along the Andes cause numerous fatalities and road damage. The area between Santo Domingo de los Colorados in western

Pichincha and Chone, including a segment of the primary surface route between Quito and Guayaquil, is especially vulnerable to slides. Rock and mudslides triggered by excessive rainfall during the 1982-83 winter impeded road traffic and contributed to a rise in transportation costs. Landslides were also a major factor in shutting down most of the dilapidated national railroad. Railroad maintenance costs are substantial because of the high frequency of landslides along the railroad's ascent from the Costa to the Inter-Andean Plateau.

Ecuador's capital is particularly vulnerable to landslides. The entire northern half of the city is threatened by landslides originating from Pichincha volcano northwest of Quito. Many government offices are located in northern areas of the city and could suffer serious damage in the event of a major landslide. In addition, low income families have built adobe structures along numerous high risk hillsides around Quito.

B. HISTORY/BACKGROUND

1. Colonial Era

In 1526, shortly before Spanish penetration into Ecuador, the ancient Inca Empire had been united under a single chief, Huayna Capac. Francisco Pizarro, the Spanish conquistador, touched along the coastline in 1528, at about the time Capac died.

After returning temporarily to Spain, Pizarro came back to Ecuador with a larger force, seeking the treasures he believed were in the interior. Huayna Capac had divided his empire between two sons--Huascar, who ruled the Cuzco area, and Atahualpa, who reigned over Quito.

The two half-brothers had weakened the Incas by engaging in a war of supremacy which was won by Atahualpa in the chief's mountain retreat of Cajamarca, 500 miles south of Quito.

After holding him for a huge ransom of gold and silver, Pizarro executed Atahualpa and mercilessly started the suppression of the Incas.

The invasion of Ecuador followed the pattern of other Spanish conquests. As the Incas and their subject tribes

were defeated, the land was awarded in large grants to the successful leaders; the Indians were enslaved to work the estates and the Spaniards built strategically located cities to administer the territory. The low, unhealthy coastal plains had been shunned by the Incas, who lived in the temperate highland valleys. The Spanish followed the same pattern, building their cities of Quito, Ona, Cuenca and Loja above the 5,000 foot level. The Spanish made little effort to improve the port of Guayaquil or to farm its valley, leaving the fever-ridden region to later arrivals and outcasts from the highlands. Thus, the colonial period continued a regionalism well established in the Inca period and which still divides the highlander from the coastal dweller.

2. Independence

Spanish rule was not challenged for several harsh, uneventful centuries. Antonio Jose de Sucre, a brilliant military leader under Simon Bolivar in the wars for independence in northern Latin America, led a force into Ecuador in 1821, and decisively defeated the Spanish forces at the battle of Mount Pincincha, close to Quito.

The Republic of Gran Colombia, under President Simon Bolivar, united Ecuador with neighboring Colombia and Venezuela from 1822 to 1830. This union dissolved when Ecuador and Venezuela withdrew.

Ecuador's history as an independent state has been an alternating swing from near anarchy under weak governments to the enforced peace established by dictators.

From 1845 until 1860, Ecuador had eleven changes of administration, most of which carried the Liberal Party label; there were three constitutions and sporadic civil wars as well as border wars with Peru and Colombia. By 1860 there was little semblance of a central government--local strongmen ruled the communities with the support of their gunmen. Popular opposition to the cession of Guayaquil and the southern provinces to Peru in 1860 brought Gabriel Garcia Moreno to power. A Guayaquil intellectual and religious man, he established a conservative Catholic theocratic dictatorship which lasted until his assassination in 1875. Garcia Moreno, best known for his religious fanaticism, did more for the unification of the country and for its economic and cultural development than any other 19th century leader.

3. Twentieth Century

For twenty years following Garcia's death, Ecuador returned to civil war, anarchy, banditry and economic deterioration. Conservatives regularly won the elections and were regularly ousted by liberals from Guayaquil until the revolution of 1895 brought Eloy Alfaro and the Radical Party to power. Alfaro's successes, initiated fifty years of liberal rule for Ecuador, highlighted by three more constitutions, the passage of twenty-eight presidents and uninterrupted political, social and economic crises. While the power of the conservatives and the Church were curtailed, the liberal promises of free elections and honest government have had little meaning--the notable exceptions being the regimes of Leonidas Plaza Gutierrez (1901-1905 and 1912-1916) and Galo Plaza Lasso (1948-1952), whose honest administrations brought a measure of economic and social progress.

From 1952 to 1963, conservatives alternated in power with liberal Jose Maria Velasco Ibarra until a reform military government seized power; it was promptly overthrown by the liberals it sought to assist.

A constituent assembly elected in 1966 selected Otto Arosemena Gomez to rule as provisional president until 1968, when Jose Maria Velasco Ibarra was elected president for a fifth time. Aged, cranky and always controversial, Velasco soon grew restless with in inability to win congressional approval for his economic policies. With the approval of the armed forces, he seized dictatorial power in June 1970, dismissing the Congress and replacing the moderate 1967 constitution (Ecuador's 16th) with the more conservative 1946 version.

To the surprise of many, Velasco later vowed to surrender power to his legally elected successor by June 1972. However, fearing a free election would be won by Assad Bucuram, a left-leaning former mayor of Guayaquil, the armed forces seized power on February 15, 1972. Modeling itself after the reformist Peruvian military government, the new regime pledged its policies would be "revolutionary and nationalistic".

Led by Brigadier General Guillermo Rodriguez Lara, the regime concentrated on how best to spend the huge tax royalties pouring into the treasury from Ecuador's newly-developed oil fields. Most funds were spent on public works (education,

highway and hospital construction) and fancy military hardware.

Despite the oil boom, dissatisfaction arose against the center-right regime, Leftists denounced in action on promised social and economic reforms, while conservatives condemned swollen civil service rolls (one in every ten workers) and new taxes on luxury imports. And everyone seemed annoyed by the oil revenue-fed inflation, high unemployment rates and continuing government corruption and repression.

An unsuccessful attempt by 150 soldiers to oust Rodriguez in September 1975 left 22 dead and 100 injured. Yet, after widespread student and labor unrest in January 1976 the strongman was finally toppled by a three-man military junta. The new rulers moved promptly to restore civilian rule. In January 1978 voters approved a new constitution. Elections were held six months later, followed by a run-off vote in April 1979.

Jaime Roldos Aguilera, a mid-mannered populist attorney from Guayaquil was elected president by an amazing 69% of the vote. At 38, he was the youngest chief executive in Latin America. Although his own Concentration of Popular Forces party and the allied Democratic Left party won 45 of the 69 seats in the unicameral nation legislature, the new President was unable to build a ruling coalition.

Roldos damaged his effectiveness by instituting austerity measures that raised food and fuel prices, leading to widespread disorders and the threat of another military coup. A timely border skirmish with Peru in February 1981 temporarily diverted attention from Ecuador's economic problems. Although the basic dispute dates back to 1830, the immediate crisis centered around the 1942 border treaty between the two countries, which Ecuador later disavowed.

In May 1981, Roldos, his wife, and seven others were killed in a plane crash while on a trip to the troubled border region. He was succeeded by Vice President Osvaldo Hurtado Larrea, a 41-year-old economist who authored the present 5-year economic plan. To maintain continuity in government, Hurtado retained most of Roldos' cabinet. In addition, the late president's brother, Leon, was named the new vice president.

As in the rest of Latin America, the austere economic program demanded by the International Monetary Fund has forced

the government to take measures which have not only affected its popularity, but threaten the social stability of the country. In May 1984, Leon Febres Cordero, a businessman, and candidate of the Front for National REconstruction, was elected president. He has announced that the economic situation will be the top priority of his government.

4. Border Dispute With Peru

Although the audiencia of Quito once ruled over vast areas of the Upper Amazon Basin, Ecuador's inability to colonize these lands led to large losses of territory to Peru and Colombia during the national period. The pre-eminent event in this process was the Ecuadorian-Peruvian war of 1941, which resulted in the loss of more than 200,000 square kilometers of national territory. Both the war and the subsequent Protocol of Rio de Janeiro at which the dispute was arbitrated were national humiliations for Ecuador. In spirit, Ecuador refuses to acknowledge the territorial losses to Peru as being permanent; all official and textbook maps include the full eastern region as national territory, with the Rio Protocol boundary labeled as such. The slogan "Ecuador has been, is, and will be an Amazonian nation" appears on official stationery and bill boards around the country.

Demarcation of the border between Ecuador and Peru according to the provisions of the Rio Protocol was halted when it was discovered that in the remaining 49 mile stretch, the treaty's description of the terrain did not match the physical features of the land. Ecuador, which never had been satisfied fully with the Rio Protocol, refused to recognize that portion of the border already demarcated. Most Ecuadoreans regard Peru as an aggressor and would welcome a revision of the treaty to gain sovereign access to the Marañon River, a tributary of the Amazon.

The long-standing border dispute erupted into war in January 1981. A ceasefire was declared a few days later under the auspices of the guarantors of the Rio Protocol of 1942 (Argentina, Brazil, Chile and the USA). Further clashes occurred along the border with Peru in December 1982 and January 1983.

C. PEOPLE

1. People

According to the 1982 national census, Ecuador's population totalled 8.04 million persons, with an average annual growth rate of 2.7 percent since the prior census in 1974. Current total population is projected at 8.5 million. The growth rate of 2.7 percent represents a significant decline from the rate of 3.2 percent per year recorded between 1962 and 1974.

Census figures showed that 50 percent of the population lived in urban areas in 1982, compared to 41 percent in 1974. If the peripheries of the two large Metropolitan Areas of Quito and Guayaquil are included, over 61 percent of the population can be classified as urban, compared with 52 percent in 1962 and 56 percent in 1974 (Shelter Needs Assessment Robert Nathan Associates, 1984).

In reviewing urban trends, it is useful to separate the two large Metropolitan Areas of Quito and Guayaquil from other urban areas, because of their size and characteristics. In 1982, the population of the Metropolitan Areas was close to two million, with an average annual growth rate of 4.6 percent since 1974, nearly 1.7 times the national average, and considerably higher than the annual growth rate of "other urban" areas of 3.3 percent per year. Guayaquil accounts for about 57 percent of the total Metropolitan population, and is growing somewhat faster than the population of Quito. The differences in the rates of growth between Metropolitan Areas and other urban centers provides an indicator of the intensity of urban migration, since natural population growth rates are declining.

The data indicate clear trends in the reduction of both national birth and death rates. From 1920 through 1974, birth rates declined from 47.7 to 45.0 births per thousand, and declined even faster during the 1974-1979 period, with the current national birth rate estimated at 35.6 per thousand. These significant decreases are attributed to greater use of contraceptive techniques, the overall trend toward urbanization with its lower fertility rates, and the trend of women bearing children later in life.

While migration has slowed as well, it still accounts for the major part of the growth in Metropolitan Areas, which totalled over 350 thousand persons during the 1974-1982 period. Guayaquil had a net migration estimated at 219

thousand persons and Quito at 139 thousand persons. On the other hand, migration to other urban centers accounted for only about 14 percent of their total population growth during that period, about 91 thousand persons.

National natural population growth is expected to continue to decline, but at more moderate rates. In projecting growth through the end of the decade, R. Nathan Associates used the rates of 2.3 percent annually for 1984 to 1989, tapering off to a 2.0 annual growth rate by 1999. Based on these assumptions, the population of Ecuador is projected to grow to 9.5 million by 1989, and to 11.6 million by 1999.

Another assumption was that urban migration will also be more moderate, and will become more equal in the future between Metropolitan Areas and other urban areas. Population in the Metropolitan Areas is projected to increase to 2.6 million by 1989; the population in other urban areas is projected to increase to 3.5 million by the same year, gradually increasing its share of the total national population to 40 percent by 2004.

Since the end of World War II emigration has always exceeded immigration. Some 11% of the total number of emigrants are university trained personnel. About 30% of the country's engineering graduates and 14% of medical graduates are being lost as a result of an exodus to the United States.

In 1974, World Population Year, the government established the National Population Council and began limited funding of family planning programs, which are available to all couples who request them. Family planning support is provided by the armed forces, the universities of Quito, Giayaquil and Cuenca, and two private organizations, Asociacion pro Familia Ecuatoriana and the Ecuadorian Center of Family Education. The Ministry of Public health offers family planning services at health centers, hospitals, and rural health subcenters. Its Directorate for family health also provides training for medical, paramedical, and related professional personnel. The Ministry conducts an information and education program and works with public and private agencies such as the National Planning Board, which collects and analyzes demographic data, and APROFE, the IPPF affiliate, which serves as an advisory body to the government as well as conducting its own programs. In 1978 there were, 32,300 acceptors of government-supported family planning services and 51,700 users of family planning methods, representing 6.3% of married women of child-bearing age.

2. Ethnic Composition

Racial origin has been eliminated from the census questionnaire and racial distinctions have been blurred partly as a result of government policy and partly as a result of racial admixture. Race is often defined in terms of social and cultural status rather than ethnicity. Particularly important in determining the boundaries of the core ethnic groups and the peripheral groups are lifestyle, clothing styles, fluency in Spanish language and occupation. Persons of Negro or Indian background and physical traits may ascend to the culturally dominant group by accepting Hispanic life styles.

Given the fluid nature of ethnic distinctions, estimates of the numerical strengths of various numerous groups are inconclusive. Generally, mestizos and Indians are believed to constitute the majority groups, each with 40%. The whites who claim pure Spanish ancestry make up another 10% and dark-skinned Negroes 5%. Other unclassified groups account for the remaining 5%.

Although the Indians are grouped together for political purposes, there are as many as 700 separate groups, each associated with a particular geographic locale. The Indians of the Sierra are by far the largest of the three main groups. As a result of continuous contacts with the Hispanic rulers, these Indians show less cultural variety than Indians of the Oriente and Costa. From their common historical experience, the highland Indians have developed a uniform attitude of distrust toward whites and mestizos. The most distinctive of the highland groups are the Otavalos of Imbabura Province, the Salasacas of Tungurahua and the Saraguros of Loja. There are only two groups of unassimilated Indians on the Costa, the Colorados and the Cayapas. Cultural contrasts between the whites and Indians are most pronounced in the Oriente, where the three most primitive tribes in the country live, the Jivaros, notorious for their shrunken head war trophies, the Aucas, who live in a state of almost complete isolation, and the Umbos, who are themselves a confederation of tribes. The Amazon Basin is also the home of the Zaparos, Cofan and other tribes.

African Negroes, introduced into the country in the 16th century, occupy a slightly higher social position than the Indians; they have been completely assimilated. The percentage of unmixed Negroes is small.

The largest alien ethnic group are Lebanese, often

called Arabs and Turks, who are concentrated in the city of Guayaquil, where they have established themselves as a merchant class. The Lebanese have resisted assimilation, and most marry within their own community. Despite their separate identity they have achieved a political prominence out of proportion to their numbers. The former mayor of Guayaquil and stormy petrel of Ecuadorian politics, Assad Bucaram, is perhaps the best-known member of this community. Chinese are found throughout the country but are centered primarily on the coast in the town of Quevedo.

There are small expatriate English, Irish, French and German communities in the major cities. In 1976 there were 4,590 US citizens in the country, of whom 4,172 were private residents.

3. Language

The official language is Spanish, which is spoken by about 93% of the population.

There are three distinct dialects of Ecuadorian Spanish, following the topographical divisions of Costa, Sierra and Oriente. The coastal dialect has a subdialect spoken by the Negroes, while there is a difference between the northern and southern subdialects of the Sierra. The Sierra dialect is generally regarded as the purer Spanish, being relatively closer to Castillian. The dialect of the Oriente is similar to that spoken in Peru and Colombia. The dialect of the Costa resembles that spoken in the coastal districts of Mexico, Panama and Venezuela and is closely related to the Spanish of Andalusia in southern Spain. There are periodic attempts to purify the language, and in 1972 the government banned the use of non-Spanish, particularly English, words in commercial use and ordered them to be replaced by words and phrases of Hispanic origin.

Almost all Indians speak Quechua, and nearly 6% of the population speak Quechua in addition to Spanish. Ecuadorian Quechua differs in major respects from that spoken in Bolivia and southern Peru but within the highlands it is fairly uniform and has only minor dialectal variations. Quechua has acquired an alphabet and an extensive literature as a result of missionary efforts by Catholics and Protestants.

In the western Costa the Cayapa and Colorado languages are still spoken by the respective tribes, although Spanish has been adopted by acculturated Indians. The most widespread

Indian language in the Oriente is Jivaro. Zaparo, Tetete, Cofan, Aushiria and Siona are also spoken by the tribes bearing these names.

4. Culture

Culturally, Ecuador reflects the regionalism of its people. The Quechua-speaking people of the highlands, while paying their respects to the Christian God of their conquerors, have retained their ancient customs. Conservative village communes persist and the people prefer to isolate themselves from Spanish influence. The White minority of landowners live in the highland cities in a manner reminiscent of European cities of the 18th and 19th centuries. Their cultural expression is found in religious devotion and a mode of graceful living forgotten in most of the world's communities. The people of the coastal plains are more homogeneous and less wedded to the past. Fun-loving and energetic, they have devoted their efforts to industry and commerce.

Quito, the capital, lying in a beautiful valley at 9,350 feet above the Pacific, isolated from the rest of the nation by a rim of hills, and overlooked by the snow-capped peaks of Chimborazo (20,577 feet) and Cotopaxi (19,344 feet) is the center of Ecuador's conservative Catholicism. A gem of Spanish colonial architecture, it has been dominated by the wealthy landowning elite and a powerful clergy who view any change in the feudal social and economic structure as an evil heresy. Quito is the spokesman for the highlands and their people.

Guayaquil, a sprawling growth on the banks of the sluggish, muddy Guayas River, is the port through which Ecuador trades its agricultural products for the manufactured goods of the outside world. Like Plato's Corinth, Guayaquil is viewed by the highlanders as the center of foreign corruption. For many years the city was rotten with yellow fever--now eradicated with foreign aid--but as a port of call for ships of all nations, it has been host to foreign ideas and to advocates of change--immigrants, labor agitators, communists and socialists. From Guayaquil have come most of the attacks on the highland landlords, clergy and their conservatism.

Artistic expression is derived from two sources: the rich expressions of devotion fostered by the Catholic Church over many centuries, and the ancient civilizations of Ecuador prior to the arrival of the Spanish.

In the cities, full-scale symphony orchestras, classic and popular guitar and harp provide a wide range of musical entertainment. In the vast rural highlands, the plaintive sound of the five-note reed pipe is heard.

The people of the highlands treasure their primitive, formal dances, seldom performed in the presence of outsiders. There is little singing--the sexes are separated and the movements of the dancers are ritualistic and slow.

Many of the two hundred Quechua dialects have survived from the days of the Inca empire, and now serve as a basis for unity among the rural people.

Like several of its neighbors, Ecuador is characterized by a sharply stratified, dual society in which there is a caste like division between Indians and non-Indians. By Ecuadorian standards some Indians are well off. Nevertheless, the overwhelming majority of the indigenous population bears the classic stigmata that mark them among the disinherited peoples of the world: poverty, illiteracy, high infant mortality and low life expectancy, a variety of deficiency diseases, low participation in local and national institutions and limited opportunities for social mobility. Many mestizos are no better off. However, the Indians' situation is aggravated by their relegation to the lowest stratum of Ecuadorian society.

In the universal dialectic of racism Indians are endowed with the very traits disesteemed by whites. Even the kindest among the whites tend to look upon Indians as children perpetually held at a developmental stage lower than that of full adult human beings, or they regard them simply as brutes little better than any other animal capable of carrying a heavy load. Perhaps most insidious of all is the attitude of benevolent condescension that characterizes the patron of classic mold and many would-be benefactors. The fact that some Indian groups in Ecuador are singled out for special comment or praise--the Otavaleños, for example, are said to be proud, clean, industrious, intelligent, and so on--is in effect to commend them for having qualities that one is surprised to find among Indians and at the same time damn other Indian groups with the implication that these are precisely the qualities they don't have. Thus most Indians are generally regarded by whites as being lazy, drunken, dirty, stupid, dishonest, or having other flaws of character. And so is fed the stereotype of the Indians that both keeps them at a distance and gives warrant to the ill treatment accorded to them.

Racism in Ecuador is institutionalized to a degree that would shock many oppressed peoples elsewhere. Today Indians may not be flogged, jailed for debts, or impressed into menial service. Nevertheless, they are still often the victims of the more insidious if impersonal structural violence done them by a dominant white society those fundaments were established during the colonial period. In interactions with non-Indians those classed as indios (Indians) are constantly and inescapably forced to face the fact of their ethnic stigma and adapt to the profaneness of their own persons (Goffman 1963). That there have been few racial confrontations in highland Ecuador in recent years eloquently bespeaks the fact that Sierra Indians and non-Indians have learned their respective roles of submission and dominance extremely well and almost unthinkingly put them into practice. Others, including the writer Jorge Icaza and the painters Oswaldo Guayasamin and Eduardo Kingman, have voiced outrage against the oppression of the Indians, but as yet no indigenous spokesman has emerged to fan the fires of their own inarticulate, smoldering indignation.

TABLE 1-1

DEMOGRAPHIC INDICATORS (1980)

Population, total (in 1,000).....	7,901.0
Population, males (in 1,000).....	3,955.0
Population, females (in 1,000).....	3,946.0
Population, ages (% of total)	
0-4.....	17.44
5-14.....	26.98
15-64.....	52.05
65+.....	
3.55 population under age 20 (% of total).....	
55.21	
Women ages 15-49 (% of total).....	45.05
Child-women ratios (per 1).....	0.775
Sex ratios (per 100 females).....	100.2
Median ages (years).....	17.58
Marriage Rate (per 1,000).....	5.4
Divorce Rate.....	0.2
Average size of Household.....	5.1
Decline in birthrate (1960-78).....	-6.4
Proportion of urban (%).....	44.65
Population density (per sq. km.).....	25
Rates of growth (%).....	3,038
Natural increase rates (per 1,000).....	31.18
Crude birth rates (per 1,000).....	41.60
Crude death rates (per 1,000).....	10.42
Life expectancy, males (years).....	57.99
Life expectancy, females (years).....	62.02
Life expectancy, total (years).....	59.96

TABLE 1-2

MAJOR INDIAN GROUPS

<u>GROUP</u>	<u>LOCATION</u>
Otavavalo.....	Imbabura
Salasca.....	Tungurahua
Puruhua.....	Chimborazo
Cabari.....	Canar/Azuay
Shuar.....	Morona/Zamora
Yumbo.....	Napo
Saraguro.....	Loja
Cayapa.....	Manabi
Colorado.....	Pinchincha
Auca.....	Oriente
Ibaro.....	Oriente

TABLE 1-3

POPULATION BY PROVINCE AND CANTON (1982 CENSUS)

Bolivar	148,161
Guaranda	76,297
Chillanes	20,089
Chimbo	23,553
San Miguel	28,222
Canar	180,285
Azogues	68,351
Biblian	20,954
Canar	90,980
Carchi	128,113
Tulcan	59,533
Espejo	12,605
Mira	13,451
Montufar	42,524
Chimborazo	329,922
Riobama	148,883
Alausi	44,406
Salinas	67,395
Colta	55,031
Chunchi	14,578
Guamote	24,775
Guano	42,249
Cotopaxi	279,622
Latacunga	123,788
Pangua	18,552
Pujili	77,145
Salcedo	45,606
Saquisili	14,531
Cuenca	440,571
Cuenca	272,397
Giron	34,825

Table 1-3 Continued....

Gualaceo	42,779
Paute	35,853
Santa Isabel	30,848
Sigsig	23,869
El Oro	330,110
Machala	114,516
Arenillas	21,062
El Guabo	23,072
Huaquillas	20,227
Pasaje	44,393
Pinas	29,806
Portovelo	8,814
Santa Rosa	40,974
Zaruma	27,246
Esmeraldas	247,879
Esmeraldas	141,030
Eloy Alfaro	23,779
Muisne	16,795
Quininde	44,599
San Lorenzo	21,667
Galapagos	6,201
San Cristobal	2,433
Isabela	630
Santa Cruz	3,138
Guayas	2,020,517
Guayaquil	1,300,484
Balzar	581,187
Daule	142,132
El Empalme	52,398
Milagro	106,767
Naranjil	33,496
Naranjito	21,259
Samborodon	25,438
Santa Elena	74,268
Urvina Jado	40,307
Yaguachi	98,386

Table 1-3 continued....

Imbabura	224,421
Ibarra	111,238
Antonio Ante	27,387
Catacachi	28,890
Otavalo	62,616
Pimampiro	14,290
Loja	358,558
Loja	120,035
Calvas	29,962
Catamayo	20,225
Celica	20,961
Espindola	17,920
Gonzanama	25,342
Macara	17,920
Paltas	44,815
Puyango	17,104
Saraguro	25,622
Sozoranga	9,367
Los Rios	450,227
Babahoyo	105,208
Baba	27,918
Puebloviejo	18,804
Quevedo	160,771
Urdaneta	20,988
Ventanas	50,598
Vinces	65,940
Manabi	840,318
Portoviejo	166,124
Bolivar	55,046
Chone	177,270
Jipijapa	73,270
Manta	103,562
Montecristi	31,686
Pajan	43,466
Rocafuerte	51,561
Santa Ana	57,715
Sucre	88,273
24 de Mayo	29,355

Table 1-3 continued....

Morona-Santiago	52,249
Morona	16,769
Gualaquiza	6,060
Limon-Indanza	9,217
Palora	2,154
Santiago	6,828
Sucua	11,221
Napo	113,042'
Tena	25,458
Aguarico	3,075
Archidona	14,976
Lago Agrio	23,200
Orellana	28,526
Putumayo	3,159
Quijos	9,189
Zucumbios	5,459
Pastaza	32,536
Pastaza	27,899
Mera	4,637
Pichincha	1,269,059
Quito	1,110,248
urban	858,736
suburban	22,678
rural areas	228,834
Cayambe	40,989
Mejia	38,258
Pedro Moncayo	14,666
Ruminahui	32,640
Santo Domingo	132,258
Tungurahas	328,070
Ambato	221,392
Banos	14,637
Patate	9,619
S de Pillaro	31,411
Quero	13,989
Zamora-Chinchiipe	44,841
Zamora	19,774
Chinchiipe	8,738

Table 1-3 continued....

Yacuambi	3,031
Yantzaza	13,298
TOTAL Country*	8,038,435
CONADE (1981 est.)	8,644,000

*1982 census not adjusted for probable undercounting and regional discrepancies due to migrations immediately prior to census.

Source: IV Population Census. Instituto nacional de Estadística y Censos, November 1982.

IN-COUNTRY RESOURCE ANALYSIS . SUMMARY MATRIX

CHAPTER 2
PUBLIC
ADMINISTRATION

<i>Resource Category</i>	<i>Estimate of Availability Status</i>
<p>GENERAL</p> <p>STRUCTURE OF GOVERNMENT</p> <p>MAJOR POLITICAL PARTIES</p>	<p>Terms of office for president and vice-president are 5 years. The 12 Congressional deputies terms of office are now 4 years per 1983 constitutional amendments.</p> <p>Government consists of Chamber of Representatives and Executive Branch. The Chamber of Representatives are elected for 5 years with at least one representative from each province and 12 elected at large. The Chamber ratifies treaties, elects members of the Supreme and Superior Courts, the Comptroller-General, the Attorney-General and the Supt. of Banks. The Executive Branch consists of the President and his cabinet, governors of of provinces, diplomatic representatives and some administrative employees.</p> <p>THE RIGHT: 1) Partido Social Cristiano (PSC), 2) Partido Liberal Radical (PLR), 3) Partido Conservador Ecuatoriano (PCE), 4) Partido Nacionalista Revolucionario (PNR), 5) Coalicion Institucionalista Democratica (CID) and 6) Movimiento Civico Ecuatoriano (MCE).</p> <p>POPULISM: 1) Concentracion de Fuerza Populares (CFP) 2) Frente Radical Alfarista (FRA), 3) Partido Roldosista Ecuatoriano (PRE), 4) Federacion Nacional Velaquista (FNV), 5) Accion Popular Revolucionaria Ecuatoriana (APRE), 6) Movimiento de Integracion Nacional (MIN)</p>

IN-COUNTRY RESOURCE ANALYSIS . SUMMARY MATRIX

<i>Resource Category</i>	<i>Estimate of Availability Status</i>
	<p>THE CENTER-LEFT: 1) Izquierda Democratica (ID), 2) Partido Democrata (PD), 3) Democracia Popular (DP), 4) Pueblo Cambio y Democratica (PCD), 5) Partido Socialista Ecuatoriano (PSE), 6) Partido Ecuatoriano del Pueblo (PEP).</p> <p>THE FAR LEFT: 1) Frente Amplio de Izquierda (FADI) 2) Movimiento Popular Democratico (MPD), 3) Partido Socialista Revolucionario Ecuatoriona (PSRE), 4) Alvaro Vive Carajo (AVC).</p>

CHAPTER 2

PUBLIC ADMINISTRATION

A. GENERAL

Constitutional amendments approved in mid-1983 and became effective in August 1984 reduces the terms of office of the president, vice president, and the 12 congressional deputies elected at large for 4 years. Deputies elected by province will henceforth serve 2-year terms. The Congress that convened in August 1984 expanded from 69 members to 71 members, in accordance with a constitutional formula based on population.

The Congress meets in full session for only 2 months every year, beginning August 10. Unless an extraordinary plenary session is called, for the remainder of the year all legislative business is transacted by the 20 members of the Congress who constitute its four permanent committees. (A 1983 Constitutional Amendment increased the size of the permanent committees to 28 members, effective August 1984.) The Congress is presided over by a president and vice president, who are elected from the general membership for 1-year terms.

Ecuador has a three-tiered court system. Justices of the Supreme Court are appointed by the Congress. The Supreme Court names the members of the Superior (provincial) courts, who in turn choose ordinary civil and penal judges. The power of judicial review rests with the Supreme Court and the Tribunal of Constitutional Guarantees, a 15-member body representing the executive, legislative, and judicial branches of government as well as the private sector.

The Executive branch of government includes 12 ministries and several cabinet-level secretariats, headed by presidential appointees. The president also appoints Ecuador's 19 provincial governors (Pichincha province does not have a governor), who represent the central government at the local level. Provincial prefects and councilmen and municipal mayors and aldermen are elected.

B. STRUCTURE OF GOVERNMENT

The 1945 constitution was suspended in June 1970. In January 1978 a referendum was held to choose between two draft constitutions prepared by various special constitutional committees. In a 90 percent poll, 43 percent voted for a proposed new constitution and 32.1 percent voted for a revised version of the 1945 constitution. The new constitution was promulgated following the inauguration of a new President and legislature in August 1979.

As in other post-war Latin-American Constitutions, particular emphasis is laid on the functions and duties of the State, which is given wide responsibilities with regard to the protection of labor; assisting in the expansion of production; protecting the Indian and peasant communities; and organizing the distribution and development of uncultivated lands, by expropriation where necessary.

Voting is compulsory for every Ecuadorean citizen who is literate and over 18 years of age. An optional vote has been extended to illiterates (under 15 percent of the population by 1981). The Constitution guarantees liberty of conscience in all its manifestations, and states that the law shall not make any discrimination for religious reasons.

1. CHAMBER OF REPRESENTATIVES

The Constitution of 1979 states that legislative power is exercised by the Chamber of Representatives which sits for a period of sixty days from 10 August. The Chamber is required to set up four full-time Legislative Commissions to consider draft laws when the House is in recess. Special sessions of the Chamber of Representatives may be called.

Representatives are elected for five years from lists of candidates drawn up by legally recognized parties. Twelve are elected nationally; two from each province with over 100,000 inhabitants, one from each province with fewer than 100,000; and one for every 300,000 citizens of fractions of over 200,000. Representatives are eligible for re-election.

In addition to its law-making duties, the Chamber ratifies treaties, elects members of the Supreme and Superior Courts, and (from panels presented by the President) the Comptroller-General, the Attorney-General and the Superintendent of Banks. It is also able to overrule the

president's amendment of a bill which it has submitted to him for his approval. It may reconsider a rejected bill after a year or request a referendum, and may revoke the President's declaration of a state of emergency. The budget is considered in the first instance by the appropriate Legislative Commission and disagreements are resolved in the Chamber.

2. EXECUTIVE BRANCH

The presidential term is five years, and there is no re-election. The President appoints his own cabinet, the governors of provinces, diplomatic representatives and certain administrative employees, and is responsible for the direction of international relations. In the event of foreign invasion or internal disturbance, he may declare a state of emergency and must notify the Chamber, or the Tribunal for Constitutional Guarantees if the Chamber is not in session.

C. MAJOR POLITICAL PARTIES

There are currently 16 active political parties in Ecuador. These parties range from the extreme left to the extreme right. During the 1984 presidential elections four of these parties joined forces to elect Leon Febres Cordero to the presidency. The new coalition is called the Frente de Reconstrucción Nacional (National Reconstruction Front) or FRN. This alliance also elected 16 members to Congress constituting a pro-government bloc. Listed below are 22 political parties, 6 of which are currently inactive.

1. ECUADORAN POLITICAL PARTIES

The RIGHT

a. PSC: Partido Social Cristiano (Social Christian Party). Dominated by Camilo Ponce from the break with the Conservatives in 1951 through the 1960s. Has become the preeminent party of the center-right. Guayaquil-based and free-enterprise oriented. Leon Febres-Cordero was the early favorite in the 1984 voting, came in second in the first round, then came back to win in the second primarily on his strength as a native son of Guayaquil, pivotal city of Ecuadoran elections.

LEADERS: Leon Febres Cordero (former deputy and present president of Ecuador), Augustin and Nicolas Febres Cordero (brothers of the president), Sixto Duran Ballen (1978-79 presidential candidate and present national deputy), Eduardo Carmioniani (Guayas deputy and PSC national president).

DEPUTIES: 9

b. PLR: Partido Liberal Radical (Radical Liberal Party). Dominant party from Eloy Alfaro's coastal-based anti-clerical revolution of 1896 until 1944. Declined in importance and moved steadily to the right as members split to found the FRA, ID, and PD. Joined the center-right FRN after jettisoning presidential candidacy of moderate Jorge Zavala in mid-1983. Principal bases of support in Manabi and Pinchincha provinces.

LEADERS: Blasco Penaherrera (vice-president of Ecuador), Carlos Luis Plaza Aray (Guayas deputy and Chamber of Agriculture spokesman), Raul Clemente Huerta (1978 presidential candidate), Alvaro Perez (national deputy and ex-Quito mayor).

DEPUTIES: 4

c. PCE: Partido Conservador Ecuatoriano (Ecuadoran Conservative Party). Founded by followers of 19th century caudillo Gabriel Garcia Moreno's Catholic traditionalism. Mother party of the center-right PSC and center-left DP. Now a declining Sierra-based party aligned with the FRN.

LEADERS: Jose Gabriel Teran Varela (national director), Edgar Teran Teran (foreign minister), Galo Pico (ex-deputy).

DEPUTIES: 2

d. PNR: Partido Nacionalista Revolucionario (Revolutionary Nationalist Party). Guayaquil-based personal party of former president Carlos Julio Arosemena Monroy (deposed 1963). Originally populist, the PNR is now a center-right mini-party aligned with the FRN.

LEADERS: Carlos Julio Arosemena Monroy, Errol Cartwright (deputy from El Oro), Carlos Julio Arosemena Peet (Guayas prefect candidate and chairman of BEDE), Mauricio Gandara (national director).

DEPUTIES: 1

e. CID: Coalicion Institucionalista Democratica (Institutional Democratic Coalition). Guayaquil-based personalist party of the late ex-president Otto Arosemena Gomez after his split with the Liberals. Stridently anti-communist. Ran Guasmo leaders Jaime Toral and Carlos Castro on its 1984 electoral lists.

LEADERS: Carlos Arosemena Gallardo (national director and national deputy candidate).

DEPUTIES: 0

f. MCE: Movimiento Civico Ecuatoriano (Ecuadoran Civic Movement). Political front of outgoing Guayaquil mayor Bolivar Cali.

Associated with the PLR and supportive of the Febres Cordero candidacy. Not a certified party.

POPULISM

g. CFP: Concentracion de Fuerza Populares (Concentration of Popular Forces). Dominant Guayaquil party founded by anti-communist populists in the 1940s and molded by Guayaquil mayor Assad Bucaram (the son of Lebanese immigrants) in the 1960s. Elected Jaime Rolodos president after the military disqualified Bucaram in 1978. Began new government in 1979 with the presidency and a plurality of 29 congressional seats. The Roldos-Bucaram split, the death of "Don Buca", and purges by his son Averroes reduced the affiliated congressional delegation to four by the end of 1983. As CFP presidential candidate, corporate lawyer Angel Duarte tapped the old populist fire and reversed the party's decline, but it remains to be seen if the party's young leadership can continue to comeback. Duarte implicitly supported Febres Cordero in the May 1984 run-off. The CFP congressional bloc constitutes a swing vote.

LEADERS: Averroes Bucaram Zaccida (supreme leader, Guayas deputy), Walter Freire (national secretary), Angel Duarte (1984 presidential candidate), Leonardo Escobar (national deputy), Leonidas Plaza (Guayas deputy).

DEPUTIES: 7

h. FRA: Frente Radical Alfarista (Alfarist Radical Front). Founded by Guayaquil populist Liberal Abdon Calderon in 1968. Led by his daughter Cecilia since his assassination by military elements in late 1978. Made a dramatic showing in the 1980 local elections, but failed to win Guayaquil mayorship in 1984. Their presidential prospects faded when first choice Hugo Ordonez backed out of the race. Allied with the leftist Comite del Pueblo in Quito, the FRA combines "center-left" populism with free-enterprise economic policy and clean anti-corruption image. Seeks a role as a "third force" in congress.

LEADERS: Cecilia Calderon de Castro (national director, Guayaquil mayor candidate), Jaime Aspiazu (1984 presidential candidate), Ivan Castro (Guayas deputy, Cecilia's husband), Carlos Julio Emanuel (general manager of Banco Central), Efren Cherres (prefect candidate).

DEPUTIES: 6

i. PRE: Partido Roldosista Ecuatoriano (Ecuadoran Roldosist Party). Founded 1982 as the Guayaquil-based personal

party of Abdala Bucaram, nephew of the late Assad Bucaram of the CEP and brother-in-law of the late President Roldos. Abdala succeeded in alienating almost every political sector in Ecuador, but nevertheless managed to win the Guayaquil mayorship with 39 percent of the vote. Supported Borja in May 1984 run-off and joined the anti-government congressional bloc.

LEADERS: Abdala Bucaram Ortiz (Guayaquil mayor), Alfredo Adum (Guayas prefect), Roberto Dunn (national deputy).

DEPUTIES: 3

j. FNV: Federacion Nacional Velaquista (Velaquist National Federation). Remnants of the party of the late five-time populist president Jose Maria Velasco Ibarra. Supported candidacy of Febres Cordero in 1984. Decertified by the Electoral Tribunal in August 1984 for failing to run enough candidates.

LEADER: Hector Espinal (national director).

DEPUTIES: 0

k. APRE: Accion Popular Revolucionaria Ecuatoriana (Ecuadoran Revolutionary Popular Action). Guayaquil micro-party offshoot of the CFP. Divided into factions and largely moribund.

LEADER: Augustin de Janon Rodriguez (national director).

DEPUTIES: 0

l. MIN: Movimiento de Integracion Nacional (National Integration Movement). Congressional followers of former CFP national director and ex-congress president Rodolfo Baquerizo purged by Averroes Bucaram in 1983. Some members ran for office on the PNR list, but Baquerizo has all but retired from politics. Not a certified party.

LEADERS: Rodolfo Baquerizo, Julio Ayala (ex-deputy and former Guayas teacher's union (UNE) president).

THE CENTER-LEFT

m. ID: Izquierda Democratica (Democratic Left). Founded by dissident Liberals in 1970. Affiliated with the Socialist International, the party has produced a well-defined social democratic ideology and strong organizational base. Rodrigo Borja won the first round of the presidential election but failed to hold the center-left together for the second round. The ID has a congressional plurality and leads the fragile "Frente Progresista Democratica" opposition coalition of 37 center-left and far-left deputies.

LEADERS: Rodrigo Borja (presidential candidate), Jorge

Zavala (national deputy), Fernando Larrea (Guayas deputy), Xavier Ledesma (national director), Raul Baca (Pichincha deputy and ex-Guayaquil mayor).

DEPUTIES: 24

n. PD: Partido Democrata (Democratic Party). Founded by Francisco Huerta after having the Liberal presidential nomination taken from him by his uncle Raul Clemente Huerta in 1978. Supported the Hurtado government. Kennedyesque ideology which appeals to progressive businessmen but did not live up to expectations in 1984 elections. Allied with both the ID led congressional opposition and the FRA swing vote.

LEADERS: Francisco "Pancho" Huerta (1984 presidential candidate), Carlos Feraud Blum (national deputy and one of Rolodos's ex-ministers of government), Nicolas Lapentti (Guayas prefect candidate, national director), Luis Piana (Guayaquil mayoral candidate).

DEPUTIES: 5

o. DP: Democracia Popular (Popular Democracy). Founded by Professor Oswaldo Hurtado as the Christian Democratic Party in 1962 and joined by Julio Trujillo and the progressive wing of the Conservatives in 1977, the DP filled the VP slot on the winning CFP ticket of 1978-79. After President Rolodos's death in 1981, Hurtado took over and presided over a period of difficult economic adjustment that hurt the DP's popularity. The DP is a sierra-based party with a rural reformist ideology. It has joined the ID-led opposition front in congress.

LEADERS: Oswaldo Hurtado (outgoing president of Ecuador, vice-president under Roldos), Julio Trujillo (presidential candidate), Wilfredo Lucero (national deputy and DP national president), Dalton Bacigalupo (Guayas deputy candidate), Juan Pablo Moncapatta (ex-Guayas governor).

DEPUTIES: 4

p. PCD: Pueblo Cambio y Democracia (People Change and Democracy). Founded by President Jaime Roldos in 1980 after his split with CFP leader Assad Bucaram. After Rolodos's death in 1981, the PCD lost the mantle of "Roldocismo" to Abdala Bucaram's PRE. Chosen by the ID as a Guayaquil balance to its ticket. Suffering a high rate of disaffiliations.

LEADERS: Aquiles Rigail (vice-presidential candidate), Michel Doumet (Guayas deputy candidate), Leon Roldos (outgoing vice president of Ecuador, brother of Jaime Roldos).

DEPUTIES: 0

q. PSE: Partido Socialista Ecuatoriano (Ecuadoran Socialist Party). Until the 1940's Ecuador's third largest party and dominant in the trade-union movement, the PSE is now a micro-party of moderate orientation. Supported the Liberals in 1978. Entered into an unlikely electoral alliance with Pepe Chavez's PEP and the Marxist PSRE in 1983. The one deputy seat gained was by a PSE moderate.

LEADERS: Edilberto Bonilla (Chimborazo deputy), Alberto Cabeza de Vaca (national director).

DEPUTIES: 1

r. PEP: Partido Ecuatoriano del Pueblo (Ecuadoran People's Party). Political vehicle of Jose "Pepe" Chavez, president of the democratic, AIFLD-supported, 130,000 member CEOSL trade union confederation. Also associated are Guayas FETLIG leader Julio Chang and Manabi FETPLIM leader Plutarco Pico. Allied with PSE and PSRE in 1983 to form the Socialist Front but failed to get the union membership to support the ticket.

THE FAR LEFT

s. MPD: Movimiento Popular Democratico (Democratic Popular Front). Founded as an electoral front by the Maoist Marxist-Leninist Communist Party of Ecuador (PCMLE), the MPD has become Ecuador's leading Marxist party under the charismatic black leader and fourth place presidential contender Jaime Hurtado. Strongest in Pichincha, Esmeraldas, the campuses, and the rural sierra. The MPD has abandoned strict Maoism (such as that exhibited by Sendero Luminoso, the analagous Peruvian group) in favor of electoral politics based on Hurtado's populist appeal and vigorous organization of disadvantaged groups.

LEADERS: Jaime Hurtado (presidential candidate), Carlos Ceratto (mayor of Machala), Jorge Moreno (national deputy).

DEPUTIES: 3

t. FADI: Frente Amplio de Izquierda (Broad Leftist Front). Electoral front of the Moscow-line Ecuadoran Communist Party (PCE). Also includes the Popular Socialist Party (PSP) and other small groups. The PCE dominates one of the major trade union centrals, the 150,000 member Ecuadoran Workers' Confederation (CTE) and is thus influential in the United Workers' Front (FUT) union umbrella. Important in university politics and has some strength in the rural sierra, Esmeraldas and Pichincha provinces.

LEADERS: Rene Mauge (Communist Party secretary-general,

Francisco Ramon Viteri Silva
 Chief, Operations (Dept. III), Navy - Captain De Navio
 Cesar Gonzalo Benalcazar Erazo
 Commander of the Marine Corps - Captain De Corbeta
 Guovanny Crespo Cordero
 Chief of Staff, Marines - Brigadier General
 Armando Duran Nunez
 Commander of the Air Force - General Del Aire
 Frank Enrique Vargas Pazzos
 Inspector General, Air Force - Braigadier General
 Armando Duran Nunez
 Chief, Personnel (Dept. I), Air Force - Coronel
 Galo Antonio, Coronel Drouet
 Chief, Intelligence (Dept. II), Air Force - Coronel
 Jaime Alfonso Amaya Narvaez
 Chief Operations (Dept. III), Air Force - Brigadier General
 Jorge Andrade Cevallos
 Chief, Fiance (Dept. IV), Navy - Contraalmirante
 Hugo Armando Unda Aguirre
 U.S. Ambassador to Ecuador - Samuel F. Hart
 U.S. Defense Attache - George A. Hooker, COL, USA
 U.S. Milgroup Commander - Rodriquez, COL, USAF

E. HIGH MILITARY OFFICIALS

COMANDO CONJUNTO - Jefe: VADM Santiago CORAL Teran
 ARMY - CO: Gen Div Manual ALBUJA
 NAVY - CO: VADM Santiago CORAL Teran
 AIR FORCE - CO: Lt. Gen Frank VARGAS Pazzos
 NATIONAL POLICE - CO: Gen Edison GARCES

F. CURRENT LEGISLATURE (Congreso Nacional - Camara Nacional de Representantes)

General Election, 29 January 1984

PARTY	SEATS
Izquierda Democratica (ID)	24
Partido Social Cristiano (PSC)	9
Concentracion de Fuerzas Populares (CFP)	7
Frente Radical Alfarista (FRA)	6
Partido Democrata (PD)	5
Democracia Popular (DP)	4
Partido Liberal Radical (PLR)	4

General Election, 29 January 1984 continued....

PARTY	SEATS
Movimiento Popular Democrata (MPD)	3
Partido Roldosista Ecuatoriano (PRE)	3
Frente Amplio de la Izquierda (FADI)	2
Partido Conservador (PCE)	2
Partido Nacionalista Revolucionario (PNR)	1
TOTAL	70

G. DIPLOMATIC REPRESENTATION (1984) - Embassies in Ecuador

Argentina: Avda 12 de Octubre 1982, Apdo 2937, Quito;
Ambassador: Jose Carlos Gonzalez Castro.

Belguim: Austria 219 e Irlanda, Quito; Ambassador: Roger Tyberghein.

Bolivia: Quito; Ambassador: Eusebio Moreira.

Brazil: Camilo Destruge 130, Quito; Ambassador: Jose De Meira Penna.

Bulgaria: Veintimilla 186 y 12 de Octubre, Quito; Charge d'affaires: Marin Kostov.

Canada: Edif. Belmonte 6, Avda Corea 126 y Amazonas, Wuito; tel. 458-102; Ambassador: (Vacant)

Chile: Avda Amazonas 325 y Washington, Edif. Rocafuerte 4 y 5, Quinto; Ambassador: Gabriel Van Schouwen Figueroa.

China, People's Republic: Quito; Ambassador: Ding Hoa.

Colombia: Calle San Javier 169, Casilla 2923, Quito; Ambassador: Laureano Alberto Arellano.

Costa Rica: Bello Horizonte 131 y 6 de Diciembre, Quito; Ambassador: Feliz Cortez.

Cuba: (relations reduced to charge d'affaires level in March 1981; restored to ambassador level in January 1984).

Czechoslovakia: Calle General Salazar 459 y Coruna, Quito; Ambassador: Lubomir Hrdlicka.

Dominican Republic: Avda 6 de Diciembre 4629, Quito; Ambassador: Mario Pena.

Egypt: Orellana 578 y Coruna, Apdo 9355, Surcursal 7, Quito; tel. 235-046; telex 2154; Ambassador: Abdel Rahim Hamad.

El Salvador: Calle Antonio de Ulloa 2835, Sector Rumipamba, Quito; Ambassador: Manuel A. Calderon.

France: Plaza 107 y Avda Patria, Apdo 536, Quito; tel. 521-400; telex 2146; Ambassador: Michel Perrin.

German Democratic Republic: Calle Ignacio Bossano 460 y Jativa, Apdo 102, Quito; tel. 453-814; Ambassador: Heinz Lohn.
Germany, Federal Republic: Avda Patria y 9 de Octubre, Quito; Ambassador: Karl Rolf Nagel.
Guatemala: Avda 6 de Diciembre 2636, Quito; Ambassador: Juan Rendon M.
Holy See: Avda Orellana 692 (Apostolic Nunciature), Quito; tel. 528-783; Nuncio: Mgr Vincenzo Farano.
Honduras: Cordero 279 y Plaza, Quito; Ambassador: Antonio Molina O.
Hungary: 235 Calle el Batan, Quito 003400; tel. 234-404; Ambassador: (Vacant).
Israel: 12 de Octubre 532, 4, Quito; Ambassador: Naphtali Gal.
Italy: Calle La Isla 111, POB 072-A, Quito; tel. 522-015; Ambassador: Severio Callea.
Japan: Avda Amazonas 239 y 18 de Septiembre, Quito; Ambassador: (Vacant).
Korea, Republic: Carrion 256, Edif. el Libertador, 5 A y B, Quito; Ambassador: Ki-Chu Lee.
Malta: Versailles 1632 y Cordero, Quito; Ambassador: Jose Manuel Juon-Caamano y Flores.
Mexico: Avda 6 de Diciembre 4843, Quito; Ambassador: Juan Miralles Ostos.
Netherlands: Edif. Club de Leones Central 3, Avda de las Naciones Unidas entre Avdas 10 de Agosto y Amazonas, Apdo 2840, Quito; Ambassador: Dr. J. Weidema.
Nicaragua: Juan Salinas 174, Quito; Ambassador: (Vacant).
Panama: Calle Pazmino 245 y Avda 6 de Diciembre, Quito; Ambassador: Roberto Samuel Fabrega Goytia.
Paraguay: Avda Gaspar de Villarreal 2013 y Avda Amazonas, Casilla 139-A, Quito; tel. 245-871; telex 2260; Ambassador: Dr. Gilberto Caniza SAnchiz.
Peru: Avda Colon y Amazonas, Edif. Espana Pent-House, Quito; Ambassador: Felipe Valdivieso Belaunde.
Poland: Mariana de Jesus 1010 y Hungria, Quito; Charge d'affaires: Czeslaw Bugajski.
Romania: Avda Republica del Salvador 482 e Irlanda, Quito; Ambassador: Gheorghe Dobra.
Spain: La Pinta 455 y Amazonas, Quito; Ambassador: Manuel Gomez Acebo.
Sweden: Avda 10 de Agosto 1865, Quito; Ambassador (Vacant).
Switzerland: Rio de Janeiro 130, 10, Quito; tel. 231-661; Ambassador: (Vacant).
USSR: Reina Victoria 462 y Roca, Quito; Ambassador: Guerman E. Chliapnikova.

ECUADOR

United Kingdom: Gonzalez Suarez 111, Casilla 314, Quito; tel. 230-070; telex 2138; Ambassador: Adrian C. Buxton.
USA: Avda 12 de Octubre y Patria 120, Quito; telex 2329; Ambassador: Samuel F. Hart.
Uruguay: Edif. Interoceanico, Avda 6 de Diciembre, 1-A, Ruta Tumbaco, Quito; Ambassador: Daniel M. Soto.
Venezuela: Reina Victoria 569 y Carrion, Quito; Charge d'affaires: Dr. Pedro E. Coll.
Yugoslavia: Gen. Francisco Salaza 958 y 12 de Octubre, Quito; Ambassador: Bogdan Isoviski.

APPENDIX I

CHRONOLOGY (from 1945)

- 1945 - President Jose Maria Velasco Ibarra disavows new constitution curtailing presidential powers.
- 1946 - Velasco promulgates new constitution restoring presidential powers; Velasco resigns and is reelected.
- 1947 - Velasco is removed and exiled by Minister of Defense Carlos Mancheno Cajas; within nine days Col. Mancheno is overthrown by a counter revolt led by Col. Angel Baquero Davila; Conservative Acting Vice President Mariano Suarez Veintimilla proclaims himself acting president in Quito with Davila as defense minister while Maj. Sergio Enrique Giron sets up a rival Government Junta of National Concentration in Guayaquil; Giron accepts Suarez regime....Congress elects Julio Arosemena Tola as president until 1948.
- 1948 - Galo Plaza Lasso, Radical Liberal candidate, wins presidency in elections.
- 1952 - Velasco is elected president.
- 1954 - Ecuador decrees a 322-km (200 mi) coastal waters jurisdiction.
- 1955 - Ecuador begins seizing U.S. fishing vessels within the extended territorial limit.
- 1956 - Conservative-backed Camilo Ponce Enriquez wins the elections with a narrow plurality and becomes the first conservative president in 60 years.
- 1960 - Velasco is elected president for the sixth term.
- 1961 - Velasco is overthrown and is replaced by Vice President Julio Arosemena Monroy.
- 1963 - Arosemena, an alcoholic, is charged with undignified public conduct and ineptness in the handling of presidential duties and is dismissed by a junta headed by Capt. Ramon Castro Jijon....Communist Party is outlawed.
- 1966 - Junta is forced by nationwide riots to restore civilian rule under provisional President Clemente Yerovi Indaburu; later, the constituent assembly elects Otto Arosemena Gomez as president until 1968.
- 1967 - Constituent Assembly passes new constitution replacing the 1946 constitution.

Appendix I Continued....

1968 - Velasco is elected to an unprecedented seventh term as president.

1970 - Velasco suspends the constitution and assumes dictatorial powers.

1972 - Velasco is ousted in military coup led by Guillermo Rodríguez Lara.

1975 - Government crushes right-wing coup led by Armed Forces Chief of Staff Gen. Raul Gonzalez Alvear.

1976 - President Rodriguez's plan to restore civilian rule precipitates cabinet crisis in which the president is forced to yield office to a three-man junta headed by Vice Adm. Alfredo Poveda Burbano.

1978 - Ecuadorians approve a new constitution preparatory to the restoration of constitutional rule....In first presidential elections since 1972 Jaime Roldos Aguilera of the Concentration of Popular Forces and Sixto Duran Ballen of the Conservative lead a field of four candidates....Ecuador signs the eight-nation Amazon Pact.

1979 - Roldos wins the run-off election beating Duran by a margin of 2 to 1 and is installed president; the new president runs into opposition from his own party and parts company with his mentor, Bucarm; Roldos builds up his own political base in the Force of Change movement.

1981 - President Roldos and Defense Minister, Marco Subia Martinez are killed in an air crash in southern Ecuador; Vice President Osvaldo Hurtado Larrea, assumes the presidency.

1984 - Ecuadorians elect Leon Febres Cordero of the Partido Social Christians Party to president for the next 5 years.

IN-COUNTRY RESOURCE ANALYSIS . SUMMARY MATRIX

CHAPTER 3
LEGAL SYSTEMS
AND PUBLIC
SAFETY

<i>Resource Category</i>	<i>Estimate of Availability Status</i>
LEGAL SYSTEM	In 1861 adopted Civil Code of Chile - based on Napoleonic Code, Roman Code, Louisiana Code, the Austrian and Prussian Codes and Seven Divisions of Spanish Law. 1869 - Adopted Penal Code of Belgium. Judiciary consists of 1) Supreme Court of Justice, 2) Higher Divisional Courts, 3) Provincial Courts, 4) Cantonal Courts and 5) Parochial judges.
PUBLIC SAFETY SYSTEM	National Law Enforcement Agency is National Civil Police. Has 4 divisions; 1) Urban Service, 2) Rural Service, 3) Traffic Service and 4) Criminal Investigative Division.

CHAPTER 3

LEGAL SYSTEMS AND PUBLIC SAFETY

A. LEGAL SYSTEM

In 1861 Ecuador adopted the Civil Code of Chile, which was itself based on the Napoleonic Code, Roman Law, the Louisiana Code, the Austrian and Prussian Codes and the so-called Seven Divisions of Spanish Law. Eight years later it adopted the Penal Code of Belgium, based on the Penal Code of France of 1810.

The judiciary consists of a Supreme Court of Justice, Higher Divisional Courts, provincial courts, cantonal courts and parochial judges.

The Supreme Court consists of 15 judges and two minister fiscals, or prosecutors, elected under the constitution by the Congress for six-year terms. The president of the court is elected annually by the membership. The court usually sits in five chambers of three judges each. In addition to its legal duties, it supervises and disciplines the lower courts and the entire judicial system.

Of the 15 Higher Divisional Courts, or Superior Courts, four are composed of six judges and 11 of three judges each. Appeals to the Superior Courts are from the provincial courts, consisting of 58 civil courts and 58 criminal courts. Cantonal courts sit in each canton trying minor civil and criminal cases. The administration of justice in each parish, the lowest until of government, is vested in the parochial judges.

Capital punishment and all forms of torture are prohibited under the constitution, as are imprisonment for debt and contracts involving personal servitude or slavery.

There are special courts established for juveniles and for labor disputes.

Historically, the judiciary has remained remarkably aloof from the constant political quarrels which have characterized the legislative and administrative branches.

B. PUBLIC SAFETY SYSTEM

The national law enforcement agency is the 6,300-man National Civil Police (Policia Civil Nacional, PCN), commanded by a general officer. The force, administratively under the Ministry of Government, consists of four operational divisions: Urban Service, Rural Service, Traffic Service and the Criminal Investigative Division. The country is divided into four police districts with headquarters in Quito, Riobamba, Cuenca and Guayaquil. The Quito and Guayaquil police forces are organized into regiments of about 700 men each. The other 17 provinces have units varying in size according to the population. In addition, a plainclothes police unit functions as the Ecuadorian section of the Interpol. The customs police are administratively separate under the Ministry of Finance.

Crimes of all types are reported to be on the rise. The most common urban crimes are pickpocketing, fraud, robbery, assault, mugging and murder. More sophisticated crimes, such as bank robbery, impersonation of police officers and hijacking, reflect the trend toward greater social violence.

The correctional system consists of two large penitentiaries, the Garcia Moreno prison in Quito and the Penitenciara del Litoral in Guayaquil, the Quito municipal jail, jails in all provincial capitals except in the Oriente and an agricultural penal colony in Pastaza.

IN-COUNTRY RESOURCE ANALYSIS . SUMMARY MATRIX

CHAPTER 4
MILITARY AND
CIVIL DEFENSE

<i>Resource Category</i>	<i>Estimate of Availability Status</i>
GENERAL	<p>Over 30 percent of Ecuador's presidents have been Army officers. Six times as many military officers are from Sierra as from Costa and come from middle-class families. Since 1960 military juntas have ruled Ecuador on 2 separate occasions. Total numbers of persons in the military in 1982 was 38,900 or 4.4 persons per 1000 population.</p>
CIVIL DEFENSE	<p>Ecuadorean Civil Defense has primary responsibility for coordinating the country's disaster preparedness and relief operations. Civil Defense is organized at both the national and provincial levels.</p>

CHAPTER 4

MILITARY AND CIVIL DEFENSE

A. GENERAL

1. Military

The military has played an active role in Ecuadorian politics; over 30 percent of Ecuador's presidents have been army officers. About six times as many military officers are from the Sierra as from the Costa and tend to come from middle-class families. Typically, the military has remained in power only briefly, viewing its role as caretaker and defender of the constitutional order. Even without direct involvement, the military plays a significant role since the threat of military intervention does much to shape the course of politics. Recently the military has taken power for longer periods of time.

Since 1960, military juntas have ruled Ecuador on two separate occasions. The first military junta took power in 1963, using the threat of Cuban communist intervention to justify its action. Its proposed policies were reformist. Its most notable achievement was the establishment of Ecuador's first land-reform legislation, but very little reform was actually realized. The military withdrew from power in 1966, under heavy criticism from nearly all sectors of society. In 1972, the military again entered politics, this time in response to its perception of threats of destabilization created by Ecuador's new petroleum wealth and from the almost certain victory in the presidential elections to be held that year, Assad Bucaram. The second junta proclaimed itself reformist and nationalist in the style of the Peruvian military at that time. Severe internal disagreements over the proper political model for the military and strong opposition from civilian elites prevented the realization of any significant reforms. Again under heavy criticism, the military withdrew from power in 1979. The military remains an important political force which can be expected to intervene if it

perceives a need to safeguard constitutional order. It represents an important political constraint on what is possible for any party in office.

The total number of persons in the Ecuadorian active armed forces in 1982 was about 38,900 or 4.4 persons per 1000 population. Selective service registration is compulsory for all men at age 20; if selected, a person must spend 2 years in the active forces. There are about 30,000 in the Army, 4,000 in the Navy, and 4,800 in the Air Force.

Defense expenditures in 1978 were approximately 4.64 billion sucres or 17.5% of the national budget; in 1982, the defense budget was 5.80 billion sucres.

The air force also operates Ecuador's international airline, Ecuatoriana, as well as a local intracountry carrier, TAME.

2. Army

a) Early Development and Political Involvement

The Ecuadorean Army traces its roots back to the country's independence in 1830. At that time most of the senior Army officers and many of the troops were Venezuelan, as was the first President, Juan Jose Flores. By the end of his fifteen years of rule only four of the fifteen general officers were Ecuadorean, most regiments were commanded by Venezuelans, and in the elite cavalry regiments both officers and non-commissioned officers were from Venezuela. By 1900 the Army, which had increased in size and efficiency over the years, was able to repel an attack from Colombia by Ecuadorean political opponents of the government in power. During the 1920's-1940's the Army was an active participant in political affairs, being responsible for military coups that removed the presidents in 1931 and 1935. In July 1941, following skirmishes between border guards, Ecuador was invaded by Peru. The Ecuadorean forces defending the border were not sufficiently reinforced and were no match for the invaders, who for the first time in Peruvian history used paratroop units. As a result, the country suffered a major territorial loss to Peru. Army officers were responsible for removing the presidents in 1944 and 1947, and the three services' commanders deposed President Carlos Julio Arosemena Monroy in 1963. The most recent occurrence of direct military involvement in the

political field was the deposition of President Jose Maria Velasco Ibarra on 15 February 1972 and the Military Junta that was recently in power.

b) Foreign Influence

The first foreign officers arriving to assist in the training of the Ecuadorean ARMy came from France in the 1890's. By 1903 the Prussian trained Chileans furnished a military mission. From the early 1920's to the early 1930's the Italians organized a series of training schools for the ARMy but little of their influence remains. After Pearl Harbor, Ecuador declared war on Japan and granted base rights to the United States.

c) Training

The country's senior military training facility is the National Institute for High Studies, created by a decree issued 27 February 1972. The Institute began operations during the summer of 1972. Its objectives are the investigation and thorough analysis of national problems and the development of knowledge related to the operations of planning, directing and executing national policies on the upper levels of government, with a view to finding the most satisfactory solutions. Other schools include their Command and General Staff College, their military Academy "Eloy Alfaro" and the "Escuela de Perfeccionamiento" which is a combined basic and advanced officer's school for all branches.

Ecuadorean military personnel have for many years attended military training institutions in the Panama Canal area and in the United States. The President of the Republic in 1972, General Guillermo Rodriguez Lara, was an honor graduate of the United States Army School of the Americas in Panama, where he had remained for a time as an instructor at the school. He had also graduated from the Command and General Staff College at Fort Leavenworth, Kansas. Ecuadoreans have graduated from the United States Military Academy since 1939, and from the United States Naval Academy since 1974.

d) Organization and Equipment (1982)

Personnel: 30,000

Organizaton: 1 armored brigade
 7 infantry brigades
 1 paratrooper battalion
 4 artillery battalions
 5 mechanized recon groups

Major Equipment Inventory: 149 light tanks
 108 AMX-13 (105mm
 gun)
 16 M-3 & 25 M-4
 (status unknown)
 36 AML armored cars
 (60mm & 90mm guns)
 123 armored personnel
 carriers
 20 M-113A1
 10 UR-416
 93 AMX-13VTT
 38 AA guns
 10 40mm
 18 163A
 48 howitzers
 18 M-102 105mm
 12 AMX-13 155mm
 6 M-44 155mm SP
 12 M1e F3 155MM SP
 81mm mortars

Aviation: 12 transports
 1 'King Air'
 1 DHC-5D
 5 PC-6
 5 IAI 201
 7 utility/liaison
 1 'Queen Air'
 1 Ce-172
 2 Ce-177
 2 Ce-185
 1 Ce-206

3. Navy

a) General

The origin of the Ecuadorean Navy dates back to 1821, but its official birth was on 14 January 1936 when it was

separated from the Ecuadorean Army and the Naval Squadron was established. It presently numbers about 4,000 men and women; 420 officers, 280 midshipment and 3,300 enlisted. Included in these totals are approximately 20 officers and 1,000 men who form the Marine Corps, which was established on 12 November 1966. The Naval Air Group is composed of 15 officer and approximately 50 men.

Of a total force of 54 vessels, about 25 are considered to have varying degrees of combat capabilities. These include 3 missile boats, 3 torpedo boats, two submarines, two corvettes (Italian made), one LST and various patrol crafts. The remaining vessels are training and yard craft.

Until 1972 nearly all Ecuadorean ships were World War II vintage and most were in poor state of readiness. Since then, overhaul of some units in the expanded Naval Shipyard (Arsenal Naval), retirement of older units and new acquisitions have markedly improved combat capability. Participation in Unitas XVIII, XIX, XX, XXI, and XXII, though limited, showed the Navy to be an aggressive, if small, force.

In general, fleet units perform air, surface and subsurface reconnaissance, coastal surveillance and patrol, to include defense of harbors, coastlines, coastal shipping and navigable rivers. They can act as a counter-insurgency force and could be used to counter smuggling and other violations of national or international law.

The overall objective of the Ecuadorean Navy is modernization of the force to include new acquisitions, improvements and additions to bases and facilities including a new Naval Base on the coast, increasing the manning and improving training in the Marine Corps, acquisition of additional patrol aircraft and development of an Anti-Submarine Warfare (ASW) capability.

b) Relationship/Importance to the U.S. or Other Countries

A capable Ecuadorean Navy is important to the United States' interest in reducing tensions in the Andean region. There have been several incidents along the border in the south. A stronger naval force might lessen the possibility of adventures from the part of the neighbors.

c) Organization and Equipment (1982)

Personnel: 4,000

Aviation - Major Aircraft Types:

2 SA-319 helicopters
 3 transports
 1 'Citation'
 2 IAI 201
 3 utility/liaison
 1 Ce-177
 1 Ce-320
 1 Learjet 25D

Major Units: 1 destroyer
 2 submarines
 1 frigate
 2 corvettes ('Exocet' SAM)
 3 fast attack craft, missile
 ('Exocet' SSM)
 3 fast attack craft, torpedo
 2 patrol craft, large
 7 patrol craft, coastal

4. Air Force

a) Background

The Ecuadorean Air Force dates its establishment to 27 October 1920, when an Aviation Department was established under the War Ministry. Presently it numbers about 4,800 men (Army 18,000/Navy 4,200) -- 500 officers, 100 cadets, 4,200 enlisted. Approximately 200 of the officers are pilots and generally all fly actively, including the more senior ones.

The Commander of the FAE is Lieutenant General Hector B. Vasquez L. He succeeded Lieutenant General Jorge Pena T. who retired in April 1981.

b) Organization

The FAE Air Staff is functionally organized with a Directorate System. Unique Directorates include:

1) TAME (Transportes Aereos Militares Ecuatorianos): A special operating agency of the FAE with

established commercial (cargo/passenger) routes in-country.

2) Ecuatoriana Airlines: The national airline organized as a separate operating agency of the FAE. Has international routes to U.S. (Miami, Los Angeles and New York), Mexico, Panama, Colombia (Cali and Bogota), Peru (Lima), Bahamas (Nassau), Argentina (Buenos Aires) and Brazil (Rio de Janeiro).

3) Civil Aviation: Equivalent to U.S. FAA. Operates a Technical School.

4) Instruction: This is the equivalent of a combined USAF Air University/Air Training Command/United States Air Force Academy. It has operational control of the (1) Air War Academy (Academia de Guerra Aerea), which conducts equivalent of Squadron Officer School, Command and Staff College and other PME courses for both officers and NCO's; (2) Military Aviation School (Escuela Militar de Aviacion); and (3) Technical Training School (Escuela de Especialidades).

5) Units: Operational control and administrative support for FAE units are provided through two Air Zones--equivalent to a Numbered Air Force. The 1st Air Zone Headquarters is in Quito and the 2nd Air Zone in Guayaquil. Although not listed, the Air Defense Command (CDA) is proposed after the acquisition of the air defense radar and missile systems.

- 1 light bomber squadron
- 3 fighter-bomber squadrons
- 1 reconnaissance squadron

c) Capabilities

As a peacetime Air Force, the FAE has contributed to the economic and social development of Ecuador. TAME's efficient service throughout Ecuador, at very low prices, provides a mobility otherwise not available due to lack of a good road network. The FAE is also particularly proud of its civic action work and the support of new settlements springing up along the border between Peru and Ecuador.

In a combat role, the FAE would probably be capable of supporting the Army against only a very limited insurgency. Presently they the Jaguar, A-37, Canberras,

Strikemasters (BAC 167), and Kfir's as a current tactical fighter force.

During 1979 they received the F-1 Mirage aircraft which provides an air defense capability as well as a secondary attack role. There is no Tactical Air Control System in being at this time. However, there is a radar air defense network planned for in the near future. They have brought the English Plessey radar. At present, the amount of qualified pilots to man the fighters would limit the capability of the FAE to sustain any type of operation. Heavy air transport capability is minimal with only one C-130 at this time. The remainder of the airlift would be considered adequate to meet the requirements.

For the near future, FAE combat capabilities should remain unchanged. This is due to the in-house capability for training pilots and technicians. Also, an effective OJT program does not exist which limits their capability for sufficient qualified mechanics. The FAE is attempting to purchase another C-130 and may purchase up to 19 T-33 trainer aircraft.

d) Major Aircraft Types

- 3 Canberra light bombers
- 50 fighter/attack
 - 14 BAC-167
 - 11 A-37B (COIN)
 - 15 'Mirage' F-1JE
 - 10 Sepecat 'Jaguar'
- 68 trainers
 - 20 T-34c
 - 20 T-41
 - 2 'Mirage' F-1B
 - 12 T-33A
 - 2 'Jaguar' T-2
 - 12 SF-260
- 43 transports
 - 5 C-45
 - 6 DHC-5D
 - 3 DHC-6
 - 7 HS-748
 - 4 L-188A
 - 1 C-130H
 - 12 C-57

4 DC-6B
1 B-727
24 Ce-150 liaison
17 helicopters
4 SA-315B
4 SA-316
1 SA-330
4 Bell 212
4 UH-1H

B. CIVIL DEFENSE

1. Disaster Preparedness and Assistance

a) Disaster Organization

Although several organizations participate in disaster relief activities, it is the Ecuadorean Civil Defense that has primary responsibility for coordinating the country's disaster preparedness and relief operations. Civil Defense is organized at both the national and provincial levels. At the national level, the Direccion Nacional de Defensa Civil establishes policy guidelines for the provincial civil defense juntas. However, ultimate authority in Civil Defense matters rests with the National Security Council. The provincial juntas are composed of religious and political leaders, and are headed by the governor, (except in Pichincha province, where the junta head is the Subsecretary of Government). The Civil Defense budget is primarily administrative, although a contingency fund can be tapped during an emergency. In April 1983, President Hurtado Larrea proposed to establish a permanent disaster fund as part of a national emergency plan for disasters.

Civil Defense delegates responsibility and, in some cases, overall coordination to other national, municipal, and private entities. Participants in disaster operations have included the Armed Forces, the Social Security institute (IESS), and ministries of Public Health, Education, Social Welfare, Public Works, and Defense, the National Police, firemen, the Red Cross, Catholic Relief Services, and other voluntary organizations. In terms of direct relief assistance, the Direccion Nacional frequently assigns relief responsibility for specific geographical areas to public and private organizations active in these areas. In such instances, the local executing agency handles resource mobilization and

disaster victim identification.

Unfortunately, Civil Defense and other government agencies have been less than effective in preparing for and responding to disasters. Because hazard identification and vulnerability analyses have been scant and uncoordinated, GOE officials have little understanding of the country's mitigation and preparedness needs. Until recently, landslide hazards and their demographic implications were virtually ignored, as were the risks associated with the development of flood-prone areas.

Another factor affecting disaster management is the paucity of data on human and material resources. Regional agricultural production data, stockpile inventories, and the identification of shelter areas have been inadequate. Although government ministries are responsible for gathering data in their sectors both during and after disasters, neither Civil Defense nor most government agencies maintain current data on resources available for disaster operations. The Ministry of Agriculture relies on the local press for assessments of crop damage, although it is authorized to carry out this function. During the 1982-83 flood disaster, the lack of records on the design of public works impeded the rehabilitation of roads and bridges in the Costa.

An additional constraint to Civil Defense coordination has been the lack of support and recognition it receives internally and from other government entities. Compliance to legal responsibilities and disaster plans has been haphazard, as political considerations are often an overriding concern to both government organizations and the provincial civil defense. Moreover, because many government entities share responsibilities, Civil Defense must often secure their consent before selecting one to undertake a disaster operation. If questions of jurisdiction are not resolved initially, approval may not be granted and relief projects may be postponed beyond the point where their implementation will be effective. As a result, often the only means of successfully completing a disaster project is to circumvent Civil Defense authority. A project by the Army Corps of Engineers during the 1982-83 flood disaster illustrates this approach. The Army Corps assumed a leading role in digging drainage canals in El Cuasmo, a low lying and densely populated area south of Guayaquil. Civil Defense has been tolerant of autonomous efforts of this nature as they have alleviated some of the organization's responsibility to

undertake rehabilitation measures.

Civil Defense may also delegate responsibility and create coordinating bodies on an ad hoc basis. In the health sector, the Ministry of public health has established the National Emergency Health Committee to coordinate the provision of health services and encourage collaboration among the various organizations capable of providing health care during a disaster. The Committee has promulgated a plan (Plan Nacional de Sector Salud) which delineates responsibilities among these organizations. Moreover, the Planning and Human Resources Division of the Ministry is in the process of gathering comprehensive data on health facilities and personnel in the private sector, Armed Forces, IESS, as well as the Ministry. During the initial stages of the 1982-83 flood disaster, Civil Defense convened an inter-ministerial committee to help coordinate efforts among government ministries involved in disaster operations. An Emergency Operations Center was subsequently established in Guayaquil to supervise the logistics of relief assistance in the Costa. In addition, Civil Defense established a special flood commission to coordinate the efforts of non-governmental organizations, and a committee to assess infrastructure damage and reconstruction issues. While these are positive steps in Ecuador's disaster management, they represent a fragmentation of responsibility and perhaps institutional overkill.

b) Disaster Planning

until the 1982-83 floods, disaster preparedness was limited to promotional curricula in public schools and occasional earthquake simulations in some private schools. There is no systematic training of Civil Defense personnel. Although numerous disaster plans have been written, most are non-operational. The most important documents are the National Security Law and the National Civil Defense Plan. Nearly every Provincial Civil Defense Junta has formulated disaster plans which usually emphasize the most damaging or recurring local hazard. These plans also identify the roles of policemen, firemen, voluntary agencies, and local representatives of government ministries. Also included are guidelines for each phase of a disaster operation. Detailed inventories of disaster risks and resources are nearly non-existent. The identification of disaster risks, in terms of threats to populated areas, agriculture, and infrastructure, is very limited. One exception is the Ministry of Public Works which

has categorized road and highway vulnerability to seismic events.

c) Ecuadorean Red Cross

The Ecuadorean Red Cross (Cruz Roja Ecuatoriana - CRE) undertakes both direct relief operations and preparedness measures in connection with disasters. CRE is organized in each province under the direction of the Provincial Red Cross Junta. In case of a major disaster affecting several provinces, CRE headquarters will select one provincial office to assume all financial and supervisory responsibility. During the 1983 floods, the Guayas Red Cross, under the direction of a League of Red Cross Societies delegate, conducted relief operations in all the affected provinces.

CRE involvement during a disaster is theoretically regulated by Civil Defense. In practice, however, CRE often operates autonomously, particularly in regard to establishing the criteria for identifying disaster victims and organizing the logistics of providing relief.

CRE preparedness activities include first aid courses, rescue and evacuation training, and sponsorship of seminars on disaster related topics. These activities are conducted year-round, often jointly with the IESS and the Armed Forces. The CRE maintains permanent stockpiles of food and clothing at numerous provincial locations. In addition, nearly every provincial CRE office operates at least one blood bank. Because the CRE corps is entirely volunteer, it is difficult to quantify human resources at its disposal, as these would differ by location and specific disaster situation.

CRE is not involved in any preventive health education as this is the domain of three agencies within the Ministry of Public Health.

Cruz Roja Ecuatoriana
Avenida Colombia y Elizal
Quito
Tel: 214-966

d) Warning Systems

The Geology Department of the Escuela Politecnica Nacional in Quito operates a sismographic network in the Sierra. Three stations are located along the flanks of Guagua

Pichincha volcano outside Quito. Seismic activity is also monitored from the Astronomical Observatorio in Quito. In addition, geophysicists associated with Civil Defense regularly monitor Pichincha volcano. Until recently, however, the serious landslide potential posed by the volcano has been given little serious attention.

Ecuador participates in the Pacific Tsunami Warning System. Data is collected at a tide gauge station located on the Galapagos island of Baltra. In the event of an off-shore earthquake with a potential tsunami generation, the Instituto Oceanografico de la Armada (IOA) would receive a warning message via the U.S. NASA Communications Station on Cotopaxi Volcano from the U.S. Goddard Space Flight Center. IOA would then communicate news of the tsunami to the public.

Weather data is collected and disseminated by the IOA located in Guayaquil. The Instituto Nacional de Meteorologia y Hydrologia tracks convective storms by means of a satellite receiving station provided by the United States through the World Meteorological Organization. During the 1982-83 flood disaster, the U.S. National Weather Service provided daily meteorological forecasts of the Costa. These reports proved indispensable to USG staff involved in the flood relief efforts.

Instituto Oceanografico de la Armada
Casilla 5940
Guayaquil

e) Food Resources

Stagnant agricultural production since 1980 has led to regular imports of wheat, milk, edible oils, and sugar. Other food imports (average volume) include: barley (30,442 MT), corn (7,500 MT), oats (16,071 MT), rice (24,250 MT), and soybeans (206,000 MT).

World Food Programme (WFP)
Edificio Cominesa
Avenida 10 de Agosto 5470
y Villalengua, 6° y 7° piso
Quito
Telephone: 457-155, 458-666
Contact: Dr. Arturo Posada

World Health Organization (WHO)
Oficina Sanitaria Panamericana
Isabel La Catolica 1040 y Coruna
Quito
Telephone: 522-100
Contact: Dr. Luis Arcila

f) Private Voluntary Agencies

During an emergency the Ministry of Social Welfare (Ministro de Bienestar Social) coordinates relief activities of domestic and international voluntary organizations. Regular meetings of the various agencies are held during and after disasters. During the 1982-83 floods, the Ecuadorean Civil Defense established the Special Flood Committee (Comite Especial de Inundaciones) to coordinate operations among relief organizations.

CARE
Edificio Proinco
Reyna Victoria 477, 5° Piso
Quito
Tel: 234-550, 231-574
Contacts: Brian Cavanaugh, Dr. Raul Cardena

Conferencia Episcopal
Avenida America 1866 y la Gasca
Quito
Telephone: 230-298, 238-221
Contacts: Father Oswaldo Perez

Catholic Relief Services (CRS)
US Catholic Conference
Avenida America 1866 y La Gasca
Quito
Mailing address: Apartado 2234
Contact: Vernon Ficklin

CRS is involved in a variety of disaster-related activities through its counter-part agency, Comision de Promocion Humana (CPH). A Secretariat of the organization is represented in each province. CPH often initiates disaster work independently and informs the Ministry of Social Welfare ex/post. Disaster relief projects are carried out by brigades of clergymen, nurses, and social workers. There are also

numerous dispensaries with some nurses. Reconstruction activities include bridge and home repairs.

Foster Parents Plan (Plan Padrinos)
Edificio Pinturama, 2° Piso
Avenida Quito 2135 y Capitan Najera
Guayaquil

Assists in community construction and sanitation projects in the provinces of Guayas and Bolivar. Also provides funds for health and educational services.

Other local PVOS which have provided material and/or financial resources include la Brethern Unida, Comite Ecumenico de Derechos Humanos, Central Ecuatoriano de Servicios Agricolas, and Fondo Ecuatoriano Popularum Progreso.

g) Mitigation Efforts

The Government of Ecuador (GOE) has undertaken few activities to eliminate or reduce the probability and/or effects of disasters. In the Costa, nearly all houses along flood-prone areas are built over stilts to accomodate rising tides; however, during the 1982-83 flood disaster, water levels rose above the floors of most houses. Although residents of these areas have adapted to the annual floods, the lack of sewerage and water systems at most locations creates serious health risks. Ideally, the GOE should discourage settlement along floodplains. This seems unlikely as long as waterways remain the primary means of transport because of poor road conditions during the rainy season. Although some sandbagging has been undertaken near Babahoyo (Los Rios) and Machala (El Oro), the results have been mixed and few dikes or stream channels exist.

A noteworthy effort to mitigate the effects of floods was undertaken by the Ecuadorean Army Corps of Engineers with USG assistance. The project was conducted during the anomalous rainy season of 1982-83 when El Guasmo, a swampy flood plain south of Guayaquil inhabited by several hundred thousand migrants, was inundated with water. In cooperation with the municipal water authority, the local Foster Parents Plan, and area residents, the Army Corps of Engineers drained the stagnant water and constructed a series of canals to prevent future accumulation of rain water. The project

represented a permanent improvement to the community in both sanitary and environmental terms. Evidence of its success was demonstrated by the immediate decline in respiratory and gastro-intestinal diseases.

TABLE 4-1
DISASTER HISTORY

<u>DATE</u>	<u>DISASTER TYPE</u>	<u>LOCATION</u>	<u>NUMBER KILLED</u>	<u>NUMBER AFFECTED</u>	<u>DAMAGE (\$ mil)</u>
42/00/00	Earthquake	Western Ecuador	200		
49/08/05	Earthquake	Pelileo	6,000	100,000	20,000
64/00/00	Drought	Widespread	n.a.	600,000	n.a.
66/05/00	Landslide	Quito-Santo Domingo	50	500	n.a.
65/04/00	Flood	Duale River Valley	n.a.	50,000	4,000
67/02/08	Flood	Milagro (Guayas Prov.)	n.a.	20,000	100
66/10/14	Fire	Colimes (Guayas Prov.)		800	134
67/08/00	Epidemic	Guayaquil area	36	528	n.a.
69/05/00	Epidemic	Playas area	400	40,000	n.a.
70/04/08	Flood	Guayas, Esmeraldas, Manabi provinces	20	140,000	500
70/12/09	Earthquake	Loja Province	29	60,000	4,000
70/11/00	Flood	Imbabura Province	0	100	20
71/03/00	Flood	Guayas Province	0	10,000	n.a.
71/03/09	Landslide	Quito	20	6	n.a.
71/03/00	Flood	Guayas Province	0	n.a.	10,000
71/07/00	Flood	N.E. Putumayo River	0	2,400	50
75/07/08	Volcanic Eruption	El Sangay	0	n.a.	n.a.
76/04/09	Earthquake	Esmeraldas Province	10	n.a.	4,000
76/02/11	Landslide	Esmeraldas Province	60	n.a.	n.a.
76/10/04	Earthquake	Cotopaxi Province	0	20,000	n.a.
76/12/00	Volcanic Eruption	Cotopaxi	1	20,000	n.a.
77/01/00	Epidemic	W. Portions of Quito	0	300	n.a.
80/08/18	Earthquake	Guayaquil	6	n.a.	n.a.
82/12/30	Floods	Guayas, Los Rios	30	n.a.	n.a.
		El Oro, Esmeraldas, Manabi Provinces	n.a.	n.a.	n.a.
83/07/11	Airplane Crash	Cuenca (Azuay Prov.)	119	n.a.	n.a.

Source: OFDA Disaster History on file at the Office of U.S. Foreign Disaster Assistance in Washington, D.C. Covers 1900 to the present.

IN-COUNTRY RESOURCE ANALYSIS . SUMMARY MATRIX

CHAPTER 5
PUBLIC HEALTH
AND WELFARE

<i>Resource Category</i>	<i>Estimate of Availability Status</i>
HEALTH	Ecuador's poor health conditions are directly related to a shortage of preventive medicine and potable water.
SOCIAL WELFARE	Social insurance is compulsory for all employees in Ecuador.
SOCIAL SECURITY	Although social security enrollment is required by law for all employees, over 50 percent of Ecuador's population is self-employed and are deprived of these social benefits.
HOSPITALS AND CLINICS	The main public health institutes in Ecuador are the Ministry of Public Health, Social Security Institute, Military and National Police Hospital and Guayaquil Council of Charity and Private For-Profit Clinics and Laboratories.
HEALTH INDICATORS	Ecuador has the third highest rate of deaths due to infective and parasitic diseases in continental America. First and second are Guatemala and Paraguay. Ecuador has the capacity to produce an abundance of healthful foods but the national populace suffers from severe dietary deficiencies. Factors are tastes, ignorance and custom.
NUTRITION	
HOUSING	For the most part housing is substandard in Ecuador.

CHAPTER 5

PUBLIC HEALTH AND WELFARE

A. HEALTH

Ecuador has some of the worst health conditions in the Americas. Yet, its high death rate, and particularly its high infant death rate, is principally due to preventable infectious and parasitic diseases. With primary health care in the form of preventive medicine and potable water a majority of the health problems could be eradicated.

The incidence of these infectious and parasitic diseases is mainly among the lower income urban and rural populations whose socio-cultural background does not lend itself to seeking modern health care.

Private health care by physicians and clinics is expensive and beyond the reach of the poor population. The majority of the health care is limited to the large urban centers. At best, these services are only available to 10-15% of the population. Limited pre-paid health protection is only available from private insurance firms, and one medical service company, at rates which the needy cannot currently afford.

Despite the fact that the government devotes a substantial part of the national budget to public sector health care delivery systems, these are inefficient and insufficient to meet the needs they should serve.

With the exception of medication, there is an overall shortage of health resources in Ecuador, and these limited resources tend to be concentrated in the urban areas of the country, leaving the rural areas critically short of health care. This is particularly true of both public and private hospital beds which are to be found almost exclusively in urban areas, and of both public and privately employed doctors who tend to concentrate in urban areas.

Oddly enough, Ecuador trains a sufficient number of doctors, but many of these fail to obtain professional licenses. A similar situation exists with respect to dentists and auxiliary personnel.

Although medications are amply supplied for the country's needs, they are provided by a private pharmaceutical industry at very high cost, based on substantial mark-ups. These costs could be reduced significantly by direct imports from commercial wholesales abroad and several overseas medical aid agencies.

Although inadequate financial resources and administrative deficiencies limit the outreach of public sector health care systems to the needy populations, the effectiveness of these systems is also minimized by the nature of their orientation and organization. Only very limited attention is given to primary health care. Rather public sector health systems place emphasis on secondary and technical care. Furthermore, these systems are essentially passive and wait for the needy population to seek services.

Some interesting experiments were carried out by several private voluntary organizations (PVO's) to bring primary health care to the Guayaquil slums, and to impoverished rural areas through the use of health promoters. These experiments demonstrated the effectiveness of this technique and encouraged the Ministry of Health (MOH) to take over these activities. Unfortunately, MOH primary health operations have been poor, and have not been expanded to provide adequate coverage. This is not due to the lack of personnel but more to inefficiencies and location (most MOH activities being in the urban area; see Table 1). In addition to those already mentioned, private sector health care activities by PVO's cooperatives, and private business firms, are limited both in scope and coverage, and fall short of providing a significant part of the country's health care needs which are not provided by the public sector. Nevertheless, the cooperative movement, with an aggregate capital of over 90 million dollars (equivalent in sucres) encompassing 1,700,000 members, or over 21% of the total population, offers a promising vehicle for installing new private sector health care initiatives.

B. SOCIAL WELFARE

Social Welfare is a part of Ecuador's attempt to help the countries employees.

Social insurance is compulsory for all employees. Benefits are available for sickness, industrial accidents, disability, maternity, old age, widowhood and orphanhood. In 1980 about 125,000 peasants were integrated into social security schemes; the 1980-84 Development Plan aimed to increase the number to 335,000.

C. SOCIAL SECURITY

Social Security in Ecuador is managed by the Institute of Social Security (Instituto Ecuatoriano de Seguridad Social - IESS). Most workers, by law, are required to be enrolled in Social Security by their employees. This is a means for the urban dwellers in particular to be provided minimal health care.

The problem with this is that over half of the economically active population is self-employed; i.e. non-formal sector workers. In 1982, only about 53% of the labor force were wage earners, although this share was higher for the urban areas (63%). This group is deprived of the social benefits since they are outside the formal sector work force.

D. HOSPITALS AND CLINICS

1. GENERAL

The main public health delivery institutes in Ecuador are the Ministry of Public Health, Social Security Institute, Military and National Police Hospital, Guayaquil Council of Charity and Private For-Profit Clinics and Laboratories.

2. MINISTRY OF PUBLIC HEALTH

The MSP (Ministerio de Salud Publica) provides the bulk of health care to the nation, at present controlling slightly over half of the country's available hospital beds. In major cities the MSP maintains medium-sized hospitals, and in smaller cities and certain rural areas it maintains hospitals of 15 to 60 beds. MSP out-patient clinics are located throughout the

cities and in many rural areas, providing emergency and preventive health care gratis. Fees at other MSP facilities are based on ability to pay, but most patients, especially in the rural areas, are attended free of charge. The MSP has general and special purpose hospitals and obtains funding through the government budget, loans and fees charged.

3. SOCIAL SECURITY INSTITUTE

The IESS (Institute Ecuatoriano de Seguridad Social) has four general hospitals in urban areas and a few rural clinics, with a total of about 1,300 beds. By law, most workers must be enrolled in Social Security by their employers. Persons who are self-employed, indigent, or living in the countryside are generally outside the system. IESS hospital services are free to those who are enrolled. As a quasi-governmental organization, IESS is self-supporting and has its own administration and budget. Resources are generated by contributions from employers and employees and by interest payments on the credit and loan services which IESS provides.

4. MILITARY AND NATIONAL POLICE HOSPITALS

A military hospital is located in each of Ecuador's four principal cities. These hospitals provide health services to all military personnel and their families for token fees. In addition, the military maintains emergency health units with basic equipment in other cities. A U.S. firm manages the new military hospital complex inaugurated in February 1977 in Quito. The National Civilian Police have a 70-bed hospital in Quito and health units similar to the military's in other cities. These hospitals are funded by the government budget and token fees charged.

5. GUAYAQUIL COUNCIL OF CHARITY (HONORABLE JUNTA DE BENEFICENCIA DE GUAYAQUIL)

This private charitable foundation is the largest provider of health care in Ecuador's most populous city, Guayaquil. It operates four hospitals with a total of about 2,200 beds. It charges nominal fees to patients and derives most of its revenue from charitable contributions, a large lottery and income from its endowment. It is planning to add 105 beds and three operating rooms to its Hospital General Luis Vernaza, and has under study the construction of a surgical center which would have 16 operating rooms plus recovery and intensive care facilities.

6. PRIVATE FOR-PROFIT CLINICS AND LABORATORIES

These small but numerous providers of health care are usually organized and managed by groups of physicians. The clinics vary widely in quality and cater primarily to the well-to-do.

7. HOSPITAL BEDS AND FACILITIES

Earlier expectations of an ambitious public sector hospital and health care center construction between 1979 and 1984 did not materialize. This has been due to a shift in emphasis by the Ministry of Health, away from primary medical treatment to preventive medicine. Also, budget constraints, resulting from Ecuador's current economic difficulties, have scaled down the capabilities of the public sector to engage in significant spending for equipment and construction. Nevertheless, trade and public sector sources indicate that stocks of expendable supplies, medical instruments and equipment are being exhausted and new purchases by the public sector is required.

The U.S. is Ecuador's leading supplier of medical equipment having overtaken West Germany in 1980. U.S. equipment is respected for quality and it is price competitive. Ecuadorian medical personnel are generally familiar with U.S. standards and practices. Lack of in-country maintenance and repair facilities continues to be a problem, although some local agents/distributors have increased their capabilities in this regard. A growing concern among importers of U.S. equipment is the perceived shortage of export financing extended by U.S. suppliers. Third country competitors may gain a strong advantage by obtaining access to foreign government export credits, especially as future Ecuadorian public sector purchasing may be linked ever closer to the availability of soft external financing.

There is a total of 15,893 hospital beds in Ecuador (Table 2). Of this, the public sector operates 10,514. The Ministry of Health (Ministerio de Salud Publica) operates the majority of hospital beds in the country (7,962). The social security system (IESS) has 4 general hospitals in the urban areas and several rural clinics (total of 1,650 beds). The military and police hospitals and clinics have a capacity of 902 beds. The remaining beds are in the private sector which has accounted for much of the limited growth in the health care market over the past few years (Table 3). The cost associated with private hospital rooms is shown in Table 4.

8. HEALTH MANPOWER

a. DOCTORS

In 1982 there was approximately 6,000 practicing licensed doctors serving a population of over 8 million persons. This equates to approximately 7.5 licensed physicians per 10,000 people. Assuming the number of practicing physicians is correct, each doctor would be required to attend approximately 1,350 persons - an impossibility without extensive use of para-medical personnel. A system to develop and utilize para-medical personnel does not currently exist.

While there were almost 14 doctors per 10,000 people, on the average, in the three metropolitan provinces ¹, there were only 5 doctors per 10,000 available to those living in the remaining provinces which are most rural in character. In fact, almost 80% of the licensed doctors, and 71% of the total doctors were concentrated in the metropolitan provinces. This leaves the rural areas of the country with inadequate medical attention even though the Ministry of Public Health requires each graduating doctor to perform 1 year compulsory rural service in order to qualify for a professional license.

The private fee-for-profit doctors tend to congregate in the major cities, since market factors of the numbers of clients and their capacity to pay dictate these locations. But this same attraction for the cities exists in the public sector. For example, almost 72% of the doctors employed by the Ministry of Public Health and Social Security are found in the three provinces having the major cities. These two agencies account for most of the Government-employed doctors, and their medical staffs amount to 43% of the total number of licensed doctors in the country.

The overall shortage of practicing doctors in Ecuador is difficult to explain. Higher education in Ecuador is tuition-fee, and there are no quotas limiting entry into the medical schools, such as exist in many countries. Thus, almost anyone who wishes to become a doctor may do so. Nevertheless there were 7,820 graduates from the nation's medical schools,

1/ The provinces containing the three major cities Quito, Guayaquil and Cuenca.

between 1972 and 1981, but only 3,490 of these, less than 50%, received professional licenses. Had the 4,330 unlicensed graduates not been lost to the profession, the country's supply of doctors would have risen to almost 13 doctors per 10,000 or one doctor per 769 people.

The reasons why so many medical school graduates fail to obtain a professional license appear to be complex. Although an investigation of the cause is beyond the scope of this assessment, the following were considered to be some of the contributory factors by some members of the profession:

- (1.) There are not enough teaching positions beds in the hospitals, so that some graduates lack practical experience and do not feel competent to practice.
- (2.) Some graduates do not finish the required thesis.
- (3.) Many graduates are not interested in private practice but want steady employment in Government or private jobs. Some obtain jobs as resident doctors in private clinics, or on ships, and practice medicine without the cost of obtaining a license. Many who fail to obtain Government jobs abandon the profession.
- (4.) Some of those who work as residents, fail to affiliate with the Colegio de Medicos through sheer neglect, and in later years cannot afford to pay in arrears.
- (5.) Many, unable to obtain jobs as doctors, lack the capital to start a private practice.
- (6.) Some never intend to practice medicine, but only studied to qualify as pharmaceutical salesmen.
- (7.) Some left the country permanently to seek other opportunities.

There are no statistics available in Ecuador showing the number of doctors in private practice and their specialties. Table 5 contains an estimate of the distribution between private and Government-employed doctors in 1982-1983, based on the following data:

- (1.) A master list prepared by a major drug company in Ecuador, to show all the doctors in the country who write prescriptions. This list shows both private and Government-employed doctors by name, location and specialty, as of July 27, 1983.
- (2.) A compilation of all the doctors in private practice listed in all of the current telephone directories of Ecuador. This compilation was made by location and specialty, covering 3,675 doctors (Table 6).
- (3.) The distribution, by province, of all the doctors employed by the Ministry of Public Health and the Ecuadorian Institute of Social Security, total 3,075 doctors, and account for most of the Government-employed doctors, lacking only those working in the military establishment, and a small number employed by other Government agencies.
- (4.) The distribution, by province, of the 6,062 licensed doctor in Ecuador in 1981, as reported by the Ministry of Public Health (Table 7).

b. OTHER LICENSED HEALTH PRACTITIONERS

The supply of dentists, nurses, nurses-aides, and professional midwives, shown in Table 8, is inadequate to provide the needed health care in Ecuador.

The dental profession manifests on a smaller scale, the same supply problems as the medical doctors. There is an overall deficiency in the number of professionals available to serve the total population. On the average, there are 3 dentists available per 10,000 people; or in other terms, only one dentist is available to serve 3,333 patients. There is an acute shortage of professionals in the rural areas due to the high concentration of the few available dentists in the cities. For example, in Cuenca, there is one dentist to serve each 1,894 people in the city, but only one dentist per 8,538 rural inhabitants. There is a high rate of loss of professionals due to the failure of graduates to obtain professional licenses. During the period 1973 through 1982, 1,069 out of 2,340 dental graduates, or almost 46%, failed to obtain professional licenses.

According to the UN Fund for Population Activities, "the deficit in nursing personnel is large, given the country's needs. Though the number of trained nurses nation-wide has increased in recent years, most nurses prefer to work in the private sector, and in urban areas; thus, the deficit continues to affect mainly rural areas...the training and quality of ...(nurse) auxiliaries varies enormously".

In 1982, there were 2,301 licensed nurses and 7,244 licensed nurse's aids (auxiliaries) in Ecuador. This total of 9,545 nursing personnel, gives a nationwide ratio of 1.33 nurses (or nurse-aids) per doctor, compared with a ratio of 3.42 nurses or aids per doctor used in staffing the Ministry of Public Health facilities. Assuming the Ministry ratio to be necessary, there was a shortage of almost 15,000 nursing personnel in the country, as of 1982. As in the case of the dentists, there is a high rate of graduate nurses and nurse auxiliaries who fail to obtain professional licenses. During the period 1972 through 1982, 4,154 out of 7,823 nursing personnel graduates, or over 53%, failed to be licensed by the Ministry of Public Health.

There was 551 professional midwives in 1982. This number is insignificant compared with the needs of a population of over 8 million people.

9. MEDICAL EQUIPMENT

Ecuador is almost wholly dependent upon imports for medical equipment and supplies. Except for very limited amounts of disposables and hospital furniture there is no domestic production.

Both the public and private sectors provide health care services in Ecuador; the public sector accounts for two-thirds.

In spite of present Ecuadorian budget constraints and a weakened economy, medical imports over the next two to three years will increase, due to the fact that the existing stocks of equipment have been sold. A complete new cycle of equipment modernization is to be expected from the public sector.

Likewise the private sector will continue replacing and renovating old and obsolete equipment.

The Ministry of Health has a very ambitious plan for several rural health centers and the reequipping of present

hospitals and clinics. Furthermore there are several major projects which include the construction of new hospitals and health centers.

The U.S. is the leading exporter of medical equipment to Ecuador; competing mainly with West Germany in second spot, followed by Japan.

In summary, it is expected that medical imports will continue to increase for the next few years and the U.S. will continue to dominate and to hold market share.

Particularly large expenditures are expected in the dental area. For the first time the GOE is emphasizing adequate dental care for the general public.

There are excellent prospects for hospital and rural health projects. GOE is planning to markedly improve medical services in rural areas; this effort is linked to improvements in the rural roads system.

10. PHARMACEUTICALS

As of October, 1983, a total of 2,617 different pharmaceutical products, the vast majority of them under proprietary names, were offered to the Ecuadorian public through over 1,600 retail pharmacy outlets. Total annual 1983 sales were estimated at US\$210,000,000, of which 110,000 was retail and the remainder direct sales to Government and other institutions. These products were marketed by 102 national and foreign pharmaceutical companies, who are represented in Ecuador by 47 local wholesale drug distributors, many of these subsidiaries of the foreign companies. Of these local distributors, 10 firms are exclusive importers, while the remaining 37 also manufacture 1,615 products in Ecuador - some under their own brand names, and some for 35 other foreign companies which sell in the country.
Note: 61.7% of all pharmaceuticals are manufactures in country.

Pharmaceutical prices in Ecuador are controlled by the Ministry of Health (MOH). Nevertheless, retail price levels are very high in most instances, and much can be done to reduce the cost of medications to a primary health care program. As pointed out by one expert in health financing: "Special attention should be directed to the drug sector of the primary curative market. It is a striking feature of various LDC health-services sectors that expenditures on drugs will comprise 50% or more of total health-care expenditures.

Moreover, drug purchases are typically overwhelmingly privately rather than publically financed... Thus, a large portion of the total health-care expenditure is represented by drug purchases in the private market (which is characterized by high and often arbitrary markups and almost total neglect of less expensive generic equivalents)."

E. HEALTH INDICATORS

1. DEMOGRAPHICS

According to data from the Panamerican Health Organization, Ecuador ranks high amongst the countries of continental America with the worst health conditions ². Ecuador has the third highest rate of deaths due to infective and parasitic diseases, being topped only by Guatemala and Paraguay.

2. MORTALITY

In large measure children bear the brunt of Ecuador's deficient health conditions. Children under 5 years of age accounted for over 42% of deaths from all causes in Ecuador in 1978, and 77% of deaths due to infective and parasitic diseases. As a consequence, Ecuador has the second highest child death rate in the Americas due to these causes.

Table 9. shows the principal causes of all deaths in Ecuador in 1978. As can be seen, gastrointestinal and respiratory diseases, perinatal problems, and nutritional deficiencies account for some 30% of total deaths, but 70% of infant deaths in the country.

^{2/} "Health Conditions in the Americas 1977-1980", Panamerican Health Organization, Washington D.C., 1982.

3. MORBIDITY

a. DISEASES

By far the most frequent illnesses due to infective and parasitic causes are gastro-intestinal and respiratory diseases. These accounted for 92% of all hospital cases for both adults and children in 1975; and, of these, the vast majority of cases were infective diarrheas and parasitosis. Almost all of the hospital cases were for treatment of diseases which are readily preventable by immunization and improved

environmental hygiene - 98.3% of all cases and 99.5% of children's cases were preventable.

b. PERINATAL CAUSES

Approximately 63% of all births in Ecuador occur without professional assistance. In the rural areas, this figure increases to 85%, compared with 33% in the cities and towns. This lack of professional attention undoubtedly explains the high rate of perinatal mortality, which is the second ranking cause of child deaths.

These severe conditions indicate major deficiencies in health services in the country. In fact, Ecuador is among the lower third of the countries of the Americas in its supply of doctors and hospital facilities. According to international standards, Ecuador has less than half of the doctors and hospital beds which it needs. However, much more than half of the country's population lacks adequate health services. According to Government estimates for 1983 (INEC) some 63% of the total population or about 5.1 million people are economically inactive with little access to modern health care. Probably all of the 88% of the country's population who live in poverty, mentioned earlier, cannot afford adequate health services and most of these 7.1 million people live in rural areas.

4. ENVIRONMENTAL HEALTH

Ecuador's health related problems lie, as in all developing nations, in the areas of Preventive Medicine and Environmental Sanitation. The single most pressing problem is water. Only 10 to 15% of the country has access to water of any kind, let alone bacteriologically potable water. There is no sewage treatment plant in Ecuador. The high risk areas for insurgency - Esmeraldas and Manabi provinces - are particularly in need of water and basic medical attention.

There is a need for professional training in the areas of Preventive Medicine, Public Health, Environmental Sanitation and Tropical Medicine.

F. NUTRITION

Despite the fact that Ecuador has ample capacity to produce an abundance of healthful foods, more than adequate to feed its population, most people in the country suffer from severe

dietary deficiencies. The average diet is 33.5% short in proteins, and only approximately half of the other basic food requirements are estimated to be met. Only fruits and sugars are adequately supplied in the diet of most Ecuadorians. Although, poverty may limit the diet to some extent, the major factors causing poor diet are tastes, ignorance and custom. Most people in the poorer classes would rather eat a roll of white bread and drink a "cola", than have a healthful green salad or a piece of fruit. Children are more often fed candies and soft drinks, than nourishing food which costs no more.

G. HOUSING

Housing for the most part are substandard in Ecuador and the Government lacks an adequate policy to improve these substandard dwellings. For the past 30 years Ecuador has also witnessed a migration of persons from the rural areas to the urban areas. This migration, coupled with the population growth, has far exceeded the housing pool available in the country.

Current estimates on housing demand derived from new family formation are presented in Chart 1.

CHART 1

	TOTAL	URBAN	QUITO	GUAYA- QUIL	SECONDARY CITIES	RURAL
1985	44.284	41.220	10.210	12.440	14.450	3.064
1986	46.070	42.996	10.680	13.006	15.148	3.074
1987	47.930	44.848	11.169	13.597	15.881	3.082
1988	49.872	46.780	11.682	14.216	16.648	3.092
TOTAL	188.156	175.844	43.741	53.259	62.127	12.312
	100%	93.45%	23.24%	28.30%	33.01%	6.54%

The total number of new dwellings needed for urban areas in Ecuador during the period 1985-1988 is 175,844 solutions in addition to the quantitative and qualitative deficit of 600,000 units in urban areas.

In the face of this pent up demand the previous administration proposed building more than 225,000 new dwellings during the 1980-1984 period, under its National Development Plan. As of 1982, only 27 percent were completed and by 1984 approximately half the programmed amount had been built (for all income levels).

In addition to the quantitative or new family formation demand described above of approximately 43,000 dwelling per year, the qualitative or upgrading demand presents shelter needs in qualitative terms. From the 1982 census, approximately 37% of the dwelling units in Ecuador (urban and rural), or 566,491 units are deficient in one aspect or another. In urban areas, approximately 30% are deficient, or 239,626 dwellings.

With regard to basic infrastructure the number of dwellings lacking water, electricity, and/or sewerage is presented in the chart below:

CHART 2
DWELLINGS LACKING BASIC INFRASTRUCTURE

DWELLINGS	WATER		ELECTRICITY		SEWERAGE		
	%	No.	%	No.	%	No.	
TOTAL	1,527,358	67.65	1,063,700	38.7	608,502	65.98	1,037,441
URBAN	792,416	44.00	348,728	8.61	68,227	37.88	300,167
RURAL	779,942	91.67	714,972	69.16	540,275	94.53	737,279

The magnitude of the deficient dwellings militates for urban upgrading and home improvement programs.

TABLE - 1

NUMBER OF HOSPITAL BEDS PER 1,000 POPULATION IN ECUADOR-1992

MAJOR CITY OR PROVINCE	NUMBER OF ESTABLISHMENTS ^{1/}	NO. OF BEDS ^{2/}	1992 POPULATION ^{3/}	NO. OF BEDS PER 1,000 POPULATION
Quito	41	4,110	1,110,240	3.70
Guayaquil	57	4,006	1,300,806	3.07
Cuenca	13	800	272,397	2.94
3 major cities	111	9,006	2,683,505	3.36
Catapigogs	12	30	6,119	4.90
Pastaza	34	142	31,779	4.47
Napo	43	272	115,110	2.36
Chimborazo	115	583	331,547	1.76
El Oro	134	581	337,053	1.72
Morena-Santiago	46	118	70,217	1.68
Tungurahua	82	546	328,070	1.66
Manabura-Chinchipe	24	73	46,691	1.51
Sulaja	116	537	350,512	1.51
Carchi	45	190	128,113	1.48
Imbabura	78	343	248,592	1.36
Pastivar	35	170	149,510	1.14
Cotacachi	65	310	274,278	1.13
Los Rios	70	507	451,064	1.12
Esmeraldas	85	255	247,870	1.03
Cañar	74	181	173,933	1.03
Manabi	141	813	885,273	0.92
Guayas (less Guayaquil)	306	426	722,044	0.59
Azuay (less Cuenca)	101	88	165,507	0.53
Pichincha (less Quito)	365	126	258,819	0.49
PROVINCES	1,991	6,293	5,330,161	1.18
TOTALS	2,102	15,893	8,013,666	1.97

1/ Total public and private sectors
 2/ Includes 330 emergency beds
 3/ Does not include 59,036 persons in the "Manga del Cura" area, not distributed by province

SOURCE: "Directory and Codification of the Health Establishments", Ministry of Public Health, 1982 and INEC, Census of Nov. 28, 1992

TABLE - 2

STRUCTURE OF MINISTRY OF PUBLIC HEALTH SERVICES-1982

<u>FACILITY</u>	<u>No.</u>	<u>BEDS^{1/}</u>	<u>AVERAGE BEDS/W.C.</u>	<u>NO. DOCTORS^{2/}</u>	<u>NURSES AIDS^{3/}</u>	<u>SERVICE AREA</u>	<u>SERVICE POPULATION</u>	<u>TYPICAL LOCATION</u>
Ministry & Jefaturas ^{2/}	-	-	-	370	37	major city or province	-	major city or province
Major & Base Hospitals ^{3/}	40	6058	151	974	2701		40,000+	
Health Center Hospitals	33	2002	24	513	1051	canton	40,000+	canton capital
Urban Health Centers	49	-	-	306	393	urban	30,000	urban centers
Dispensaries	16	-	-	17	92	urban	variable	variable
Urban Health Subctr. ^{4/}	<u>144</u>	<u>-</u>	<u>-</u>	<u>144</u>	<u>144</u>	<u>urban</u>	<u>1500-5000</u>	<u>parish seats</u>
Subtotal	332	8060		2324	3918	urban		
Rural Health Subctr.	616	-		749	354	rural	1500-5000	parish subdivi- sions
Health Posts	<u>221</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>193</u>	<u>rural</u>	<u>500-1500</u>	<u>villages</u>
Subtotal	837	-		749	547	rural		
Total	1169	8060		3073	4465			

^{1/} For in-patient treatment only

^{2/} Includes Ministry headquarters and SNEM (Malaria Control Service)

^{3/} Includes Instituto Izqt. Pérez

^{4/} Estimated distribution of total for subcenters at one doctor and one nurse's aid per urban subcenter.

^{5/} Does not include total staff, doctors and nurse's aids shown to indicate distribution between urban and rural.

Note: In addition, the APS (primary health care) program was initiated in 1980 using 250 health promoters to service 130,000 people in 200 small communities in 13 provinces.

SOURCE: Ministry of Public Health, "Health Establishments as of Dec. 31, 1982", and "Personnel Who Work in the Different Operating Units, 1983".

TABLE - 3

DISTRIBUTION OF HOSPITAL BEDS IN ECUADOR
BY OWNERSHIP AND TYPE OF FACILITY-1982

	<u>GOVERNMENT & GOVERNMENT SUPPORTED 1/</u>	<u>PRIVATE</u>	<u>TOTAL NO. OF BEDS</u>
IN-PATIENT BEDS			
Hospitals & clinics	12,923	2,640 ^{2/}	15,563
EMERGENCY BEDS			
Hospitals & Clinics	87	54	141
Health Centers	5	-	5
Health Sub-Centers	60	-	60
Dispensaries	58	65	123
Health Posts	<u>1</u>	<u>-</u>	<u>1</u>
Subtotal	211	119	330
Total Beds	13,154	2,759	15,893
Percent	82.6	17.4	100.0

1/ Includes the Ministries, Armed Forces, Municipalities, Social Security, SOLCA, Red Cross, Guayaquil Charity Board, Child Protective Society.

2/ Includes 425 beds in two non-profit hospitals

SOURCE: "Directory and Codification of Health Establishments"
Ministry of Public Health, 1982

COST OF PRIVATE HOSPITAL DAILY ROOM
& BOARD IN QUITO AND GUAYAQUIL 1/
(in sucres)

<u>HOSPITAL OR CLINIC</u>	<u>SUITE</u>	<u>PRIVATE</u>	<u>SEMI-PRIVATE</u>	<u>WARD</u>
<u>QUITO</u>				
Clínica Pasteur	2,000	1,300	840	400
Hospital Voz Andes	-	1,800	1,200	900
Clínica de la Mujer	2,500	1,800	1,000	650
Clínica Sta. Cecilia	2,000	1,500	-	900
Clínica de Especialidades	-	1,350	1,000	500-800
<u>GUAYAQUIL</u>				
Clínica Moderna	3,000	1,900	1,800	800
Clínica Kennedy	4,100	3,200	3,000	1,450
Clínica Alcivar	2,800	1,900	1,250	600
Clínica Antonio Gil	-	-	1,200	-

1/ As of November, 1983

TABLE - 5

NUMBER OF DOCTORS PER 10,000 POPULATION
IN ECUADOR - 1981

<u>PROVINCE</u>	<u>NO. LICENSED DOCTORS</u>	<u>NO. IN RURAL HEALTH SERV.</u>	<u>TOTAL NO. DOCTORS</u>	<u>POPULATION 1981</u>	<u>NO. DOCTORS PER 10,000</u>
Pichincha	2,440	109	2,549	1,321,465	19.29
Cueyas	2,026	96	2,122	1,953,758	10.85
Azuay	557	72	429	451,473	9.94
3 metropolitan provinces	4,823	277	5,100	5,706,701	13.76
Galapagos	5	10	15	5,951	25.29
Zamora	13	26	39	45,548	8.95
Pastaza	10	17	27	51,402	8.59
Carchi	55	35	88	127,206	6.91
Morona-Santiago	9	36	45	65,375	6.88
Imbabura	108	52	160	240,872	6.64
El Oro	137	91	228	362,497	6.28
Cañar	60	50	110	176,070	6.24
Chimborazo	151	62	193	326,721	5.91
Loja	114	92	206	356,531	5.77
Manabi	339	115	454	867,693	5.23
Tungurahua	100	58	158	322,051	4.90
Bolivar	31	34	65	147,715	4.40
Esmeraldas	45	65	106	242,280	4.37
Napo	9	35	44	106,685	4.12
Cotopaxi	25	45	68	274,308	2.45
Los Rios	50	41	91	422,610	2.15
Rural Provinces	1,239	858	2,097	4,119,398	5.09
TOTAL	6,062	1155	7,197	7,826,099	9.20

SOURCE: Table 6, "Human Resources-1983", MOH

TABLE - 6

ESTIMATE OF DISTRIBUTION OF PRIVATE AND
GOVERNMENT PHYSICIANS IN ECUADOR,
BY PROVINCE, 1982-1983

<u>PROVINCE</u>	<u>PRIVATE</u> ^{1/}	<u>GOVERNMENT</u> ^{3/}	<u>SUB-TOTAL</u> ^{2/}	<u>RURAL SERVICE</u> ^{4/}	<u>TOTAL</u>
Carchi	23	32	55	27	82
Imbabura	63	60	123	49	172
Pichincha	1138	1296	2434	145	2579
Cotopaxi	35	55	90	56	146
Tungurahua	119	73	192	68	260
Bolivar	19	30	49	71	120
Chimborazo	46	85	131	41	172
Cañar	30	43	73	56	129
Azuay	204	175	379	96	475
Loja	116	116	232	84	316
Esmeraldas	29	50	79	63	142
Manabi	213	148	361	137	498
Los Rios	38	65	153	46	199
Guayas	1401	1138	2539	112	2651
El Oro	120	66	186	106	292
Napo	1	10	11	37	48
Pastaza	4	18	22	18	40
Morona-Santiago	26	10	36	29	65
Zamora-Chinchipe	-	15	15	27	42
Galapagos	-	5	5	6	11
TOTAL	3675	3490	7165	1274	8439

TABLE - 7

DISTRIBUTION OF DOCTORS EMPLOYED
BY THE MINISTRY OF PUBLIC HEALTH
AND SOCIAL SECURITY, BY PROVINCE

1982-1983

<u>PROVINCE</u>	<u>MINISTRY</u>	<u>I.E.S.S.</u>	<u>TOTAL</u>	<u>%</u>
Pichincha	708	467	1175	
Guayas	359	500	859	
Azuay	<u>118</u>	<u>57</u>	<u>175</u>	
3 metropolitan provinces	1185	1024	2209	71.8
Carchi	21	7	28	
Imbabura	33	27	60	
Cotopaxi	38	17	55	
Tungurahua	51	22	73	
Bolivar	26	4	30	
Chimborazo	48	27	75	
Cañar	35	8	43	
Loja	90	26	116	
Esmeraldas	33	17	50	
Manabi	108	40	148	
Los Rios	43	22	65	
El Oro	40	25	65	
Napo	9	1	10	
Pastaza	10	8	18	
Morona-Santiago	9	1	10	
Zamora-Chinchipe	13	2	15	
Galapagos	5	-	5	
Rural provinces	612	254	866	28.2
TOTAL	1797	1278	3075	100.0

SOURCES: Table 14, "Human Resources-1983", MOH and I.E.S.S.

TABLE - 8

LICENSED HEALTH PRACTITIONERS, AND THOSE IN RURAL SERVICE, IN ECUADOR, 1982-1983

	<u>Ministry of Health</u>			<u>Other Public and</u>	<u>Total</u>	<u>Rural</u>	<u>Total</u>
	<u>Licensed</u>	<u>Rural Serv.</u>	<u>Total</u>	<u>Private Sector</u>	<u>Licensed</u>	<u>Service</u>	<u>Number</u>
Physicians	1799	1274	3073	5366	7165	1274	8439
Dentists	233	526	759	2255	2488	526	3014
Nurses	570	186	756	1731	2301	186	2487
Nurse's Aids	4468	-	4468	2776	7244	-	7244
Professional Midwives	110	69	179	441	551	69	620
TOTALS	7180	2055	9235	12569	19749	2055	21804

TABLE - 9

PRINCIPAL CAUSES OF MORTALITY IN ECUADOR-1978

CAUSE	TOTAL		INFANTS	
	NUMBER	%	NUMBER	%
Gastro-intestinal diseases	6892	12.2	3655	24.6
Respiratory diseases	7330	12.9	4807	32.8
Perinatal causes	1330	2.3	1330	9.0
Nutritional Deficiencies	1151	2.1	511	3.5
SUBTOTAL	16703	29.5	10363	69.9
Degenerative and other diseases	15526	27.4	2717	18.5
Traffic accidents and other causes	24372	43.1	1752	11.8
TOTAL DEATHS	56,601	100.0	14,832	100.0

SOURCE: Ministry of Health

IN-COUNTRY . SUMMARY MATRIX RESOURCE ANALYSIS

CHAPTER 6
PUBLIC
EDUCATION

<i>Resource Category</i>	<i>Estimate of Availability Status</i>
GENERAL	<p>Expenditures for education in Ecuador has increased from S/.2.3 billion in 1973 to S/.19.2 billion in 1983. This investment is also augmented by expenditures for private schools operated by church groups and individuals.</p>
PROFILE OF EDUCATION IN ECUADOR	<p>Ecuador continues to improve its school system and enrollment profile. The literacy rate has increased from 56 percent in 1950 to 84 percent in 1982.</p>
OUTLINE OF THE SECONDARY EDUCATION PROGRAM	<p>Secondary education is a 6 year program that leads to a High School Diploma. Each school year consists of 185 days over a 10 month period.</p>
EDUCATION DEGREES AND CERTIFICATES	<p>There are 5 different degrees obtainable through the secondary and higher education schools.</p>

CHAPTER 6

PUBLIC EDUCATION

A. GENERAL

Education in Ecuador has long antecedents which date back to the period of the Conquistadors and the time when schools were initially established by religious orders. Schools were designed to teach Spanish arts and handicrafts, with some exposure of very limited portions of the Indian population to reading and writing. The idea for general public education was born toward the end of the Colonial period and the system began to take meaningful form in the mid-to-late 1800s when public education was declared both free and compulsory, despite its limited availability to the masses. Universities were also established during this period in the cities of Cuenca, Guayaquil, and Loja to supplement the University of Quito which had been established in the late 1500s.

Foreign assistance was contracted during the early decades of the twentieth century to assist in the establishment of teaching institutions and in the introduction of contemporary teaching methodology and school organization. The general guidelines for public education were established in 1938 under the Education law. The basic conditions set forth by this Act included: 1) the control of all education by the State, 2) free and compulsory education, 3) the elimination of illiteracy, 4) the development of vocational education, and 5) the creation of social services. For the most part, these goals still guide the philosophy and administration of public education in Ecuador.

Expenditures for education have risen from S/.2.3 billion in 1973 to about S/.19.2 billion in 1983. A major change occurred between 1979 and 1980 when the expenditures rose from S/.7.0 billion to S/.13.8 billion. Expenditures per student rose from S/.1,486 in 1973 to S/.5,806 in 1980 (expressed in current sucres). This also represents an increase in real expenditures from S/.3,076 to S/.4,700. By 1981, more than 30 percent of the central government budget was allocated to education.

In addition to government funds, the total investment in education in Ecuador is augmented by expenditures for private schools operated by church groups and individuals. Government expenditures involve some limited assistance to church schools, but not to individual schools. A "rule of thumb" allocation of the total annual costs of the educational system among the three groups is 65 percent by the government, 25 percent by church groups (primarily the Catholic Church), and 10 percent from individuals who send their children to private schools.

B. PROFILE OF EDUCATION IN ECUADOR

1. Primary Schools. The general enrollment profile of education over the last 15 years in Ecuador is one of continuing improvement which has led to dramatic changes. While elementary and secondary level "drop-out" rates are still higher than desirable (about 25 percent), gains in the proportion of students who stay in school through elementary to secondary years is impressive. In 1982-83, an estimated 1.6 million students were enrolled in primary grades which represented 75 percent of the children in those equivalent age groups who should have been in school. This compared to 56 percent of primary age children who were enrolled in 1967-68. Most of the improvement occurred in the rural areas where the percentage of eligible primary students in school rose from 45 percent in 1967-68 to 69 percent in 1982-83.

2. Secondary Schools. Enrollment changes for secondary school levels have been even more noteworthy. In 1982-83, 75 percent of the students of the age groups corresponding to high school were enrolled. In 1967-68, the percentage had been only 27 percent. The 1982-83 figures for secondary students represent about 657,000 students of which only 81,350 (12 percent) were enrolled in the technical programs associated with the diversified study option.

3. Literacy Programs. The success in improving primary and secondary enrollment has had a significant impact on literacy levels in Ecuador. In 1950, only 56 percent of those over 15 years of age were functionally literate. The 1982 census measured literacy rates for the same age group at 84 percent. Most of the progress was among rural residents who previously had not availed themselves of the opportunities associated with formal education.

4. University System. Student enrollment in the university system has also shown distinct growth beginning in 1975-76 when about 129,000 students enrolled. This was a dramatic increase from the 19,600 reported in 1967-68. The growth to a total of 262,500 reported in 1980-81 was even more significant.

The cause of this surge in university enrollments can be traced to two basic, but unequal factors. First, and most important, the university system relaxed all entrance examinations and instituted open enrollment in 1971. Any graduate of the secondary school system can not enter the university without academic testing or restriction. This action was in keeping with the government policy of making education easily and equally available to all citizens. Secondly, the increasing number of secondary students completing school has added to the pool of eligible university enrollees. Specific data are not available, but an indication of the potential pressures can be seen where only 151,000 students were in all secondary programs in 1967-68 and 657,000 were enrolled in 1982-83. Overall, female enrollment in higher education is near 40 percent, but varies by subject matter.

5. Teachers and Professors. Enrollment growth has also been accompanied by rises in the number of teachers and professors. In 1983-84, an estimated 50,347 teachers occupied primary classes are compared to 23,673 in 1967-68. The number of secondary teachers rose from 11,433 in the earlier period to 39,909 in 1983-84. University teachers numbered almost 11,186 in 1980-81, which represented a 5.8-fold increase since 1967-68.

6. Physical Facilities. The overall changes in primary and secondary education have been supported by improved physical facilities. The scope of new constructions has been extensive, i.e., from schools to sports areas to service buildings. The National Development Plan had a goal of constructing 11,298 units from 1979 to 1983 of which about 56 percent were completed. During this period, primary schools increased by 3,134 to a total of 13,011 units. Most of the improvement was in public schools, although 325 private schools were added. The number of secondary schools rose by 650 during the period with 78 percent of the additions placed in public schools.

7. Agricultural Education. Agricultural education is an important sub-set of general education in Ecuador. With 50

percent of the total economically active population and 75 percent of the rural counterpart population engaged in agriculture, training, skills, and education in agriculture are of considerable consequence. All formal agricultural education in Ecuador is provided at the secondary level by agricultural high schools and at the superior level by selected universities. No formal agricultural training is offered in elementary schools.

a. Secondary Schools. Currently, 45 agricultural high schools (colegios) operate in Ecuador and generally service all regions of the nation. The standard high school program consists of a 3-year plan (grades 7, 8 and 9) for basic subjects such as math, social studies, and natural sciences, and a 3-year diversified curriculum (grades 10, 11 and 12) for either humanities or for agricultural, industrial, or technical training. Both courses of study qualify graduates for admission to the university system. Attempts are made to make the courses practical and relevant. However, lack of textbooks and other demonstration materials restrict their effectiveness. Furthermore, most teachers of agriculture in secondary schools have no formal training beyond high school.

b. National Universities. Agricultural instruction at the university level is provided by four national, five technical and polytechnical, and three private universities. Responsibility for these programs rests with the Ministry of Agriculture, but the institutions maintain a strong autonomy, a principle of long standing throughout Latin America as a protection from government intervention. The universities are mainly teaching centers with minimal faculty involvement in research work. Teaching is basically a part-time activity as faculties are drawn mostly from those holding other employment in either the private or public sector. One study estimated that about 37 percent of those teaching on agriculturally related faculties were considered full-time and about half of these worked less than 40 hours per week.

To accommodate the schedules of both part-time faculty and students (many of whom also work), classes are usually in the early morning, at noon, and a greater concentration in late afternoon and evening. Clearly, such a system does not encourage faculty involvement in research programs and publication activities so characteristic of more developed nations.

Low salaries account in part for the limited employment of full-time faculty. Also, no post-graduate programs are available for agriculturalists in Ecuador and only those fortunate enough to have personal financing or able to acquire the limited number of scholarships for training abroad can seek post-graduate study. The primary consequences of this situation are two fold: (1) a large majority of those teaching at the university do not have post-graduate training, and (2) those who do return from abroad with such training seek major employment outside the university and supplement other incomes with part-time teaching, where possible.

The limited number of Ecuadorian agricultural scientists without training at the PhD level presents a potentially serious constraint. While no statistics are available, informed leaders in the system report that virtually no full-time professors in the agricultural sciences hold PhDs. Those available for teaching part-time generally come from the Instituto Nacional de Investigaciones Agropecuarias (INIAP) which houses most of the agricultural scientists with post-graduate degrees. It is estimated that as many as 30-50 agricultural scientists in Ecuador have PhDs. Holders of masters degrees are more plentiful, but even so the majority of professors teaching agricultural sciences are not trained even at this level.

C. OUTLINE OF THE SECONDARY EDUCATION PROGRAM

Secondary education is a six year program that leads to a High School Diploma. Academic (General Studies). - All the students follow a unified program for the first three years (basic cycle). In the last three years (diversified cycle) the students select one of the following specializations:

1. Academic
 - a) General Studies (Modern Humanities)
 - b) Classic Studies (Classic Humanities)
2. Normal (Sciences in the Education)
3. Vocational (Professional Technician)

a. General Studies (Modern Humanities) are basically the same as in the General Studies program, but it includes literature, philosophy and studies in classic culture in general.

b. Normal (Sciences of Education). - This program is in

process of change. The student who wants to be a teacher of the first level (in other words Elementary) must first finish the diversified cycle in Modern Humanities, after that, the student could enter what will be called Superior Normal for a period of two years.

c. Vocational (Professional Mechanic or Technician). Vocational education in the secondary level is divided into these general areas:

- (1) Agriculture and Animal Economy
- (2) Business
- (3) Arts and Occupations
- (4) Handwork for Women
- (5) Electricity
- (6) Dance (There is one school now in existence)
- (7) Music (There is one school in existence)
- (8) Textiles (There is one school now in existence)

The vocational schools are trying to prepare young people that are not interested in university careers, so that they can take their place in the country's labor force. At the same time, qualified graduates from the vocational schools can enroll in Universities and Superior Technic Schools.

The School Year. The school year consists of 185 days during a period of 10 months. It is divided in trimesters. It starts the first day of the week in October in the Andean region and the first day of the week after the 15th of April on the coast. The final exams are given in July and January, according to the zone. This schedule is in a process of revision. The Department of Education is planning to change the school year to a year of 10 months that will be divided in two semesters of five months each, with a month of vacation between semesters.

Grading System. The students of secondary schools in Ecuador are graded on a scale of 0 to 20 for classwork, homework and trimestrial exams. The final exams to obtain the "Bachelor" title (High School Diploma), are graded on a scale of 1 to 10.

To enter a final exam in any subject, it is necessary for the student to have obtained at least half the possible points, that is 30 out of 60, in the three trimesters. To pass to the next year, each student must receive in each subject a minimum

of 45 points out of the 80 points possible.

The final grade to obtain the "Bachelor" title (High School Diploma), based on a scale of 0 to 10 equivalent to the scale in the United States is the following:

- 10 Excellent
- 9 Good
- 8 Satisfactory
- 7 Regular
- 6 Deficient

The minimum grade with which a student can graduate is 6. The grades that are recommended for the enrollment in a University in the United States is 9 or 10.

D. EDUCATION DEGREES AND CERTIFICATES

1. Bachillerato en educacion. Secondary-school-leaving certificate, awarded after six years of primary education followed by six years' study in a teacher-training institution. It entitles the holder to teach in a primary school and gives access to the faculties of philosophy, arts and education and to certain other faculties, after passing an entrance examination (pre-university course).

2. Bachillerato en humanidades. Secondary-school-leaving certificate, awarded after six years of primary followed by six years of general secondary schooling. In the last year pupils must choose between three options: literature and philosophy; physics and mathematics; chemistry and biology. The certificate is endorsed humanidades classicas (classical humanities) or humanidades modernas (modern humanities). It gives access to higher education but many faculties require candidates to sit an entrance examination in addition (pre-university course).

3. Bachillerato tecnico o comercial. Secondary-school-leaving certificate, awarded after six years of primary education followed by six years of schooling in a secondary technical institution of an industrial or commercial type. It gives access, after the passing of an entrance examination, to the faculties of economics, agriculture, veterinary medicine and, in certain cases, to the faculty of engineering, depending upon the specialization chosen by the candidate.

4. Doctorado. The highest degree of higher education, awarded after at least one year's further study beyond the licenciatura or the obtaining of a professional qualification. A thesis representing original work must be submitted and in certain cases courses must be also be followed.

5. Licenciatura. First degree of higher education, awarded after a course lasting usually between four and six years. During each successive year the candidate must pass three examinations and obtain a mark of at least 18 out of 30 in order to be eligible to sit for the annual examination, success in which is necessary in order to start the following year's work. The annual examination may be taken again by unsuccessful candidates at the beginning of the new university year, but if they fail again, the whole year must be repeated.

TABLE 6-1

EDUCATION AND RESEARCH FACILITIES

I. Academics

Academia Ecuatoriana De La Lengua (Academy of Ecuador) Apdo 3450, Quito, Founded 1875; 2nd in order of foundation in Spanish America; correspondent of the Real Academia Espanola, Madrid. The library, with over 2,000 vols, forms part of the National Library.

Academia Ecuatoriana de Medicina (Ecuadorian Academy of Medicine): Casa de la Cultura Ecuatoriana - Apdo 67, Quito; f. 1958.

II. Learned Societies and Research Institutes

Alliance Francaise: Eloy Alfaro 1900 y 6 de Diciembre, Casilla 6275, Quito, f. 1953; 1,300 students; library of 8,000 vols.

British Council: Casilla 1197, Avda Amazonas 1615 y Orellana, Quito; tel. 236-144.

Casa de la Cultura Ecuatoriana 'Benjamin Carrion': Apdo 67, Avda 6 Diciembre 794, Quito; f. 1944; covers all aspects of Ecuadorian culture.

Centro de Investigaciones Historicas (Centre of Historical Research); Apdo 7,110, Guayaquil; f. 1930.

Centro Ecuatoriano-Norteamericano (Ecuador-US Center): Apdo 5717, Luis Urdaneta y G. Cordova, Guayaquil; f. 1957; English teaching centre; cultural events; 136 mems; library of 4,207 vols.

Charles Darwin Research Station: Pto Ayora, Santa Cruz, Galapagos Islands; f. 1964 under the auspices of the Ecuadorian Government, UNESCO and the Charles Darwin Foundation to study and preserve the flora and fauna of the Archipelago.

Comision Ecuatoriana de Energia Atomica (Atomic Energy Commission of Ecuador): Calle Cordero 779 y Avda 6 de Diciembre, Casilla 2517, Quito; f. 1958; research in nuclear physics, radioisotopes, radiobiology, chemistry, meidcien; library of 3,000 vols.

Direccion General de Geologia y Minas (General Directorate of Geology and Mines): Carrion 1016, Quito; f. 1964, as Servicio Nacional de Geologia y Mineria; supervises enforcement

of laws relating to general and gold mining and sets standards for mining industry.

Dirección General de Hidrocarburos (General Directorate of Hydrocarbons): Avda 10 de Agosto 321, Quito; f. 1969; supervises enforcement of laws relating to petroleum exploration and development, and sets standards for mining-petroleum industry.

Federación Nacional de Médicos del Ecuador (National Federation of Ecuadorian Doctors): Avda de los Estadios e Inaquito, Quito; f. 1942.

Instituto de Ciencias Nucleares (Institute of Nuclear Science); Escuela Politécnica Nacional, Apdo 2759, Quito; f. 1957; library with department of microcards and microfilms; equipment for application of radioisotopes to chemistry, agriculture, medicine and radiation control; cobalt source-60 2,400 curies.

Instituto de Investigaciones Veterinarias del Litoral (Veterinary Research Institute): Guayaquil; f. 1954.

Instituto Ecuatoriano de Antropología y Geografía (Ecuadorian Institute of Anthropology and Geography): Casilla 2258, Quito; f. 1950; research in anthropology, ethnology, folklore, linguistics and national questions.

Instituto Ecuatoriano de Ciencias Naturales (Ecuadorian Institute of Natural Sciences): Apdo 408, Quito; f. 1940.

Instituto Interamericano Agrícola Experimental (Inter-American Experimental Agricultural Institute): Conocoto, Línea 63, Quito; part of OAS Inter-american Agricultural Institute.

Instituto Latinoamericano de Investigaciones Sociales (ILDIS) (Latin American Social Sciences Research Institute): Casilla 367-A, Quito; f. 1974; affiliated to the Friedrich-Ebert Foundation; research in economics, sociology, political science and education; library of 5,000 vols.

Instituto Nacional de Estadística y Censos (National Statistics and Census Institute): Consejo Nacional de Desarrollo, Avda 10 de Agosto 229, Quito.

Instituto Nacional de Higiene y Medicina Tropical 'Leopoldo Izquieta Pérez' (National Institute of Hygiene): Apdo 3961, Guayaquil; f. 1941; 24 departments and sections; library of 5,000 vols.

Instituto Nacional de Investigaciones Agropecuarias (National Institute of Agriculture Research): San Javier 295 y Orellana, Apdo 2600, Quito.

Instituto Nacional de Investigaciones Nutricionales y Médico-Sociales (Institute of Nutritional and Social

medicine): Apdo 3806, Quito; f. 1950; training courses and surveys.

Instituto Nacional de Meteorologia e Hidrologia (Meteorological Office): Calle Daniel Hidalgo 123, Quito; library of 5,000 vols.

Instituto Nacional de Pesca (National Fishery Institute): Casilla 5918, Guayaquil; f. 1960; fishing research and development; library of 20,000 vols.

Instituto Oceanografico de la Armada (Naval Oceanographic Institute): Avda 25 de Julio, Apdo 5940, Guayaquil; f. 1972 to study oceanography and hydrography; 200 staff; library of 2,000 vols.

Observatorio Astronomico de Quito (Astronomical Observatory): Apdo 165, Parque Alameda, Quito; f. 1873; astronomy, seismology and meteorology.

III. Universities and Technical Universities (Universidad Central Del Ecuador)

Ciudadela Universitaria, Apdo 166, Quito; tel: 524714. Founded 1769, from the Seminary of San Luis, founded 1594.

The University of San Gregorio Magno, founded 1622; and the Dominican University of Santo Tomas de Aquino. Reorganized 1822, 1926.

State Control.

Language of instruction: Spanish

Number of teachers: 2,500

Number of students: 60,000

Pontificia Universidad Catholica Del Ecuador, Avda 12, De Octubre 1076 y Carrion, Apdo 21-84, Quito; tel: 529-240, 529-280; founded 1946.

Private Control

Language of instruction: Spanish

Academic year: October to July

Number of teachers: 1,050

Number of students: 15,409

Attached Institute

Higher Institute of Philosophy: Avda 12 de Octubre y Madrid; Dir. Rev. Father Jorge Ugalde Paladines.

Universidad Catolica de Cuenca, POB 19A, Cuenca; tel: 824-365; telex: 04-8567 UCACUE ED; founded 1970.

Private control

Academic year: October to July (2 terms)

Library of 5,000 vols
 Number of teachers: 300
 Number of students: 3,150

Universidad De Cuenca, Avda 12 Abril, Sector 16, Apdo 168,
 Cuenca; tel: 82-75-56; founded 1867.

Number of teachers: 512
 Number of students: 18,533

Universidad Estatal De Guayaquil, casilla 471, Guayaquil;
 tel: 51422; founded 1867.

Number of teachers: c. 300
 Number of students: c. 9,000

Universidad Nacional De Loja, Casilla Letra 'S', Calle B.
 Vildivieso Rocafuerte, Loja; tel: 961-841; telex: 4135 UNLOJA
 ED; founded 1869 as the Junta Universitaria; university status
 1943.

State control
 Academic year: October to July
 Library of 3,500 vols.
 Number of teachers: 245
 Number of students: 7,536

Universidad Catolica De Santiago De Guayaquil, Casilla
 4671, Guayaquil; tel: 391058; founded 1962.

Private control
 Academic year: April to December
 Library of 13,500 vols.
 Number of teachers: 508
 Number of students: 4,560

Universidad Tecnica De Ambato, Ciudadela Ingahurco,
 Casilla 334, Ambato; tel: 82-21-91; founded 1969.

Number of teachers: 385
 Number of students: 10,034

Universidad Tecnica De Babahoyo, Apdo 66, Via Flores,
 Babahoyo, Los Rios; tel: 730208; founded 1971.

Library of 1,673 vols.
 Number of teachers: 400
 Number of students: 9,000

Universidad Tecnica Particular De Loja, Apdo 608, Loja;
 tel: 960275; telex: 4133 UNITEL ED; founded 1971.

Private control
 Language of instruction: Spanish
 Academic year: October to February, April to August
 Library of 3,000 vols.
 Number of teachers: 230
 Number of students: 7,150

Universidad Tecnica De Machala, Casilla 466, Machala;
 tel: 920-856; founded 1969.

State control
 Language of instruction: Spanish
 Academic year: March to January
 Library of 3,000 vols.
 Number of teachers: 230
 Number of students: 4,500

Universidad Tecnica De Manabi (Manabi Technical
 University), Casilla 82, Portoviejo, Manabi; tel: 652677;
 founded 1952.

State control
 Academic year: May to January (two semesters)
 Number of teachers: 380
 Number of students: c. 10,000

Universidad Tecnica 'Luis Vargas Torres', Apdo 179,
 Esmeraldas, tel: 711-851; founded 1970.
 Number of teachers: 144
 Number of students: 757

Universidad Laica 'Vicente Rocafuerte' De Guayaquil, Avda
 de las Americas, Apdo 11-33, Guayaquil, tel: 392-121; founded
 1847; university status 1966.

Private control
 Language of instruction: Spanish
 Academic year: April to January

Escuela Politecnica Nacional (National Polytechnic
 School), Isabel La Catolica y Veintimilla, Apdo 2759, Quito,
 tel: 522-033; founded 1869.

Autonomous control
 Language of instruction: Spanish
 Academic year: October to February, March to July

Escuela Superior Politecnica De Chimborazo, Casilla 4703,
 Riobamba, tel: 961961; founded 1972.

State control
 Language of instruction: Spanish
 Academic year starts October
 Library of 7,000 vols.
 Number of teachers: 162
 Number of students: 8,500

Escuela Superior Politecnica Del Litoral, Rocafuerte 101 y Julian Coronel, Casilla 5863, Guayaquil; tel: 303733; telex: 4-3509 ESPOLG ED; founded 1958.

State control
 Language of instruction: Spanish
 Academic year: May to February

IV. Colleges

Colegio Nacional de Agricultura 'Luis A. Martinez': Casilla 286, Ambato; f. 1913; Dir. Dr. Cesar Vasconez S.; Sec. Cesar Eduardo Cobo N.; 500 students.

Colegio Nacional '24 de Mayo', Quito: Quito; f. 1934; an experimental institution for women's higher education; assisted by UNESCO; departments of modern humanities for students preparing for universities and commerce, administration and professional training; number of teachers 122; number of students 3,388.

Centro Internacional de Estudios Superiores de Comunicacion para America Latina (International Centre for Advanced Studies in Communications for Latin America): Diego de Almagro 2155, Andrade Marin, Apdo 584, Quito; tel: 548011; telex: 22474 CIESPL ED; f. 1960 with UNESCO aid; training, documentation and research; 46 staff; library of 8,100 documents 2,000 vols.

Escuela de Agricultura: Daule.

Escuela de Agricultura: Ibarra.

V. Schools of Art and Music

Conservatorio Nacional de Musica (National Academy of Music): Carrion 514 y Reina Victoria, Quito; f. 1900; library of 3,00 vols.

Academia de Bellas Artes 'Remigio Crespo Toral': Cuenca; teaching staff 4.

Conservatorio de Musica 'Jose Maria Rodriguez'; Cuenca; teaching staff 11.

IN-COUNTRY . SUMMARY MATRIX RESOURCE ANALYSIS

CHAPTER 7
LABOR

<i>Resource Category</i>	<i>Estimate of Availability Status</i>
CURRENT SITUATION	<p>The Ecuadorian economy has been stagnated since the 1970s. The agrarian sector employs almost half the economically active population, (about 30 percent of total population).</p>
UNEMPLOYMENT AND UNDEREMPLOYMENT	<p>The growth of the labor force during the 1970s and early 1980s have been a modest 2.5 percent per year. The growth rate is unlikely to continue to be so moderate.</p>
EMPLOYMENT	<p>The major new jobs in urban areas during the past 10 years have been in the private service sectors. Total manufacturing employment is now approaching 60 percent in some provinces.</p>
INCOME DISTRIBUTION	<p>There is a wide disparity in income levels. A study by a Quito University concluded the poorest 26.8 percent of the population earned 5.7 percent of all income while the wealthiest 8.6 percent earned 44.5 percent.</p>

WAGES

Ecuador has a very complex system in place to protect the worker against wage losses. Unfortunately, laws that inhibit firing also inhibit hiring.

LABOR MINISTRY

The Ministry of Labor and Human Resources is charged with preventing and resolving labor disputes and with promoting employment.

VOCATIONAL TRAINING

Performed by SECAP since 1966. Over 10,000 training courses during this period.

SOCIAL SECURITY

The IESS was founded in 1982 and operates as an autonomous agency of the Ministry of Social Welfare. IESS covers over 1.2 million persons.

LABOR MANAGEMENT RELATIONS

Unions in Ecuador lack a strong industrial base. Less than 15 percent of the workforce is engaged in industry and construction. Unions are also weak in a political sense and are not linked strongly with any political party.

CHAPTER 7

LABOR

A. CURRENT SITUATION

The Ecuadorian economy has been in a period of stagnation since the end of the petroleum boom years of the 1970's. The agrarian sector employs almost half of the economically active population.

Ecuador faces a severe problem of generating adequate employment opportunities over the coming years. It pursued a idealistic development strategy during the 1970's focusing on the modern sectors as the essential element for growth.

The population and labor force statistics were revised downward as a result of the November 1982 official census. Of Ecuador's nearly 8.1 million inhabitants, almost 30 percent, or 2,387,000, constituted the economically active population. Of these, more than 50 percent were in the urban sector. At an estimated three percent growth rate, the labor force by 1984 would have increased to 3.0 million persons.

The occupational breakdown of the labor force is as follows:

Agriculture, forestry and fishing	48.9 percent
Mining and extractive industries	0.3
Manufacturing	10.8
Transport, utilities and communications	3.1
Construction	3.8
Commerce	10.8
Finance and insurance	1.1
Government and community services	16.0
Non-specified activities	4.2
TOTAL:	<u>100.0</u>

SOURCE: National Development Council (CONADE), 1982.

Since 1974, the largest sectoral gains have been registered in commerce and government services. Agriculture suffered the

greatest percentage loss, although the agricultural work force actually grew in absolute terms.

Despite the persistence of a stagnant economy, high inflation and significant unemployment and underemployment, Ecuador experienced relative labor tranquility during the past two years. In contrast to the previous time frame when general strikes were endemic, anti-government labor manifestations were few in number and limited in impact. The number of collective conflicts and strikes remained steady, although two major strikes afflicted U.S.-owned or partially owned enterprises. The government legislated pay hikes ranging from 12 to 18 percent in January 1984 for most categories of private sector wage-earners. Increase for public school teachers, white-collar government workers and police were also approved during this period.

Much of organized labor's attention during the period was directed toward the 1984 national elections, which renewed virtually all elective offices in the country. Historically weak and politically fragmented, the labor movement - including the communists - failed to make any significant impact at the polls.

Internationally, the Ecuadorean Government was active in ILO affairs and in Andean Pact integrative efforts in the labor field. In June 1984 the Labor Ministry assumed operational responsibility for the financially troubled Convenio Simon Rodriguez.

B. UNEMPLOYMENT AND UNDEREMPLOYMENT

During the 1970's there was a smooth process of growth with a most notable increased demand for labor in the modern urban economy and only a modest increase in the total (rural plus urban) labor force. The growth of the labor force during the 1970's, and in particular over the 1974-82 intercensal period was not excessive--about 2.5% per year. The participation rate for persons 15 and up fell from 51.5% to 49.4%, due mainly to considerable declines in the younger age groups, especially among males of 15-24 years. The main cause of decline in the male participation rate, and a factor which probably prevented the female participation rate from rising faster than it did, was the increase in the percent of youth 15 and up who were studying.

Although statistics are unreliable, open unemployment in the urban sector was measured at 3.4 percent in 1974 and never exceeded 6.5 percent during the 1970s. By contrast, official urban unemployment reached 8.7 percent at the end of 1982 and 10 percent by mid-1983. Unofficial unemployment estimates during 1983 ranged from 12 to 15 percent. The beginning of economic recovery, including normalization of agricultural production, appears to have reduced open unemployment from its 1983 peak. Most recent government estimates place unemployment in the 6-8 percent range.

Underemployment represents a persistent socio-economic problem. Measured at 54 percent at the end of 1982, underemployment nationwide may have reached 60 percent in late 1983. Three-fourths of the rural population are believed to be underemployed, a figure that seems to be impervious to economic cycles.

In February 1984, President Hurtado signed an executive decree establishing a National Employment Council, composed of the Ministers of Labor, Industry, Social Welfare, Public Works, Finance and Agriculture. With the Labor Ministry's employment and human resources directorate serving as its general secretariat, the Council is charged with developing policies and strategies for dealing with the country's unemployment problem.

Growth of the supply of labor is unlikely to continue to be so moderate. Although the gradually falling rate of population growth will eventually tend to slow the expansion of the supply of labor, this will take a while to show up strongly. Meanwhile a continued decrease in the participation rate cannot be expected; rather the participation rate for women aged 20 and up will presumably continue to increase, following the normal pattern in the middle stages of economic development as urbanization proceeds, and is likely to more than offset further increases in the share of persons 15 and up who are full-time students. Thus the temporary easing of supply side pressure in the labor market is likely to be reversed soon, if it has not already been.

C. EMPLOYMENT

The major sources of new jobs in urban areas between 1974 and 1982 were private sector services (commerce, restaurants,

personal services, etc.) with 36%, public sector employment with as much as a third, manufacturing with 16% and construction with a striking 12%. Manufacturing was particularly important in the two metropolitan areas and construction in the smaller urban areas. Public sector employment also seems to have been important in most urban centers. The fact that, between them, the now stagnant construction sector and the public sector appear to have created around 45% of the new jobs over this period highlights the challenge of job creation in the near future, when the public sector cannot be counted on for many if any new jobs and when construction employment is only likely to rise if stimulated by the government.

This artisan sector (defined as plants of less than 10 workers) probably provided nearly 80% of employment in manufacturing activities in 1962, falling to perhaps 70% in 1974 and then under 60% in 1982. Such a decline in the relative role of smaller scale establishments is to be expected in the course of development. In Ecuador of the 1970s, and in contrast to the period 1962-1974, growth of artisan and very small scale employment seems to have stagnated in absolute terms, while that in establishments of 10 or more workers grew by 60%.

The increasing dominance of factory manufacturing in general and of the larger scale component of it have been associated with an increasing regional concentration of manufacturing. Between 1974 and 1982, the share of total manufacturing employment, which was located in the provinces of Pichincha and Guayas rose from 46.4% to 55.4%; the share in the four provinces where Ecuador's next five cities are located dropped slightly from 24.8% to 24.2%, and then share in the other provinces fell sharply from 28.8% to 20.3% as their absolute level of manufacturing employment also fell from 65.3 thousand to 57.9 thousand. The dominance of larger scale manufacturing in the two larger cities and of small scale elsewhere is striking. In 1980 over 70% of manufacturing employment in urban Pichincha and Guayas was in factories (minimum size 10 or so workers) while in the urban areas of other provinces the share was a little under 40%.

The problem of employment generation in Ecuador, while not to be confused with the problem of income equality, is in various ways related to it. Income distribution in both urban and rural areas of Ecuador has long been highly unequal.

The two main determinants of an individual income are the level of education and the capital he or she possesses. Market segmentation in urban Ecuador is not a major source of income inequality or of economic inefficiency. There now exists a tendency for lower wage groups to achieve faster wage increases than higher wage groups, and for the wage increases of any given category of workers to be largest outside Quito and Guayaquil.

The employment structure generated during the growth phase now confronts a structural crisis resulting from the end of the oil boom, the need to lower the quantity of imports, and the stagnation of aggregate demand following on this set of events. The challenge now facing Ecuador is that of maintaining reasonably satisfactory employment opportunities in the face (i) of the inevitable stagnation of some branches of the economy, including some import intensive activities and (presumably) public sector employment and (ii) increased pressures on the supply side of the labor market as the population of working age continue to rise fast and as the participation rate begins to edge upward.

Economic logic dictates that the only way to achieve a reasonable level of productive employment is to encourage expansion of activities which require low quantities of imports and which are labour intensive. These activities are, with a few exceptions, produced in small scale establishments (e.g. artesanry, small and medium industry small farms, etc.).

Expansion of employment in each of these different sectors is healthy as long as it is not the result of a flooding of otherwise unoccupied persons into a relatively free entry activities. With the economic decline of 1983-84 one would expect a shifting of people into these easy entry sectors and a resulting decline in average income. It is clear that, if the economy does not soon return to a fairly healthy growth path, income declines in those easy entry sectors will be a major manifestation of the employment crisis. Middle class youth, if the pattern of other countries is followed here, will account for most of the "core" open employment, fueled by the aspirations and expectations generated by their high levels of education and facilitated by the greater economic resources of their families. Lower class workers may suffer frequent bouts of unemployment--and the evidence for Quito and Guayaquil certainly suggests that this problem has been aggravated in the last couple of years--but cannot afford to remain unemployed for

long periods and will hence tend to move into the easy entry low productivity informal sector where, in the worst of cases, their entry will simply drive down the incomes of workers already there.

The crisis will be complicated by the outpouring of graduates from Ecuador's system of higher education, in numbers unprecedented in this country but also almost without parallel in other countries in Ecuador's stage of development. Adding to the problem is the high share of university students who have studied humanities and other less "salable" skills. Finally, the task of matching highly educated graduates with jobs in small, labor intensive activities, the only activities in which it will be possible to create a satisfactory number of jobs, is likely to be daunting.

In summary, then, if the structure of the economy cannot be altered towards more labor intensive activities in the coming period, then the macroeconomic trends which have already set in will produce a slower expansion (or perhaps even stagnation or contraction) of the demand for labor, even as the supply increases rapidly. Earnings would have to fall, either through a decline in wages/salaries or an increase in unemployment or both.

In the rest of the 1980s there will, barring very effective policy, be a serious employment problem. The macro steps likely to be used to restrain inflation and imports will tend to create excess capacity. A vigorous and labor intensive housing program, while a valuable component of a good policy package will not provide the whole answer. Neither would the best of strategies vis a vis the artisan and small industry sectors. Nor will export promotion; while a very appropriate strategy its employment effects are very easy to overstate, except in a few cases like artisan products, flowers, and the like. The same goes for a more rational body of labor legislation. But if all these policies are pursued, the problem can probably be successfully confronted. In the process Ecuador will also grow fast and the dualism which currently afflicts the system will diminish.

D. INCOME DISTRIBUTION

Little solid data is available concerning income distribution. Nonetheless, it is apparent that wide disparities in income levels in the country exist. It has been estimated by AID, for example, that 60 percent of the rural population lives in marginal conditions. A recent study conducted by the Central University on wages in Quito (1982 data) concluded that the poorest 26.8 percent of the population earned 5.7 percent of all income while the wealthiest 8.6 percent earned 44.5 percent.

Ecuador's industrial-commercial minimum wage per month was raised to 6,600 sucres in January 1984 (\$103 at the current official exchange rate). Lower wages apply to other occupational categories, such as agricultural labor and domestic service. Higher wages scales generally prevail in sectors where collective labor contracts or the decisions of tripartite (government-business-labor) commissions are in effect. Many salaried workers earn substantial bonuses subsidies, adding as much as 70 percent to the basic wage.

E. WAGES

Ecuador has had a highly complex and apparently chaotic evolution of legislation designed to protect and advance the worker. More than in many other Latin countries, the minimum wage does not appear (especially now) to affect the level of remuneration of many workers. Laws which hinder the firing of workers are strong and a current proposal before the legislature would make them stronger. Unfortunately, as is demonstrated in other countries, laws which inhibit firing also inhibit hiring, and their final net effect on paid employment has generally been found to be negative. Despite their positive side and *raison d'etre*, preventing employer abuse of employee.

Remunerations are very complex. As many as twenty or more additional payments in the form of subsidies, allowances, extra-month salaries and profit shares supplement the basic wage for many workers. For example, the average wage-earner is entitled to a 13th, 14th and 15th month payment equal to his basic monthly wage, to a 1050 sucre per month cost of living allowance and to a 250 sucre per month transportation allowance. These and other supplements, including employer

social security contributions, can raise a wage-earner's average monthly income by as much as 70 percent over his basic wage.

The process of legislating minimum wages has come under considerable fire from the chambers of industry and small industry, representing influential segments of the business community.

Another wage-related issue is maintenance of the 40-hour work week, established in 1980. On several occasions business groups and congressional interests have proposed legislation either rescinding or permitting circumvention of the standard work week. However, the present policy has come to be a political article of faith which virtually all labor organizations and the Roldos-Hurtado administrations have firmly endorsed.

While minimum wage legislation establishes an income floor for Ecuador's estimated 800,000 wage-earners, tripartite (business-labor-government) commissions and collective labor-management contracts often set higher wage levels, particularly in larger business establishments. The wage commissions set 1984 wage scales, by occupation, for 93 industrial and commercial sectors. Collective contracts, of which over 1100 have been signed since 1979, covered some 140,000 workers by the end of 1983.

Following is a summary of recent increases in the minimum basic wage (in sucres), broken down by economic category:

<u>Category</u>	<u>Jan.80</u>	<u>Nov.82</u>	<u>June83</u>	<u>Jan.84</u>
Industry and commerce-general	4000	4600	5600	6600
Dollar value at official rate	(160)	(139)	(125)	(122)
Small industry	3000	3600	4600	5000
Agriculture-Coast & Galapagos	3000	3600	4600	5000
Agriculture-Sierra & Oriente	2600	3200	3900	4400
Handicrafts	2800	3400	4150	4600
Domestic service	1500	2200	2700	3000

Source: U.S. Embassy - Quito, 1984.

In addition to the above wage increases, the Hurtado administration decreed salary boosts for public school teachers (July 1983), white collar government employees (October 1983)

and members of the national police force (December 1983). The wage hike for police, a traditionally underpaid sector, brought them in line with military pay levels.

F. LABOR MINISTRY

The Ministry of Labor and Human Resources is charged with preventing and resolving labor disputes and with promoting employment. Considerable government control over the labor relations process is exercised through the Ministry's membership (and deciding vote) on tripartite tribunals that resolve labor conflicts and on similarly constituted sectoral wage commissions. The Ministry also wields substantial discretionary authority in interpreting and enforcing the Labor Code's provisions relating to certification of new labor organizations, the validity of labor contracts, the legality of strikes, and occupational health and safety standards.

Labor Ministry officials are:

Dr. Jamil MAHAUAD Witt, Minister of Labor
 Dr. Alberto WRAY Espinoza, Subsecretary of Labor
 Sr. Ernesto ESQUETINI Oleas, Coordinator General
 Dr. Marco PONCE Montesinos, Director General (including work-place inspections, minimum wages, and occupational health and safety matter).
 Econ. Guillermo GALLEGOS, Director of Sectoral Planning
 Dr. Ines Maria Moncayo de JARAMILLO, Legal Adviser
 Lcda. Maria del Carmen PROANO Melo, Chief of International Affairs
 Econ. Luis BILBAO Ortiz, Director of Employment and Human Resources
 Dr. Manuel MORA, Director of Labor Mediation
 Sr. Pio CUEVA, Director of Administration
 Lcdo. Alfredo DAHIK Silva, Director of Finance
 Dr. Ing. David VERA Alarcon, Executive Director of SECAP

G. VOCATIONAL TRAINING

The Ecuadorean Vocational Training Service (SECAP) was established in 1966 and is a quasi-autonomous agency under the Labor Ministry's umbrella. Chaired by the Labor Minister or, in his absence, the Ministry Subsecretary, SECAP's Executive Board includes representatives of the Ministry of Industry and

Commerce, the National Development Council, the National Center for Industrial Development, and the labor and business sectors. In April 1984 Executive Director David Vera Alarcon was re-elected by the Board to a second four-year term.

From its foundation to the end of 1983, SECAP offered over 10,000 training courses and seminars in which some 181,000 Ecuadoreans participated. With the help of two World Bank loans, totalling \$20 million, SECAP since 1979 has considerably expanded its vocational training network, currently consisting of twelve centers in major urban areas. SECAP is also receiving technical assistance from Great Britain, Brazil, West Germany and the UNDP. SECAP is presently discussing areas of possible cooperation with USAID.

In addition to vocational training through SECAP, the Ministry of Education, in conjunction with the West German-supported Latin American Institute for Social Research (ILDIS), is in the process of establishing a vocational training system for itinerant workers (trabajadores autonomos).

H. SOCIAL SECURITY

The Ecuadorean Social Security Institute (IESS) was founded in 1982. Operating as an autonomous agency of the Ministry of Social Welfare, IESS covers 1.2 million persons. Enrollment is obligatory for nearly all public and private sector wage earners; their immediate families and retired workers who were covered during their productive years are also automatically enrolled. Since 1981, members of agricultural cooperatives and other rural associations have been progressively brought into the system. Current rural enrollment is 250,000; the government's goal is one million rural enrollees by 1986. In 1983 members of transport sector cooperatives were incorporated into the system, and in June 1984 itinerant workers (principally street vendors) and small-scale merchants were added.

IESS provides a wide range of benefits. Upon reaching age 55 with thirty years of payments into the fund, a retiree receives a pension equal to his base pay at time of retirement. IESS provides medical care through its own system of hospitals, clinics and dispensaries. IESS also pays maternity, widows and survivor benefits, as well as a limited form of workmen's compensation. Personal loans may be made

against a member's contributions. No unemployment insurance is available, although disability retirement benefits are paid. The social security system is funded for wage earners through equal contributions by employer and employee as well as with government budget support. Self-employed enrollees contribute a fixed percentage of the minimum wage.

The IESS Director General is Patricio Avila Rivas.

I. LABOR-MANAGEMENT RELATIONS

Unions in Ecuador are a force with which private entrepreneurs must deal. Some entrepreneurs organize units of relatively small size so as to be able to avoid reaching the minimum number (15) employees which would make them vulnerable to union organization of the work force. Entrepreneurs also have to contend with general strikes which, although not originating in the entrepreneur's firm, do not negatively affect production. Because of the government's many interventions in the economy which directly control wage levels and prices, the general strikes normally derive from labor-government rather than labor-private sector confrontations.

Unions in a political party sense, are not influential. The major unions are not linked strongly with any political party.

The historic weakness and ideological division of the labor movement was amply demonstrated during the 1984 elections. Many trade union leaders either endorsed political parties, mostly of the left and center-left, or themselves ran for political office. However, there was little indication that most workers followed the political endorsement of their leaders. Labor's vote was fragmented among nine presidential candidates and seventeen political parties. With the exception of some sixty FNC members who were elected to local posts, no labor candidates, regardless of union or party affiliation, succeeded in winning public office.

Unions in Ecuador lack a strong industrial base. Less than 15 percent of the economically active population is engaged in industry and construction and these sectors are not expected to be very dynamic in the next several years. The predominance of small firms with less than 15 employees in all the productive

sectors further restricts their potential. The major labor centrals have therefore sought to boost membership and political clout by creating mass organizations composed not only of industrial trade unions but also of artisan and agricultural cooperatives, public employee organizations, student groups, and even associations of small businessmen and merchants.

At the same time, the low income level of most workers limits trade union revenues from dues to the extent that many labor organizations are unable to afford permanent headquarters, regular publications, full-time organizers and lobbyists, or in-house educational programs. Many financially-strapped labor organizations willingly accept assistance from foreign sources.

A succession of populist Ecuadorean governments, both civilian and military, has sought over the years to gain popularity with low income groups by conceding economic benefits and expanded worker rights. With little direct impact from organized labor, workers have thus made important gains such as freedom of association, the right to strike and bargain collectively, union dues checkoff, minimum wage guarantees, social security coverage and the 40-hour work week. In the process, while the changing legal framework has favored union development, at the same time some of the incentive for worker solidarity with their union leadership has been undercut by government initiatives

Finally, widespread underemployment much of it in the informal sector, and growing open unemployment, make for a strong supply of labor into the modern sector which at least moderates any tendency to aggressive bargaining.

Individual entrepreneurs view labor "problems" in terms of government rules and regulations which affect wages, benefits, workday and workweek hours and not in terms of union demands or activities.

Worker representatives chosen by the three legally recognized labor centrals (the Social Democratic CEOSL, the communist CTE and the Christian Democratic CEDOC) serve on the directorates of IESS, SECAP, CONADE and the Constitutional Guarantees Tribunal, an important judicial oversight body. According to a 1983 presidential decree, the right to represent Ecuadorean workers at the annual ILO conference is rotated

among these labor centrals.

The major unions in Ecuador are:

CEOSL, the Confederacion Ecuatoriana de Organizaciones Sindicales Libres, has been supported since its origin, twenty years ago by AIFLD, of the AFL-CIO, is said to receive assistance from the Fredrich Ebert Foundation, and is affiliated with the ICFTU. It is strong in Quito, Guayaquil, Manta, Portoviejo and Cuenca and claims 200,00 members. The US Embassy which, estimates CEOSL membership to be 115,000, quotes reports which indicate that "CEOSL is the largest and fastest growing labor organization among the industrial workers." There is a CEOSL breadway group which is headed by a former president of the union (Villacres Araudi) which although small, has the affiliation of FEMAPOR, the stevadores union. The National President is Jose Chavez.

CEDOC, Central Ecuatoriana de Organizaciones Clasistas, is Ecuador's oldest (some 45 years) labor federation, and is associated with CLAT and the WCL (the Christian Democrat counter to the ICFTU and to the socialist WFTU) and receives assistance from the Konrad Adenauer Foundation (as does INSOTEC). While on reportedly good terms with the current government, it has supported general strikes against government decisions taken as part of the 1982-1984 stabilization program. It claims 150,000 members, 20 percent of whom are industrial. Its major affiliate is the petroleum workers federation. There is a breakaway CEDOC group of about 25,000 members which is lined up with the CTE and FUT. The National President is David Tenesaca.

CTE, Confederacion de Trabajadores del Ecuador, is reported to be a communist linked union, affiliated with the WFTU and linked closely, at the national level, to the Ecuador communist party and the PSRE (Partido Socialista Revolucionario del Ecuador). It has probably 70,000 industrial members plus affiliates such as the Ecuador Indian federation (ECUARUNARI). It is particularly strong in Quito and Guayaquil. The National President is Edgar Ponce.

FUT, Frente Unitario de Trabajadores, is a recent organization which, as described by the U.S. Embassy, "is a loose-knit collection of trade unions, campesino and student organizations that has promoted the idea of labor unity to pressure the government, with some sources, on a wide range of

social, economic and political issues. It's key members, a very disparate group, are CEOSL, CTE and the breakway faction of CEDOC.

FNC, Fedracion Nacional de Choferes Profesionales del Ecuador, is a politically unlinked but powerful organization which represents some 80,000 professional drivers and transport company owners. Government intervenes heavily in the markets of the transport sector, and the participation of the FNC in various commissions which set transport sector policies has meant that this is a protected and privileged group. Secretary General is Abel Unda.

UGTE, Union General de Trabajadores del Ecuador was established in November 1982 by a fusion of such ultra-leftist organizations as the United Federation of Labor Organizations (FUOS), with about 2000 members, the Ecuadorean Union of Campesinos and Salaried Agricultural Workers (UCAE), and the small Guayaquil-based Bank Workers Federation. UGTE also enjoys considerable support from the radical university and secondary student federations FEUE and FESE.

UGTE has close ties to the maoist MPD and shares with that organization an ideology that is both revolutionary marxist and nationalist. It is strongly hostile to the FUT, which it considers a tool of foreign imperialism, both communist and western. No membership figures are available. Patricio Aldaz, formerly head of FUOS, is the UGTE president.

CONASEP, Confederacion Nacional de Servidores Publicos, claims to represent the 200,000 Ecuadorean government employees who are covered by the Civil Service Law. These include all white-collar employees of the central government, autonomous public agencies, and provincial and local governments. In contrast to workers covered by the Labor Code, which include blue-collar government employees, employees under the Civil Service Law do not enjoy the right to strike or bargain collectively. CONASEP is recognized officially as a public employees association but not as a union. As a consequence, CONASEP has continually pressed the Ecuadorean Government to accept jurisdiction of ILO Convention 151 and Recommendation 159 relating to public employee union organizing rights. The CONASEP president sits on a high-level tripartite (executive-legislative-labor) commission which reviews public sector labor policies and seeks to resolve policy questions as they arise.

An organization which stresses its independence, CONASEP has no ties to any political party. Although loosely associated with the FUT since 1981, it has not participated in FUT's strike related activities. The National President is Alberto Gutierrez.

UNE, Union Nacional de Ecuadores represents the country's nearly 70,000 public elementary and secondary school teachers. Its current national leadership is pro-communist, identifying either with the maoist MPD or with the Moscow-line FADI. However, significant democratic elements control some provincial chapters. In September 1983, the election of democrat Vicente Mieles as UNE-Guayas president provoked an attempted overturn by his combined communist opposition, the continued non-recognition of Mieles' election by the national UNE leadership, and the eventual formation of a competing pro-communist group which enjoys the blessing of the national leadership. The National President is Ramiro Beltran.

IN-COUNTRY . SUMMARY MATRIX RESOURCE ANALYSIS

CHAPTER 8
ECONOMY,
COMMERCE AND
INDUSTRY

<i>Resource Category</i>	<i>Estimate of Availability Status</i>
GENERAL	<p>Approximately 36.5 percent of the population are employed. The largest employment sector is in agriculture but this sector has the lowest per capita income. Ecuador is recovering from the regional recession but is constrained for credit due to its large external debt. Petroleum is the most important product contributing about 10 percent of GDP. Current production is about 250,000 barrels per day.</p>
EXPORTS AND IMPORTS	<p>Petroleum is the most important export (about 65 percent of total export earnings) followed by fish and shrimp (8.7 percent), bananas and coffee. Fish and shrimp is the only group to have real growth with other exports declining in absolute volume.</p>
PROBLEMS AND CONSTRAINTS TO THE ECONOMY	<p>Imports are being restricted to generate needed foreign exchange due to the large external debt servicing requirements. Many government subsidies currently exist in the economy (food, fuel, electricity, loans, etc.). The government, beginning in 1984, have started to eliminate many of these subsidies. Ceiling prices on most agricultural products were also received in the summer of 1984 and the largest agricultural output in history is expected in 85. Inflation will continue in the foreseeable future and will remain a constraint to economical recovery.</p>

CHAPTER 8
ECONOMY, COMMERCE AND INDUSTRY

A. GENERAL

The study of the current Ecuadorean economy starts with the discovery of oil in the Oriente area in 1967. A pipeline was completed in 1970 connecting the Oriente area to the coast (Esmeraldas) and Ecuador became a net exporter of petroleum products in 1971. The quadrupling of world oil prices in 1973 and the joining of OPEC started the changes in their entire economy.

During the 1970s Ecuadorean income expanded rapidly and the real GDP grew at 8 percent annually due to the increase in oil production. Currently Ecuador's oil production is about 250,000 barrels per day. Nearly all of the economic increases were made possible by the instantaneous wealth created by the sale of oil. Ecuador used much of this oil income wisely raising the country's standard of living to that of its neighbors and becoming one of the middle income countries of the hemisphere. Between 1960 and 1980, more than 10 years were added to Ecuadorian's life expectancy; death and infant mortality rates dropped by 50 percent and school enrollment expanded rapidly. By 1980, virtually all children attended primary school and a third of those eligible were attending schools of higher education. Today the citizens of Ecuador are better educated, in better health, and better fed than at any other time in history.

Nevertheless, Ecuador is now beginning to emerge from a severe recession (1984), a recession shared by the rest of Latin American region starting in 79-80. Per capita income declined sharply in 82 (3 percent) and 83 (5 percent) and will probably decline about 1 percent in 1984. Bankruptcies were at unrepresented rates in both 83 and 84; unemployment has increased in both years while imports were significantly curtailed starting in 83 as Ecuador attempted to adjust to IMF imposed sanctions. Significant devaluation of the Ecuadorian currency started in 1982 (the last devaluation had been in 1970 when the Sucres was established to be 25 sucres to the U.S. dollar) in response to inflation of a minimum of 10 percent per year between 1973 and 1982. Overall, the policies of subsidized imports, loans, consumer products and an over valued currency contingent on \$40

a barrel oil was destroying the economy of the country. These severe constraints were necessary to reestablish controls over their economy, however, the degree that these economic distortions can be corrected is highly related to the political situation. The same problems exist in Ecuador as exist in most Latin American countries. The delicate democracies may not be able to stand the combined pressures of 1) drastically curtailed imports, 2) loss of foreign exchange channels, 3) rapidly rising inflation in basic commodities, 4) reduced government services and 5) other rapid changes in the economy that lead to increased unemployment and a declining standard of living. Walking this delicate tight rope of releasing the economic forces while simultaneously cutting government expenditures is the challenge to Ecuador for the remainder of the century.

The oil that created the increased standard of living for Ecuadorians has also led it to some of its current problems. The recent economic history of Ecuador can be broken into 3 phases - 1970-73; 1974-79; 1980-84.

1970 - 1973

During these 4 years, GDP expanded at an annual compound rate of 15 percent and petroleum accounted for about 60 percent of the total growth. The growth was export led, with the value of real exports growing by 60 percent per year. During these years both consumption and investment grew at relative modest rates (about 5 percent per year) which allowed a high savings rate for the country.

1974 - 1979

The second period of economic activity encompasses the years 1974-1979. This period is characterized by rapid and steady GDP growth (almost 7 percent per year) led by the industrial sector. Services expanded at approximately the same rate as industry and was in response to the added income created by the industrial expansion. During this period petroleum production remained virtually unchanged (76.2 million barrels in 73 and 78.2 million barrels in 78); however, the world oil price increase in 78 significantly increased the value of petroleum exports.

The significant improving terms of trade meant that Ecuador's ability to import increased about 30 percent and their credit worth (capacity to borrow based on oil) expanded.

Most of the investments were made in industry (external capital purchases), the infrastructure of the economy, and satisfying the increasing domestic demand.

The significant increase in capacity to import was used to increase real imports by 7 percent per year. The external debt (medium and long-term public debt) expended rapidly from \$US 330 million in 74 to \$US 206 billion in 79 - a rate of growth of over 40 percent per year in real terms.

1980 - 1984

The third and last reporting period encompasses 1980 to 84. These four years were characterized by a growing exchange constraint reminiscent of the pre oil era, declining term of trade and a regionwide (world wide) recession. These dropped the economy's growth rate down to three percent in 80-82 and finally to a negative growth rate of -3.4 percent in 83 and an estimated (preliminary) 84 rate of -1.1 percent.

Growth began to slow due to the political uncertainty in 79 (transition from military rule to civilian government) awaiting the results of its first election in nearly a decade and the stability (policies) of the new government. The devastation of agricultural production in 82-83 caused by El Nino also contributed to the Ecuadorian problem.

B. SECTORIAL ANALYSIS OF ECONOMY

1. Estimated employment in 1983 was 2,989,200 or 36.5 percent of estimated population. The degree of unemployment in Ecuador is estimated to be 8-10 percent. Whatever the precise figure, the trend is for more open (visible) unemployment especially in the larger urban areas. As important is the degree of underemployment, which in 1981 was estimated officially at 24 percent of total employment. The rate for females (28 percent) is significantly higher than for males (22 percent). Other sources indicate that much higher levels of underemployment may exist, the foreign area office estimates that as many as 60 percent of the rural labor force and 45 percent of the urban labor force are underemployed.

Demographic and social changes in Ecuador will have the effect over the next 10 years of increasing the economically active population at rates faster than that

projected for population growth. The agriculture sector will continue to be the largest employer and it employed 1,379,400 or 46.2 percent of all employment in 1983. Unfortunately this sector also has the most underemployment as it generated only about 14 percent of total Gross Domestic Product (GDP). Even with petroleum's proportion of GDP excluded, the agriculture sector only generates 17.5 percent of GDP. The major growth in relative terms will be in the service sectors (services, trade, construction) which continues the trend of the 1970s.

2. Manufacturing continues to represent about 10.5 percent employment (10.2 in 1974, 10.7 in 1983) and manufacturing contributes about 20 percent to GDP. It has shown significant increases since 1974 when it was 14.6 percent GDP. However, much of this increase in contribution to GDP was due to very favorable governmental policies in the late 1970s.

3. Public utilities employment was 17,000 in 83 or about .6 percent. It's contribution to GDP was likewise small 1 percent. The subsidized public utilities rates (electricity and water) is one of the reasons for the low percentage contribution to GDP. The electric rates were being raised 2 percent per month starting in Summer 1984, however, the real price is declining due to the rate of inflation.

4. Wholesale and retail trade continues to expand and represents 11.2 percent of employment and contributes 16 percent to GDP. This area along with services will be the principal expanding portion of employment.

5. Services represented 14 percent of total employment and contributed 24.9 percent to GDP. Financial services employed 1.2 percent, public administration and other services employed 15.7 percent. Financial services contributed 4.1 percent to GDP while public administration contributed 9.5 percent and other services contributed 11.2 percent.

6. Transportation and communication employs 2.4 percent and contributes 7.0 percent. This sector will also show increases in contribution to GDP but the percentage of employment will not change as Ecuador progresses.

7. Petroleum and mining have virtually no impact on employment (.4 percent) but contribute over 10 percent to GDP.

C. EXPORTS AND IMPORTS

The performance of the Ecuadorian economy (like most economies) is intimately tied to the country's ability to export. Understanding the history of Ecuadorian exports will allow us to understand their current economy and assess the country's economic future.

1. The volume of oil exports peaked in 1973. The spectacular performance of the economy was initially due to the volume of oil exported, then due to the value of oil exported after the two significant world oil price increases. Other than oil exports, the real value of all other exports increased less than 2 percent per year between 1970 and 1982 - from US \$400 million in 1970 to US \$480 million in 1982. Other exports declined significantly in 83 (agriculture) due to the El Nino floods but this is non-representative - exports in 83 were US \$330 million.

With the exception of shrimp and fish exports (now Ecuador's second most important product amounting to 8.7 percent of total exports in 83) no new products of any significance have appeared for export since the discovery of oil. Today, Ecuador's market resembles the 60s where exports were growing at a rate of .5 to 1.5 percent per year.

2. Traditional Agricultural Exports

a. Ecuador was the world's largest exporters of bananas from 1953 to 1982. The El Nino caused floods which damaged production so much that Costa Rica was the leading banana exporter in 1983. However, Ecuador's market share and volume have been decreasing for the past 20 years. Between 1970 - 82, Ecuador's export volume contracted while world demand for bananas was expanding by 1.6 percent annually. Ecuador's share of the world market fell 3.6 percent from 21.5 percent in 1970 to 17.9 percent in 1982. Part of this decline was due to the lessening competitiveness caused by the fixed exchange rates and taxes on bananas; Ecuadorian producers were receiving between 1/3 and 1/2 less for bananas in 1980 than in 1970.

b. Coffee exports performed better during the period 1970 - 82. World wide demand increased 2.0 percent annually while Ecuadorian demand increased 2.3 percent annually. Ecuador's share of the world market increased by .5 percent from 1.5 percent in 1970 to 2.0 percent in 1982. The world demand for coffee has not increased signifi-

cantly and it appears that demand will start to decline in the late 1980s.

c. Cocoa exports expanded rapidly due to problems in Gahana, the world's leading exporter, as Gahana lost 60 percent of its market share to the Ivory Coast, Brazil and Ecuador. The currency and trade problems of Gahana and Nigeria were the primary reason for this shift of market share. Gahana and Nigeria's world share fell 31.7 percent from 56.8 percent in 1970 to 25.1 percent in 82 while Ecuador increased 1.5 percent from 3.7 percent to 5.2 percent in 82. Ecuador cannot expect to retain this share till 1990 if Gahana and Nigeria accept realistic exchange rates.

d. Fishery exports, particularly shrimp, is the exception to the stagnation of export volume. Shrimp exports grew in volume 48 percent annually during 1979-83. By 1983, Ecuador was the second largest shrimp exporter in the world (after Mexico) and total fish and shrimp exports were second in value, behind petroleum. Virtually all of this increase came from shrimp farms (acqualture). Shrimp farming begun in the swampy lowlands of El Oro and Guayas provinces in the early 70s. In 1979, 38 percent of all shrimp were grown on farms, in 83 this had increased to nearly 75 percent.

Many factors contributed to this growth. The climate is ideal for year round growth (on the equator) no significant temperature changes. The industry was developed and only needed to expand processing plants using existing technologies. The marketing structure already existed with all shrimp being exported to the United States. Finally, the industry received strong incentives from the Ecuadorian government. Import of capital equipment was often tariff free and financed by subsidized credit.

Other fish export products, however have not faired as well due to climatic, economic, and political reasons. Until 1983 the United States banned tuna from Ecuador in retaliation for seizure of U.S. tuna boats within 200 miles of the Ecuadorian coast. Not only did the warming of the offshore current (El Nino) affect fish production in 82-84, the recession caused Colombian and Venezuela (2nd & 3rd as fish markets for Ecuador behind the United States) to drastically reduce their imports due to balance of payment problems. The utilization of fish canning plants fell to only 40 percent of capacity based on an 8 hours workday. If the 3 largest plants are excluded (Inepaca, Nirsa, and Isabel) the other plants

operated at 18 percent of capacity. Significant employment dislocation occurred in the fishing industry in the past 2 years. The non-shrimp exports will take considerable time (87-88) to recover. Not only must new markets be found, but Ecuador must avoid the recovery of fish reserves caused by El Nino. Many of the fish processing plants will bankrupt before this situation is eliminated.

e. Import and export quotas along with unrealistic exchange rates have significantly affected domestic production.

Very high tariffs on imports of finished goods, "justified" in an effort to protect and foster industrialization, aggravated the exchange rate induced anti-export bias by creating a highly protective lucrative domestic market. This, in effect, rendered looking at an export oriented market as financially unattractive. Estimates of the differential range to a magnitude six times the real world price; therefore, no non-traditional manufacturers looked at the export market and could not have sold to it even had they wanted to. While the exchange rate was the most important source of anti-export bias, the new exchange rate and the anti-export bias of the trade laws will become more important.

D. PROBLEMS AND CONSTRAINTS TO THE ECONOMY

Subsidies - There are many different subsidies in the Ecuadorian economy that need to be removed in order to allow correct, marginal resource allocation.

1. Agriculture - The over valued currency favors imports over domestic production for most agriculture products. The revaluation of the currency, if continued, will alleviate this problem.

However, there are still many government subsidies on domestic retail pricing and maximum ceiling prices that can be paid to producers (farmers) that 1) increase the demand due to lower cost and 2) decrease supply due to lower revenue to producers. These governmental interventions in the "free" market need to be eliminated if Ecuador is going to produce its own food. Policies were initiated in the summer of 1984 removing price ceilings on many agricultural products.

2. Retail Petroleum - Though the price of gasoline

was increased approximately 83 percent in Jan. 85 (from 30 s/gal to 55 s/gal), the retail domestic price is still only about 1/2 of the world price. To approximate the world price (the opportunity cost of selling the gasoline outside of Ecuador) the price must be increased another 100 to 120 percent to approximately 110-130s depending on the final "stabilized" free market exchange rate. Most of the gasoline stations (all gasoline stations in Ecuador are government owned and operated) along the border of Colombia and Peru are short of gas. This is due to the very low price relative to the cost of gasoline in neighboring countries. The driving population of neighboring countries fill up their cars in the border station in Ecuador due to the low price of gas (approximately 1/3 the cost in both Peru and Colombia). This creates an Ecuadorian subsidy for the border populace of both Colombia and Peru.

There are political implications to raising the price as there were national disturbances in Jan. 85.

3. Loans: The current process of allocating loans (subsidized by the government) to "deserving" industries continues to discriminate and cause scarce Ecuadorian resource misallocation. Ecuador needs the a means to generate hard currency in order to pay off its IMF imposed debt rescheduling.

4. Acquaculture - The dramatic growth of shrimp farming (acquaculture in the Costa area) has made this export industry the second highest export earner (after petroleum). This area needs to be addressed from a long term environmental plan to determine the optimum acreage to allocate to shrimp farming.

5. Oil Production - As the state-run oil company has no "real" profit objective, structural and institutional inefficiencies have "probably" been established. While no significant change has occurred in the production of oil since 1979, production cost have doubled. The real per unit cost of oil production in 1984 was twice that of 1978. These cost per unit may not appear to be a significant increase from \$1.25 per barrel in 78 to approximately \$2.75 per barrel in 84; however, this amounts to about \$130 million U.S. dollars a year or about 15 percent of the total deficits of the Ecuadorian government in 1983. Some method must be initiated to increase their effectiveness (cost controls) in order to increase their contributions to the Ecuadorian government.

6. Tourism - Ecuador has a unique environmental and beautiful country that can be exploited by tourism promotion.

Significant exchange currency can be generated through tourism if appropriate laws can be changed. Specifically charter flights from U.S. and Europe should be allowed into the country. The cost of living is very attractive (hotel, food, transportation etc.) in Ecuador for tourist, however the air transportation cost to the country are very expensive. If charter flights would be authorized into Ecuador, there would be a significant air transportation cost decrease due to high load factor booking. Complete tourist charter packages would result in a significant decrease to a tourist. Much needed foreign currency would be generated by the tourist expenditures. The restrictions on charter flights needs to be readdressed in order to assist the tourism industry.

APPENDIX 8-1

EMPLOYMENT DATA	A8-1
PERCENTAGE COMPOSITION OF EXPORTS	A8-1
SECTORAL ORGION OF GDP	A8-2
COMMODITY EXPORTS IN US 1975 DOLLARS	A8-3

Ecuador - EMPLOYMENT DATA AND ESTIMATES, 1974-1983 ^{a/}

(Thousands, mid-year)

ECONOMIC SECTORS	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
TOTAL WORKFORCE	2,278.3	2,342.4	2,409.3	2,482.0	2,561.7	2,642.8	2,725.1	2,808.2	2,897.2	2,989.2
Agric., Livestock, Fish.	1,204.8	1,220.8	1,236.9	1,254.5	1,274.0	1,296.1	1,316.4	1,336.9	1,358.4	1,379.4
Petroleum & Mining	6.4	6.7	7.1	7.5	7.9	8.4	8.9	9.4	9.9	10.4
Manufacturing	232.4	240.5	249.0	258.1	268.0	277.7	287.6	297.6	308.1	319.1
Public Utilities	8.8	9.4	10.1	10.9	11.8	12.7	13.6	14.7	15.8	17.0
Construction	89.4	94.6	100.2	106.2	112.7	119.1	126.3	133.5	141.3	149.6
Wholesale & Retail Trade	194.6	206.5	219.4	233.3	248.5	263.8	280.1	196.9	315.0	334.3
Transport & Communication	56.7	58.2	59.8	61.5	63.3	65.0	66.8	68.5	70.3	72.1
Financial Services	20.3	21.7	23.1	24.7	26.3	28.0	29.8	31.7	33.7	35.8
Other Services	337.4	350.0	363.3	377.6	393.2	407.9	423.2	438.3	452.5	471.4
Other, unspecified	95.9	99.8	104.0	108.6	113.8	118.7	123.8	128.7	134.2	139.9
New entrants	31.7	34.0	36.4	39.1	42.1	45.2	48.6	52.1	56.0	60.2

^{a/} Projected on the basis of the 1974 Census.

Source: Central Bank of Ecuador, Boletín-Anuario No.6, 1983.

Ecuador. PERCENTAGE COMPOSITION OF EXPORTS, 1970-1983

Item	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	Preliminary			
												1981	1982	1983	
Total Exports	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Crude Petroleum	0.4	0.5	18.4	48.2	64.6	60.9	56.3	46.5	36.5	48.0	54.8	61.3	59.5	69.5	69.5
Fuel Oil	1.0	0.4	0.1	0.1	0.3	0.1	0.1	0.8	6.3	6.6	7.5	6.5	5.9	4.5	4.5
Bananas	35.5	37.0	40.5	12.7	10.3	13.7	7.9	10.6	9.9	7.3	7.7	8.4	9.1	6.5	6.5
Coffee	21.3	18.2	14.5	11.2	5.5	6.5	14.7	12.5	17.4	12.3	5.2	4.0	5.9	6.3	6.3
Raw Cocoa	9.4	10.2	7.3	4.4	8.4	4.2	2.4	4.3	3.3	1.9	1.2	1.6	2.7	0.4	0.4
Processed Cocoa	1.1	1.9	2.0	1.5	1.9	2.9	4.9	13.3	13.7	10.9	7.1	4.0	2.4	1.1	1.1
Sugar	3.4	5.6	4.4	2.1	1.8	2.3	0.9	0.8	0.4	0.4	1.4	0.8	0.0	0.0	0.0
Shrimp & Fish	1.7	4.0	5.0	2.6	1.5	2.5	2.3	2.6	2.4	2.4	3.6	4.1	5.5	7.6	7.6
Fruit Products	0.6	1.5	0.6	1.0	0.7	0.7	0.9	1.4	1.7	1.1	2.9	2.1	3.5	1.1	1.1
Other	7.4	7.4	7.9	7.1	4.7	5.6	5.4	6.3	6.2	6.7	6.9	7.6	5.6	3.0	3.0
Balance Item	19.2	16.3	-1.0	9.0	0.2	0.7	4.1	1.0	2.4	2.4	1.7	-0.4	-0.2	0.1	0.1

ECUADOR - SECTORAL ORIGIN OF GOP, 1970-1983
(MILLION 1975 SUQUES)

ITEM	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
AGRICULTURE, LIVESTOCK & FISH.	15,710	16,497	17,160	17,340	18,894	19,333	19,892	20,360	19,575	20,133	21,198	22,647	23,138	20,015
BANANAS, COFFEE & Cacao	3,398	3,740	3,915	3,730	4,214	3,766	3,998	4,421	4,349	4,383	4,027	4,023	4,170	2,917
OTHER AGRICULTURAL PRODUCTS	6,609	6,611	6,533	6,630	7,324	7,833	8,145	7,161	6,104	6,211	6,804	7,680	7,121	5,316
LIVESTOCK	4,693	4,915	5,316	5,396	5,661	5,880	6,151	6,533	6,733	6,948	7,216	7,578	8,067	8,283
FORESTRY	570	631	745	861	941	1,019	1,090	1,252	1,336	1,440	1,540	1,593	1,754	1,543
FISHING	440	602	651	723	754	835	908	993	1,053	1,141	1,611	1,773	2,026	1,956
PETROLEUM AND MINING	-2,314	-2,271	5,071	18,575	15,997	12,482	15,127	13,509	15,605	16,448	15,070	15,992	15,471	19,261
PETROLEUM & NATURAL GAS	296	209	7,462	21,217	18,570	15,414	18,289	17,616	19,750	21,350	20,519	21,428	21,289	23,969
REFINED PETROLEUM	-2,743	-2,679	-2,588	-2,876	-3,262	-3,264	-3,520	-4,530	-4,543	-5,330	-5,902	-5,935	-6,351	-5,224
OTHER MINING ACTIVITIES	173	199	197	234	289	332	358	423	398	428	453	499	513	516
MANUFACTURING	10,803	11,340	12,386	13,527	14,936	17,209	19,476	21,797	23,577	25,864	26,807	29,159	31,178	30,586
FOOD, BEVERAGES & TOBACCO	5,319	5,518	5,739	5,872	6,664	7,682	8,743	9,324	10,237	11,185	11,592	12,177	12,429	12,276
PROCESSED MEAT & FISH	1,272	1,334	1,267	1,229	1,418	1,561	1,769	1,811	1,875	2,095	2,392	2,539	2,787	2,739
CEREALS	326	313	475	518	784	1,039	1,114	1,264	1,341	1,355	1,500	1,588	1,583	1,456
SUGAR	912	1,094	1,024	1,032	1,031	1,020	988	985	1,050	1,194	1,249	1,166	878	650
OTHER FOOD PRODUCTS	1,573	1,443	1,586	1,649	1,760	2,043	2,538	2,628	3,079	3,417	3,230	3,372	3,688	4,099
BEVERAGES	1,111	1,176	1,220	1,265	1,453	1,755	1,936	2,143	2,345	2,599	2,704	2,795	2,913	2,906
PROCESSED TOBACCO	125	158	167	179	218	264	398	493	547	525	517	517	580	426
TEXTILES, CLOTH. & LEATHER	2,205	2,197	2,736	2,948	3,072	3,749	4,285	5,137	5,048	5,577	5,681	6,305	7,063	7,294
LUMBER & WOOD PRODUCTS	652	737	738	819	992	1,030	1,137	1,281	1,329	1,450	1,478	1,489	1,532	1,205
PAPER, PRINT. & PUBLISH.	719	774	882	800	892	1,050	1,228	1,309	1,378	1,527	1,657	1,770	1,878	1,796
CHEMICALS & RUBBER	685	788	709	1,034	998	1,114	1,103	1,414	1,638	1,695	1,739	1,901	2,286	2,259
NONMETALLIC MINERAL PROD.	927	965	1,131	1,392	1,621	1,769	2,020	2,171	2,603	2,931	2,973	3,557	3,941	3,687
METALLIC PROD. & MACH.	296	361	451	662	697	815	960	1,161	1,344	853	959	988	1,084	1,080
OTHER GOODS	-	-	-	-	-	-	-	-	-	646	728	882	965	989
PUBLIC UTILITIES	477	512	595	644	693	809	915	927	915	1,014	1,115	1,117	1,264	1,514
CONSTRUCTION	3,940	5,076	4,402	4,896	5,585	5,988	6,415	6,573	6,903	6,853	6,906	7,239	7,193	6,331
WHOLESALE & RETAIL TRADE	10,731	11,682	12,620	13,665	14,959	16,949	17,929	20,066	21,504	22,862	24,789	25,032	25,098	21,738
TRANSPORT & COMM.	3,765	3,992	4,352	4,773	5,326	6,169	6,944	8,003	8,616	9,314	10,038	10,517	10,841	10,881
SERVICES	16,370	16,600	17,172	18,945	21,809	23,881	26,426	28,389	30,459	32,003	34,684	36,143	37,241	37,463
FINANCIAL SERVICES	1,548	1,645	1,830	2,124	2,591	2,688	3,040	3,450	4,010	4,303	5,725	5,711	5,735	6,165
PUBLIC ADMINISTRATION	6,005	5,867	6,178	6,446	8,319	9,640	10,914	11,056	11,926	12,557	13,708	14,000	14,234	14,405
OTHERS	8,817	9,088	9,164	10,375	10,899	11,553	12,472	13,883	14,523	15,143	15,250	16,432	17,272	16,893
INDIRECT TAXES	3,430	3,424	2,735	3,542	4,247	4,920	4,555	5,745	6,478	6,227	7,015	5,997	4,712	3,142
GROSS DOMESTIC PRODUCT AT MARKET PRICES	62,912	66,852	76,493	95,867	102,046	107,740	117,679	125,369	133,632	140,718	147,622	153,443	156,136	150,931

EQUADOR: COMMODITY EXPORTS 1970-1983

(Million 1975 US\$, F.O.B.)

Item	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	Preliminary			
												1981	1982	1983	
Total Exports															
Million US\$	403.5	434.6	674.2	1,344.1	1,126.7	1,012.8	1,195.1	1,044.0	1,060.6	1,096.6	1,062.2	1,062.5	992.4	1,034.2	
Crude Petroleum															
Million US\$	4.7	5.9	297.2	842.9	702.0	616.8	725.7	596.7	530.4	530.4	468.8	537.5	505.5	702.0	
Million Barrels	0.4	0.5	25.1	71.2	59.3	52.1	61.3	50.4	44.8	44.8	39.6	45.4	42.7	59.3	
Fuel Oil															
Million US\$.0	0.3	2.5	3.9	6.1	0.9	1.1	0.7	6.4	6.0	6.4	4.7	4.3	3.3	
Million Barrels	.0	0.4	3.1	4.8	7.6	1.1	1.4	0.9	7.9	7.4	7.9	5.8	5.3	4.1	
Bananas															
Million US\$	126.9	137.4	140.2	139.5	138.1	138.7	122.2	128.3	138.8	141.1	137.1	130.0	128.4	92.6	
Thousand M.T.	1,246.3	1,350.0	1,377.0	1,370.0	1,357.0	1,362.0	1,200.0	1,260.0	1,363.0	1,386.0	1,347.0	1,277.0	1,261.3	910.0	
Coffee															
Million US\$	56.1	49.2	65.4	80.9	63.9	65.5	92.7	58.9	105.6	88.2	63.0	60.1	44.2	80.9	
Thousand M.T.	52.3	45.9	61.0	75.4	59.6	61.1	86.4	54.9	98.5	82.2	58.7	56.0	41.2	75.4	
Raw Coconuts															
Million US\$	40.1	53.6	51.3	36.0	76.1	42.2	24.0	20.5	17.9	15.6	15.0	29.9	46.6	6.1	
Thousand M.T.	36.5	48.8	46.7	32.8	69.3	38.4	21.9	18.6	16.3	14.2	13.7	27.2	42.5	5.6	
Processed Coconuts															
Million US\$	6.4	10.3	14.2	12.4	21.3	29.8	53.1	77.5	102.4	113.9	115.2	90.1	89.6	51.0	
Thousand M.T.	3.4	5.5	7.6	6.6	11.4	15.9	28.3	41.4	54.7	60.8	61.5	48.1	47.9	27.3	
Sugar															
Million US\$	29.2	46.9	49.7	40.3	26.2	23.6	21.1	29.0	16.8	16.8	35.5	24.9	0.0	0.0	
Thousand M.T.	55.4	89.0	94.5	76.6	49.8	44.9	40.1	55.0	31.9	32.0	67.4	47.3	0.0	0.0	
Shrimp & Fish															
Million US\$	11.1	19.0	11.7	45.6	14.9	24.8	20.7	22.0	21.0	30.2	33.3	27.2	25.8	28.2	
Thousand M.T.	10.6	18.1	11.2	43.4	14.2	23.6	19.7	21.0	20.0	28.8	31.7	25.9	24.5	26.8	
Industrial Exports N.E.I.															
Million US\$	15.8	18.9	23.0	37.7	47.2	45.9	56.9	72.3	75.2	94.0	140.6	142.0	161.2	54.2	
Chemicals	2.9	3.5	3.6	6.0	4.4	3.0	1.9	3.6	3.5	2.4	2.3	4.2	4.6	3.7	
Food	6.5	10.1	8.2	17.0	16.7	11.8	17.9	28.1	29.0	34.6	68.4	63.1	111.2	37.4	
Instant Coffee	.0	0.0	1.0	1.1	1.2	1.0	1.4	3.3	3.7	8.8	8.6	13.6	12.2	13.6	
Processed Fish	3.0	6.7	3.6	8.7	9.2	6.9	12.0	17.9	19.6	19.5	47.2	35.7	91.2	19.1	
Other Foods	3.5	3.4	3.6	7.2	6.3	3.9	4.5	6.9	5.7	6.3	12.6	13.8	7.8	4.8	
Other Industrial	6.4	5.3	11.2	14.7	26.2	31.1	37.1	40.6	42.7	57.0	70.0	74.7	45.5	13.1	
Animal Feeds	0.2	.0	0.1	1.2	5.1	5.4	5.3	15.9	15.9	19.5	23.4	26.8	.0	0.4	
Pyrochar	2.3	1.3	1.0	1.1	0.8	1.0	0.5	0.8	0.5	0.6	0.8	0.8	0.6	0.3	
Plywood	0.5	0.4	0.8	0.0	0.9	0.7	1.5	3.7	4.1	5.9	10.2	14.0	15.8	2.9	
Nuts	0.1	0.3	1.0	0.9	0.9	1.2	2.0	1.2	1.2	4.1	7.6	4.4	3.5	1.4	
Home Appliances	0.0	0.3	1.1	0.8	4.0	2.5	3.1	2.9	4.0	7.7	11.0	9.0	10.7	0.1	
Metals	2.7	1.5	3.4	4.0	5.6	6.8	6.1	5.8	5.8	7.0	6.2	5.1	3.5	2.3	
Textile Products	0.1	0.4	0.9	3.5	3.4	8.5	2.5	1.9	1.7	3.6	3.0	3.0	2.4	0.6	
Leather Goods	.0	.0	.0	1.3	1.9	0.2	0.2	0.2	0.1	0.1	1.0	1.2	0.8	0.7	
Other	0.6	1.1	2.9	2.0	3.7	4.8	15.8	8.1	9.5	8.6	6.8	10.5	8.1	4.4	
Other Exports	22.2	20.6	24.2	29.9	27.6	17.3	25.0	25.2	18.2	25.3	18.7	22.4	19.0	14.8	
Balancing Item 1/	91.0	72.5	-5.3	75.0	3.0	7.2	52.6	13.0	28.0	35.1	28.5	-6.1	-32.2	1.0	

1/ This item includes exports unaccounted for in Customs statistics. It is equal to the difference between the Balance of Payments, F.O.B. Exports and the total reported in Customs statistics.

IN-COUNTRY RESOURCE ANALYSIS • SUMMARY MATRIX

CHAPTER 9
FOOD AND
AGRICULTURE

<i>Resource Category</i>	<i>Estimate of Availability Status</i>
OVERVIEW	<p>Agriculture employs approximately 47 percent of the economically active population, contributes 12 percent to GDP, and 35 percent to the total export earnings. Unfortunately, average per capita income in agriculture is significantly below the rest of the economy and large numbers of this labor force is underemployed.</p>
CURRENT SITUATION	<p>Agriculture production is expected to reach record levels in 1985 due principally to the higher producer prices. Most price ceilings on agriculture products were removed in 1984.</p>
LAND DISTRIBUTION	<p>Over 65 percent of the farms are under 5 hectares, representing 8.5 percent of the total agricultural land.</p>
QUOTAS	<p>Internal quotas still exist for allocations of wheat, oilseeds, vegetable oils and several other products. There are also external quotas on coffee.</p>
SOIL CONSERVATION	<p>Excessive soil erosion in the Sierra and Coastal areas. No comprehensive programs to address this erosion.</p>
IRRIGATION	<p>Research is needed on cost effectiveness of irrigation.</p>
FISHERIES	<p>The fishing and shrimp industries have historically been the second most important export after petroleum.</p>

IN-COUNTRY . SUMMARY MATRIX RESOURCE ANALYSIS

<i>Resource Category</i>	<i>Estimate of Availability Status</i>
FORESTRY	<p>Forest and associated products contribute 4 percent of GDP. Deforestation of Ecuador is a surfacing problem that must be addressed by 1990.</p> <p>The research needs of agriculture are not being adequately addressed. With nearly 50 percent of the labor force in agriculture, better scientific methods are needed. The phenomenal growth of shrimp farming is an example of what can be done with new (low cost) agricultural technology.</p>
RESEARCH	

CHAPTER 9

FOOD AND AGRICULTURE

A. OVERVIEW

Agriculture is the mainstay of Ecuador's domestic economy. It accounts for 12 percent of GDP, 35 percent of total export earnings and provides employment for almost 50 percent of the economically active population. Women provide a significant share of the small labor force. Average per capita income in this sector is much below the rest of the economy.

Agriculture is quite varied due to climate and topography as well as socio-economic factors. Because of its equatorial location combined with the Andean Mountain range the climate varies from tropical to temperate which enables the country to produce a wide variety of agricultural products. Three distinct agricultural zones - the coastal (Costa), inter-mountain (Sierra), and jungle (Oriente) - exist although relatively little production currently takes place in the Oriente. These zones are significantly different in terms of a) land tenure patterns; b) resources; c) crops and d) growth potential.

The performance of the agricultural sector since 1970 has generally been disappointing with production of the main agricultural products expanding at an annual rate of two percent. Overall, production of export crops and raw materials increased by about three percent and 12 percent per annum, respectively, while food crop production declined by more than three percent annually. The steady decline in food production combined with an estimated growth in food demand of five percent per year led to sharp increases in food imports (an average annual rate of increase of 13 percent in real terms) over the 1978-1981 period. A major reason for this food production decline was the acreage shift in the Sierra (the highlands running north-south through the center of Ecuador which include the fertile inter-Andean valley as well as unproductive paramo) from cultivated crops to pasture, due in part to controlled prices of traditional food crops falling

relative to those of milk and beef. Agriculture on Costa (the tropical lowlands from the Western slopes of the Andes to the Pacific Ocean) actually saw a 20 percent increase in cropped area and shifted over the period from being primarily a producer of export crops to also becoming an important producer of food and raw material crops. The combination of the national decline in subsistence food production, the decline in real prices for the rural sector's agricultural products, the growth in population, and large and increasing income distribution disparities indicates a growing food crisis, especially for the poor in Ecuador. Nutrition surveys have revealed major diet deficiencies in calories, proteins, fats, and certain minerals and vegetables to which women and children are particularly vulnerable.

Productivity in the agricultural sector has remained generally at low levels. Except for bananas and oil palms, yields have remained stationary for all major crops since 1975. Average yields are 30 percent to 75 percent less than those obtained by the more advanced farmers using improved technology and having access to extension, credit and marketing. This low productivity is due to the failure of producers to receive adequate credit, little or no access to modern inputs, limited irrigation, an inadequate marketing system, insufficient technical support services to improve cultural practices and farming methods, and agricultural policies that have discouraged private sector investment and production.

With a long term trend of declining food production in the face of a rapidly increasing population and scarcity of foreign exchange, Ecuador's food security will be of increasing concern. The pressures became obvious as a result of the 1983 flood disaster which destroyed some crops directly (11.6 percent of total area under cultivation) and prevented the marketing of others due to the destruction of infrastructure. The overall decline in output was 13.3 percent, particularly in rice, corn, soybean, cotton, and sugar. Food shortages occurred in areas hardest hit by the flooding, leading to sporadic riots and requiring emergency relief efforts by the GOE and PVOs.

Important productive activities in the agricultural sector include fisheries and forestry. The fisheries subsector has expanded at an extremely high rate of 17.5 percent per year over the period 1978-82, and prospects for continued growth are

good. The subsector generates substantial foreign exchange through the export of fish, shellfish, and fish products. Earnings from shrimp exports amounted to almost \$200 million in 1983, and fisheries exports are now the second leading source of foreign exchange. The subsector is also an important source of employment with about 4.7 percent of the national labor force involved in fishing and fishing related activities.

The current contribution of the forestry sector is an estimated four percent of GDP and the sector is growing in importance. The total production value of forest industries increased from 2.2 percent of total manufacturing output in 1970 to 4.6 percent in 1978. Exports of wood products increased rapidly from \$15 million in 1977 to more than \$54 million in 1980. Forestry also provides important indirect benefits to the economy and can play an even more important role in Ecuador's economy. This will, however, require changes in policy and investment priorities. To meet projected 1990 needs and sustain its rapidly diminishing forestry reserves, Ecuador will need to increase its present rate of reforestation twenty-fold.

A major factor that has historically affected agricultural policy formation and development in Ecuador is that policy makers from the Sierra perceive land shortage, extremes of resource ownership, and widespread poverty as the major problems of the sector. In general, they pursue policies of price control and direct intervention. Conversely, leaders from Costa tend to perceive the major needs as agricultural growth and a reduction in GOE restrictions. They place priority on positive GOE price and investment policies. Both policy perceptions are correct. What is needed is the derivation of policies that deal with both sets of problems rather than focusing on one or the other.

Rapid institutional growth took place during the 1960's and 1970's as the GOE created institutions to deal with problems rather than addressing the problems with existing MOA programs and staff. This has in turn diluted the technical agricultural staff and since no attention was given to provide administrative and management training to the newly created administrators, the weak administrative leadership in the agricultural sector was further weakened.

The agricultural sector institutions suffer from the same weaknesses as most other Ecuadorean public institutions. Their

personnel are generally underqualified and lack incentives. Even the more established institutions such as the National Agricultural Research Institute (INIAP) must contend with inadequate staff, facilities and financial resources. This shortage of well trained staff in turn is due to the inadequacies of the present agricultural educational institutions. At present, agricultural educational institutions do not have the capacity to train an adequate number of personnel in science and technology. There are insufficient numbers of agricultural professors with advanced training, the majority having only B.S. degrees. There are no graduate programs in agricultural science nor is there any social science training at either the undergraduate or graduate level in areas such as agricultural economics or rural sociology. Any advanced degree training must be done out of the country requiring scarce foreign exchange, which has necessarily limited the number of staff going for such training.

The agricultural technology generation and transfer system in Ecuador is weak. To date, agricultural research programs in Ecuador have had to concentrate on a few select commodities. There has been inadequate research on specific small farmer problems, a failure to disseminate research results and lack of focus on the total farm unit.

Price policy focus has been to control inflation and thus income distribution rather than encourage production and direct resource allocation. The agricultural sector in the 1970s has suffered serious real price reductions due both to exchange rate and price policies. Exchange rate policy which created an increasingly over-valued exchange rate for the Sucre, led to Ecuador losing competitiveness in banana and coffee markets relative to every competitor and in the case of cacao losing competitiveness to every competitor but Ghana and Nigeria. The over-valued exchange rate also led to domestic food crops suffering a relative disadvantage vis-a-vis imported commodities.

In the case of wheat, a major food item, domestic production was further discriminated against by a consumer subsidy that favored imported wheat. At the same time that this exchange rate distortion was being undertaken, the Government was increasingly intervening in the price system to hold down prices to consumers. The result of these distortions has been that price policy was in general not an important tool to affect resources allocation decisions (although they have of

course done so, unintentionally) but rather to control inflation.

Government policies, in the input distribution and marketing areas, has until the Febres Cordero Administration often intervened directly in the markets rather than use Government policy to influence private sector actions indirectly. In the input distribution area, two problems seriously affecting agricultural potential has been the lack of adequate supplies of new varieties of seeds developed. The Government Seed Company, Ensemilla, has not been able to increase supplies at a rapid enough rate to meet demand and, in general, the Government has not encouraged the private sector to enter this area. In the case of fertilizer, the public sector company, FERTISA, supplies approximately 50 percent of the market with several private sector companies providing the other 50 percent. For other agrochemicals, the distribution is in private hands but a recent analysis indicates the marketing margins appear excessive.

In the case of marketing, the Government policy focus has emphasized direct public sector intervention. The period 1970 to present has seen a strong increase in the demand for marketing services. The result of this sharp increase in demand was to increase marketing margins. Rather than develop a set of policies that would assist the private sector to expand the supply of marketing services and thus reduce margins, the Government response was to intervene directly into the marketing area through the creation of two Government marketing agencies, ENAC and ENPROVIT (both of which were created by the 1970's Military regime and inherited by the current administration). These two agencies help the Government administer its price policy by intervening directly in the purchase, storage and sale of selected basic commodities, both at the wholesale and retail levels. ENAC has been ineffective in supporting commodity prices and in fact has suffered substantial financial losses. ENPROVIT has been somewhat effective in enforcing official prices in limited markets but requires Government subsidies.

The natural resource base has deteriorated significantly in recent years, threatening the long term productivity of agriculture and related activities. Two of the most serious problems are deforestation and land degradation through poor soil management practices. In the Sierra, as a result of strong population pressures and a skewed land distribution

system, most natural forests have been cleared for fuelwood and cultivation. Cultivation in the Sierra is often carried out on steep slopes with loose soils which, when combined with inappropriate tillage and irrigation practices, has resulted in serious soil erosion problems. In the Oriente (the Amazonian jungle east of the Andes), colonization resulting from the opening of the area to petroleum exploration is causing extensive deforestation and resulting soil deterioration and loss of fertility. On the Coast, the destruction of mangroves by oil pollution and uncontrolled shrimp pond construction threatens the future of the shrimp industry itself, while deforestation in other coastal areas has led to growing desertification.

Rural poverty, while occurring throughout the country's 20 provinces, is concentrated in the Sierra. USAID estimates that two thirds of all farm families have holdings of less than five hectares. This land ownership pattern contributes to low incomes. According to IDB estimates, currently about 65 percent of the rural population, or 2.6 million people, live in poverty. The per capita income for this group in 1983 is estimated at \$295, which is 25 percent of the average income for the rest of Ecuador's population. In some areas infant mortality runs as high as 150/1,000 in contrast with a national average of 71/1,000, the adult literacy rate is around 40 percent compared to 82 percent nationally and significantly lower for women, and about 70 percent of all rural children drop out of school by the fourth grade. In rural areas, housing with facilities for excreta disposal, electric light, and piped water amount to 12.5 percent, 13 percent, and 11.5 percent, respectively, of all housing.

To deal with these problems of rural poverty, the GOE has pursued two primary approaches; agrarian reform and integrated rural development. The agrarian reform program, initiated in the 1960's, focused principally on land ownership. According to GOE reports, beneficiaries of land reform between 1964 and 1982 generally remained as poor as before. The smallness of the parcels given to recipients accentuated the minifundio problem, and this was compounded by the lack of access to technical assistance and credit for the adoption of modern technologies. These problems were accentuated by inefficiencies in the marketing system and negative GOE price policy that reduced incentives to these farmers to use new technology. In response to these shortcomings, the GOE in the late 1970's adopted an intergrated rural development (IRD)

approach to provide technical assistance, credit, and marketing services to the rural poor. While it is too early to assess the overall impact of IRD on rural poverty, the institutional system has overcome its early problems and is beginning to improve implementation and provide support services to increase small farmer production and productivity.

B. CURRENT SITUATION

For 1985, crop production is expected to reach record levels in response to a generally favorable weather, sharply higher farm prices and better availability of inputs. Record crops of corn, soybeans, rice, palm oil and cocoa are forecast, while most other field and tree crops are expected to be above average. Cattle and poultry production is rebounding due to higher meat and milk prices. The only significant adverse factor now looming over the horizon is the possibility of a drought which is affecting some marginal areas in the south.

In 1984, agricultural production recovered after the "El Nino" flooding disasters of 1983. Favorable weather led to sharp gains in farm production. However, shortages of seeds, pesticides, fertilizers and credit kept agricultural output below average levels.

The Commodity Credit Corporation (CCC) continued to provide assistance through the GSM-102 Credit Guarantees with a total of \$129 million to Ecuador in the Fiscal Year (FY) 1984. The CCC Credits were used to import wheat, vegetable oils, breeding stock, feedgrains and other agricultural products from the United States. During the first half of FY 1984 limited CCC allocations caused import problems.

For FY 1985, CCC has already approved \$119.5 million in GSM-102 funds to guarantee shipments of wheat, vegetable oils, tallow, feedgrains and other agricultural commodities.

Agriculture's share of the GDP at current prices was 14.4 percent in 1984 compared with 12.8 percent in 1983. Agriculture continues to be the main source of employment in Ecuador with an estimated 46.9 percent of the workforce in 1983 versus 47.6 percent for the previous year. Projections made by the Central Bank until 1983 indicate that participation of the economically active population in agriculture has a decreasing trend. Nevertheless, it will likely continue to be the main

source of employment over the long term.

Production of milk, meat and edible vegetable oils is not large enough to satisfy the growing demand. Imports of dry whole milk and edible oils continue filling the demand of these two products but, for meat, the population has had to get by with the available supplies. Low "political prices" for milk (12 sucres/liter or about 50 cents/gallon), for beef (55 sucres/pound or 60 cents) and for many other basic foodstuffs have kept production down and farmers maintain that they cannot make a profit at these prices.

The outlook for 1985 is for a continued rebound in agricultural output. The Central Bank is predicting a 5 percent increase for this sector. Crop production is forecast to grow an 8 percent mainly because of:

- (a) The increased volumes expected in Ecuador's "traditional" export crops of cocoa, coffee and bananas as a result of the renovation, rehabilitation and phytosanitary controls made during 1984;
- (b) Other crop production is expected to rebound significantly, particularly rice, corn, cotton, soybeans and palm oil; and,
- (c) Measures enacted or to be enacted by the GOE to promote and incentivate the agricultural sector, such as free importation of inputs, higher credit availability and an improved marketing system.

C. FOOD

1. GENERAL

The steady decline in food production combined with an estimated growth in food demand of five percent per year since 1980 has led to regular imports of wheat, milk, edible oils, and sugar. Other food imports (average volume) include: barley (30,442 MT), corn (7,500 MT), oats (16,071 MT), rice (24,250 MT), and soybeans (206,000 MT). The national decline in food production, the decline in real prices for the rural sector's agricultural products, the growth in population, the decline in cropped area dedicated to subsistence food consumption, and large and perhaps increasing income distribution disparities, are trends which when combined indicate a growing food crisis, especially for the poor.

Food stockpiles are maintained by a variety of public and private organizations. Localized food shortages can result from landslides, earthquakes, and floods which damage the transportation network and thereby impede delivery of food reserves from other parts of the country. As a result, rice, sugar, wheat, milk, and other food products have been donated during emergencies.

During the 1982-83 floods, the Guayas chapter of the Red Cross distributed food to needy families throughout the Costa. Distribution was facilitated by having the families pick up food packets at central points in several rural towns. Each packet consisted of the following: sugar, soup, rice, sardines, salt, sausages, noodles, coffee, and vegetable fat. Milk powder is generally not acceptable.

The main staple in the Sierra is maize complemented by barley, oats, wheat, and rye. Frozen potatoes are an important local staple in the High Andean Plateau. In the Costa, rice and wheat bread are the staples. A variety of pulses are consumed on a daily basis throughout Ecuador: dry black and red kidney beans, chick peas, lentils, and lupins. Tubers include cassava, yam, sweet potatoes, and plantains. Seasonal vegetables include tomatoes, onions, cabbages, carrots, and pumpkins. Beef, considered a prestige item, is the most regularly consumed meat item. In the Sierra some fowl, sheep, pork, guinea pigs, and rabbits are consumed, while fish is consumed along the coast. Chillies and garlic are the most important condiments and spices.

Nutrition surveys have revealed major diet deficiencies in calories, proteins, fats, and certain minerals and vegetables. While there is a need for updated and improved food balance tables and nutrition surveys in order to arrive at actual figures, taking 1974 as a starting point and considering the trends and findings noted, the conclusion is that food supply has become a critical issue.

2. CATHOLIC RELIEF SERVICES

During calendar 1983, CRS donated food products for five major programs in Ecuador: (1) a school feeding program; (2) the food for work program; (3) an emergency program during the floods; (4) a child feeding program; and, (5) the maternal-child health program. Total food donations amounted to 3,374 tons in 1983 as shown in the following table:

ECUADOR

Food Products donated by CRS to Ecuador in 1983

Program	Quantity	Share	Product	Quantity	Share
	<u>Metric Tons</u>	<u>Percent</u>		<u>Metric Tons</u>	<u>Percent</u>
School Feeding	1,029.4	30.51	C.S.M.	435.9	12.92
Food for Work	113.7	3.37	Rolled Oats	723.0	21.43
Emergency	26.3	0.78	Soybean Oil	174.4	5.17
Child Feeding	1,136.6	33.68	W.S.B.	427.9	12.68
Maternal and child health	1,068.2	31.66	Milk	528.4	15.66
			Milk/Oats	557.1	16.51
			Bulgur	499.7	14.81
			Others	27.8	0.82
Totals	3,374.2	100.00		3,374.2	100.00

SOURCE: Catholic Relief Services

3. WORLD FOOD PROGRAM

During 1982 the World Food program donated \$2.8 million in food help and assistance under three major projects. The Ecuador program (ECU) 2005 expired while projects ECU 2251 and ECU 2182 continued through the year. Unfortunately, no data has been made available for calendar years 1983 and 1984.

Food Products donated by the WFP to Ecuador in 1982

Project	Product	Quantity		Value	
		Received	Consumed	Received	Consumed
		--- Metric Tons ---		--- Dols (000's) ---	
ECU 2182	Oats	1,542	1,623	636.1	669.5
ECU 2251	Wheat flour	639	858	207.7	278.9
	W.S.B.	391	289	219.9	162.6
	Oil	100	68	137.5	93.5
	Canned meat	185	57	485.6	149.6
	Beans	75	68	46.9	42.5
	Sub Total	1,390	1,340	1,097	727.1
ECU 2005	Wheat flour	873	614	283.7	199.6
	W.S.B.	354	246	199.1	138.4
	Oil	116	73	159.5	100.4
	Canned meat	129	54	338.6	141.8
	Beans	115	73	71.9	45.6
	Sub Total	1,587	1,060	1,052.8	625.8
Total all Projects		4,519	4,023	2,786.5	2,022.4

SOURCE: World Food Program

4. MARKETING

The food marketing system has been subject to a great deal of stress as a result of rapid urban migration, high rate of population growth, increased the sharp increase in consumer incomes, and the trend toward greater specialization in commodity production. The major constraints are lack of facilities (storage, assembling centers, wholesale and public markets, transport and equipment) and inadequate integration and coordination in the marketing system. The lack of roads and the poor conditions of existing roads, especially in the Costa, contributed to high marketing costs and limit the availability of modern inputs in potentially productive agricultural areas. Scarcity of medium- and long-term investment funds and absence of an effective marketing

information system have also impeded marketing development.

D. LAND DISTRIBUTION

Ecuador's agrarian reform program plus a traditional colonial latifundio/minifundio situation has resulted in an Ecuadorean land-holding pattern of both a large number of small farms and a small number of large farms. Although some attempts have been made at cooperative farming utilizing farm machinery and modern farming techniques, most of the small holdings continue to be farmed primitively and inefficiently. Ecuador has no significant foreign-owned farms.

At the time of the 1974 census, it was observed that the number of small farms (F5 ha) was concentrated primarily in the Sierra with 250,875 units (72.5% of the total), while in the Costa there were 91,057 units (26.3%). Production units of more than 500 ha were distributed as follows: Costa, 734 units (51.6% of the total); Sierra, 598 units (42.2% of the total); and the Oriente, 89 units (6.2%). The national distribution of farm size was as follows:

Distribution of Farm Units by Size

<u>Farm Size</u> (ha)	<u>Sierra</u>	<u>Costa</u> (%)	<u>Oriente</u>
1	21.9	6.0	0.2
1-5	26.6	11.6	0.6
5-10	5.6	4.6	0.4
10-20	3.5	3.9	0.5
20-50	2.7	4.2	1.3
50-100	1.2	1.6	1.5
100-500	0.5	1.0	0.3
500-1,000	0.1	0.1	0.1
1,000-2,500	0.1	0.1	0.1
2,500	0.1	0.1	0.1
	<u>62.1</u>	<u>33.0</u>	<u>4.8</u>

It was reported in 1982 that the small farms (minifundios) of less than 10 ha each comprised 80% of the total number of farms and yet accounted for only 15.1% of the farmland. In contrast, the medium and large multifamily farms (50 ha and above) occupied 56.8% of the land but were only 4.5% of the total farm units.

The real problem areas of minifundio are concentrated in the traditionally populated Sierra, especially in the provinces of Cotopaxi, Chimborazo, Tungurahua, Canar, and Azuay, all centers of Indian habitation. The Costa, a relatively newer agricultural area, is characterized by slightly larger average-sized farm plots, although many small farms exist there as well.

Farm Size and Number of Farm Units in Ecuador

Size of Farm (ha)	Farm Units (No.)	Farm Units Percent	Total (ha)	Area Percent
Less than 1.0	173,710	27.2	72,969	1.0
1.0-4.9	260,050	40.7	564,841	7.4
5.0-9.9	77,510	12.1	513,410	6.7
10.0-19.9	48,987	7.7	644,887	8.4
20.0-49.9	49,586	7.8	1,505,656	19.7
50.0-99.0	17,066	2.7	1,076,860	14.1
100 or more	12,140	1.8	3,278,573	42.7
TOTAL	638,989	100.0	7,657,196	100.0

E. AGRICULTURAL CREDIT

1. OVERVIEW

Agricultural credit policy in Ecuador has been in accordance with and congruent to the general development policy which has focused on an economic growth through import substitution strategy. Government market intervention and price policy have been set with the intent of favoring consumers and have turned out to be policies that have hindered agricultural development and increased productivity. While funding to agriculture has been increasing, agricultural credit has been expanding without a concise policy responding to priorities and needs in the sector.

Subsidies on agricultural product imports have discouraged domestic production since the latter have been competitively disadvantaged before import products. Agricultural exports have not competed advantageously in the foreign market because of their relatively higher prices due to exchange rate policies.

Interest rate policies generally have been counterproductive to effective operation of the credit system.

Nominal rates have remained below inflation rates, turning them negative in real terms. The negativeness of the real rates has worsened in the last two years when inflation reached 45%, while interest rates reached a ceiling of 19%. With a scarcity of financial resources to meet agricultural demands, low interest rates have inevitably discouraged the generation of savings while increasing the demand for credit.

In terms of borrowing procedures, the terms, and requisites, agricultural credit operations have been discouraging. Loan applications are complex and demanding for the majority of farmers and, especially in the most important agricultural finance institution, are processed at a very slow pace, making the availability of loans very often no longer useful or off-time. Extensive documentation is required which is overwhelming as well as costly. This agricultural credit characteristic has impeded in some degree access to credit by small farmers. Within this context, land ownership as a requisite, or rather as collateral, seems to be a very important impediment for credit delivery to a large group of farmers, especially small ones.

Small farmers are not serviced to a reasonable extent either because of the institutional requirements or due to their perception that the banks are not meant for their benefit. Banking operations respond to a written culture while small farmers, many illetrate, undertake actions and commitments honoring only their word. Additionally, it is evident that there is a lack of credit information and promotion.

2. FINANCIAL STRUCTURE

The institutional sources of agricultural financing are the public and private banking systems and the Cooperatives' Banks. While funding from non-formal sources is important, there is no reliable data showing the magnitude of funds generated by these various sources. However, BNF, the Agricultural Development Bank, estimates that over 60 percent of total credit supply come from non-institutional sources. A large number of small farmers receive loans from money lenders, intermediaries and input suppliers. Lending from these sources are short-term, generally requiring no collaterals and without paperwork and legal requirements. Interest rates are normally higher than commercial rates, sometimes up to 50% per year.

The Central Bank of Ecuador acts mainly as supplier of financial resources to agriculture through financial intermediaries by means of operations such as rediscounts, bank acceptances, advances, and purchases of valued titles like agricultural development bonds. An analysis of its direct credit operation leads to the conclusion that it finances almost exclusively marketing activities, since its major direct operations are advances for future agricultural exports. However, its operations through financial intermediaries do involve broad based agricultural financing.

The National Development Bank (BNF) is the most important agricultural finance institution. It has a head office, 67 branches and 9 agencies located all over the country, reaching much of the most remote rural population. This extensive institutional design plus the use of universally supervised credit have caused diseconomies of scale characterized by higher operating costs and increasing marginal cost.

BNF's agricultural credit serves mostly well known and traditional investments such as crops, livestock, machinery and equipment, marketing, and some infrastructure. It does not grant loans specifically to purchase fertilizers, seeds, construct farm storage facilities, buy vehicles or improve marketing facilities or include in the credit budgets living expenses so as to avoid diversion of farm operating funds toward satisfaction of basic family needs. Training programs for field staff are non-existent or not well articulated to provide the necessary skills to manage non-traditional credit.

BNF satisfies about 75% of the sectorial demand for medium and long-term financing; but only 15% for small farms.

The private banks agricultural loan portfolios are constituted to large extent by marketing oriented credit. A small proportion of production type credits are granted to finance relatively large projects. The bulk of credit to medium size farms is delivered as a result of mandatory portfolio composition and Central Bank rediscount facilities. About 70 percent of the agricultural loan portfolio is formed of very short term credits (under six month periods), which leads to the conclusion that the bulk of credit finances marketing activities.

During 1983, about 1/3 of the total credit was granted for periods up to 90 days; approximately 40% of the total was given

for terms between 91 and 180 days, meaning that over 70% of loans have terms up to 180 days. Only 6% of loans are given for terms between 181 days and one year.

Private banks have the perception that agricultural investments are very risky not only because of natural factors and the lack of crop-credit insurance services, which are still incipient, but also due to adverse marketing and price policy effects.

In general, small farmers do not have access to the private bank credit.

Informal credit may take several operating forms. It may be a cash loan given at some interest rate, an in kind loan (seeds or other inputs), may consist of cash delivery and repayment or may consist of cash or in kind delivery to be paid in kind after harvesting (crop-share).

It could be thought that informal credit is only used by small farmers since they do not have much access to institutional credit, but it is also known that medium sized farmers use this facility, especially at the harvest period when they need to hire additional labor.

Small farmers operate in the informal capital market either because they "prefer" it or because they do not have other alternatives. Under the preference criteria, there are several considerations, and not necessarily quantitative ones.

F. ORGANIZATIONS (GOVERNMENTAL & PRIVATE)

1. MINISTRY OF AGRICULTURE ORGANIZATION

The Ministry of Agriculture is essentially a "technical Ministry" and has implementation responsibilities. It is the government agency charged with formulating, directing, and putting in practice policies on research, production and marketing of agricultural products, agrarian reform and colonization, irrigation, rural development and planned use of renewable resources with the objective of increasing agricultural and forestry production and productivity. The Ministry is also to contribute to the policy of income redistribution and to generate greater employment opportunities.

The current organization of the Ministry (Ministerio de Agricultura y Ganaderia - MAG) is the result of a restructuring by the new government. While the major reorganization has been completed, the process of adjustment probably will continue for some time. MAG is, essentially, divided into three broad functional areas - administration, production, and marketing with production subdivided into separate undersecretaries for the Sierra and Coastal regions.

The Minister has overall responsibility for all programs pertaining to the agricultural sector. He has a group of advisors for legal, technical and economic advice and four undersecretaries designated to carry out the functions of the Ministry.

The Undersecretary for Administration has responsibility for the administrative, financial, and technical activities of the Ministry. His section includes the Divisions of Administration, Finance, Planning, Technical and Peasant Farmer Development as well as the Departments of Programming and Evaluation and Communications.

The Undersecretary for the Sierra and Oriente has responsibilities pertaining to the production of agricultural products produced in those areas as well as for the provincial directorates within the region. The primary areas include traditional ones such as cereals and cattle, mechanization, animal health, forestry, plant health, soils, and agro-industry.

The Undersecretary for the Costa and Galapagos has responsibilities similar to those for the Sierra but for products of that region. These include the major export crops; bananas, cocoa and coffee as well as the important agro-industrial crops - rice, cotton, and hard corn.

The Undersecretary for Marketing has charge of the ministries marketing activities and also the attached agencies - INIAP, IERAC, INERHI, ENAC, ENPROVIT, ENDES, CREA, CRM and INCREA. These include the agencies for research, land reform, storage, marketing, water and some regional agencies.

2. AGRICULTURAL PRIVATE SECTOR ORGANIZATION

Agricultural production in Ecuador is basically in the hands

of the private sector. There are two general types of ownership: individual (including corporations) and group ownership (cooperatives or comunas). There are also some "campesino" groups with ownership under an organizational structure established under the Agrarian Reform Law.

Individual ownership and production unit organization can be broken into three categories: small subsistence farmers, small and medium commercial farms and large commercial farms.

It was reported in 1982 ^{1/} that small subsistence and small market orientated farms (less than 10 hectares) comprised 80% of the total number of farms and yet accounted for only 15.1% of the farm-land. In contrast, the medium and large farmers (50 hectares or more) occupied 56.8% of the land but were only 4.5% of the total number of farm units.

At the time of the 1974 Census of Agriculture, it was observed that the largest number of small farms (less than 5 hectares) was concentrated in the Sierra with 250,875 units (72.5% of the total) while in the Coast there were 91,007 units (26.3%). Production units of more than 500 hectares were distributed as follows: Coast 734 units; Sierra 598 units and the Orientes 6.2%. Most of these are organized as companies and some are intergrated with processing or packing facilities (bananas, sugar, oil palm). They are mechanized, using hired labor, with a relatively high use of modern inputs and technology.

3. GOVERNMENT POLICIES

a. GENERAL

Government policies affecting food and fiber production generally center around discussions on traditional marketing problems, the supply of credit to various sectors of the agricultural economy to avoid shortages and surpluses, assistance to colonization and agrarian reform, irrigation projects and studies on regionalization for agricultural development. In addition, the GOE is working to become self-sufficient in its leading agricultural imports: wheat, soybean, soybean oil and milk. However, most industrial sources remain skeptical about Ecuador's ability to be self-sufficient in these products in the short-term.

^{1/}FAO Production Yearbook, Vol. 36, FAO Statistics Services No. 47 - Rome, 1983.

During 1984 the basic thrust of GOE agricultural policies were to eliminate subsidies and to increase certain import quotas to cover crop shortfalls. In addition, the GOE maintained its import restrictions on "non-essential" goods in order to conserve foreign exchange; foreign financing packages and barter deals were also encouraged to limit foreign exchange expenditure.

On September 4, 1984, the GOE both changed import tariffs and exchange rate policies.

On September 26, 1984, the Monetary Board enacted a series of regulations that shifted raw materials for medicines and inputs for the agricultural sector to List I-Special. According to the press releases, the Monetary Board's decision was taken in order to maintain lower prices for consumers as a result of the lower cost of production brought about by the favorable exchange rate given to these items. One of the regulations also eliminated the "not-reimbursable" form of payment for all allowable items as a result of the improvement of the international reserves of the country.

b. PRICES

The Febres Cordero administration has started a long-awaited move towards a liberalization of the pricing system in the country. In this context, the GOE has repeatedly announced that official prices being established will be minimum support prices for growers and not maximum selling prices for commodities. In addition, some processed products have been removed from the list of products subject to the establishment of official prices by the GOE.

Generally, there are minimum official export prices, which are monitored by the Central Bank for exchange rate purposes, and local official prices of important foodstuffs, which are occasionally checked by local authorities for inflation watching purposes. However, market prices often are above the official local prices.

At the other extreme, there is a considerable number of small units (2-4 hectares) working the land with unpaid family labor. Little or no purchased inputs are used and production is primarily for family consumption; they sell locally any excess production. The middle group of market oriented farmers (around 12% of total farm units) generally produce a significant

part of their production for the market. Many farmers in this group use both unpaid family labor and some hired labor during the planting or harvesting seasons.

There are four Chambers of Agriculture in four different regions of the country. The Agricultural Centers, one for each "canton" or country are members of the chambers. These organizations provide some services for their farmer members (machinery services or input supply services).

There are also associations of producers for many of the different products which provide some services including technical assistance. Examples are rice, cotton, and grain producer associations. The same types of organizations exist for cattle and poultry producers.

There are also a few cooperatives providing services to their members, including machinery, savings and credit, input supply and technical assistance cooperatives.

Cattle and sugar producers continue to protest the low "political prices" that they receive for milk, beef and sugar. These prices have been fixed at low rates to benefit consumers - many of which would protest strongly against any price rise - but production continues to fall, necessitating imports. Although the GOE claims to be promoting beef, milk and sugar production, output of these commodities are believed to be falling or remaining stagnant. Nevertheless, farm gate prices for these commodities have shown a significant increase during the last months of calendar 1984 and are expected to continue increasing during 1985.

Prices of fertilizer, pesticides and other inputs are usually twice as high as in the United States, primarily because these inputs are imported and difficult to obtain at times because of foreign exchange restrictions. Unfortunately, there is little information on use of inputs in Ecuador beside import data.

c. TRADE CONTROLS AND INCENTIVES

Ecuador is not a signatory member of GATT but is an observer, and the GOE's trade policy is officially tied to giving trade preferences to other members of the Andean Pact and the Latin American Integration Association (ALADI). Currently, GOE import regulations center on four lists:

- (1) Special or essential goods, which are on "Lista I Segmento Especial" (List I-Special);
- (2) Priority goods on "Lista I Segmento A" (List I-A);
- (3) Non-essential goods on "Lista I Segmento B" (List I-B);
- (4) Luxury and capital goods in "Lista II" (List II).

List I-Special, sometimes referred to as "indispensible or priority" goods generally include "basic foods and medicines" and are given the most preferential import status, usually duty-free, and with the most advantageous (i.e. official) exchange rate. List I-A "essential" goods, besides having passed to the Central Bank's free market rate (CB's free market), also have their import duties lowered by an average of about 50 percent but continue to have a 5 percent "Monetary Stabilization Tax" (IEM) in addition to some other minor import fees. List I-B imports, sometimes referred to as "necessary" goods, continue having the CB's free market rate and are also subject to an 8 percent IEM. List II imports, known as "non-essential or luxury" goods, are subject to a 15 percent IEM and a 30 percent customs charge in addition to having the CB's free market rate. It is still very difficult to obtain GOE import permits or confirmation of Letters of Credit (LC's) for these goods. Numerous other goods which are not placed on the above four lists are prohibited for import.

The GOE employed a number of combinations of official and free market exchange rates (e.g. 70 percent official and 30 percent free market, 100 official, etc.) to supposedly encourage exporters with a more favorable exchange rate or to assist importers and keep consumer prices down. In effect, many of the GOE exchange rates used encouraged official imports, such as wheat and oilseeds, and discouraged traditional exports, such as bananas, coffee and cocoa, which often were reported to be illegally (unofficially) exported in order to get the higher exchange rates. The reason why the GOE continued the lower official exchange rates (all through the Central Bank) was to obtain more foreign exchange to pay for, and in effect, subsidize "essential" imports.

The Economic Council of Ministers generally delegates import granting authority if there is a development need for agricultural products such as livestock for breeding and seeds.

The GOE often tries to protect corn and rice growers, who are well represented by the Short Cycle Crops Producers (APROCICO), and imports are often reduced, even if they have

already been approved by the GOE, after protests are made by APROCICO.

Imports of grains, oilseeds and several minor items are restricted to minimum levels making supplies very short. Stock of wheat, oilseeds, vegetable oils, feeds, and other products are customarily kept at very low levels, with one to two weeks of supplies. Although the GOE is reportedly advocating a build up of "strategic" supplies of wheat and other grains and foodstuffs, limited domestic production and restricted import quotas are working against this stated GOE policy.

The GOE gives preferential treatment to imports from ALADI (Latin American Integration Association). However, these import tariff duty preferences are often waived as the need arises. These trade preferences rarely affect U.S. agricultural trade with Ecuador, GOE official tariffs are reduced to virtually zero for "essential" agricultural imports from the United States - which amount to over 95 percent of U.S. agricultural exports to Ecuador.

d. QUOTAS

Internal quotas still exist for allocations of wheat, oilseeds, vegetable oils and several other products and this tends to distort the market rather than protect smaller producers as it was intended.

In the wheat import trade, millers sometimes buy wheat from other mills with extra quotas, at a slight premium, and this tends to give some of the older inefficient mills an incentive to perpetuate the system.

Imports and local production of oilseeds and products are allocated quotas, according to the firm's capacity, but this also creates the same distortion in prices as those who are without them try to buy from those who have sufficient quotas.

Exports of coffee are also regulated by quotas, and in several instances, ICO export quotas have been given to GOE favored exporters and this has created public controversy.

e. INTERNATIONAL ASSISTANCE

1) GENERAL

The GOE receives some food aid from the United States under PL 480 title II (mostly wheat flour, soya proteins and dried milk), special shipments from the FAO for disaster relief, and minor aid shipments from other countries (e.g. 5,000 tons donation of Argentine wheat). Some technical assistance is given to Ecuador's agricultural sector from various countries: the European Community, Israel, Canada, Chile, Spain, the Andean Pact, the Republic of China (Taiwan). Aid is also given by several international organizations such as Catholic Relief Services, CARE, the Food and Agricultural Organization (FAO) etc.

2) U.S. AID

In the agricultural and rural development areas, the programs include agriculture research, extension, credit, infrastructure and development, production and marketing. The major on-going loan and grant funded projects focus on integrated rural development, technology generation and transfer and natural resource management and development. In addition, grant supported projects include assistance to 4-H clubs and agricultural cooperatives. New initiatives will emphasize agricultural policy, free market development, land titling and markets, cocoa rehabilitation and environmental protection.

AID financial inputs to the agricultural sector in FY 1984 totalled \$6.85 million. Funding included: \$4.5 million for the promotion of non-traditional exports; \$900,000 for the final increment of the grant portion of the Integrated Rural Development Project; \$850,000 for the Forestry Development Project; and, \$600,000 for the Rural Technology Transfer System Project.

3) TECHNICAL ASSISTANCE AND COLLABORATION

Many countries have provided assistance of one kind or another to Ecuador during 1983 in many different subject areas such as, statistics, planning for rural development and education, research, extension, forestry, grain storage and handling, rice production, etc. Some of the countries that have sent specialists are the United States, Germany, Israel,

China, Switzerland, Norway, Canada and Mexico and many multinational companies in the areas of chemicals, machinery, food processing, petroleum, livestock development, etc.

G. MARKETING

1. PRESENT SITUATION

Agricultural marketing is considered as a major problem in Ecuador. There are serious bottlenecks in the distribution systems which have resulted in marketing inefficiency, high product losses, sharp fluctuations in supplies and prices and rising handling costs. Inadequate marketing has also adversely affected small-scale producers, especially in the Sierra, and those engaged in the production of cocoa and coffee in the Coast, since they have limited access to marketing channels and pertinent information on prices and demands. Consequently, a large number of these farmers fall into the level of subsistence production since they have limited opportunities to expand output and change cropping patterns.

Since the beginning of the past decade, the demand for marketing services has increased sharply and the food marketing system has been subject to pressures as a result of a rapid migration of rural people to the cities, increases in incomes of consumers and a high rate of population growth. The major constraints are a lack of facilities (storage, assembling centers, wholesale and public markets, transportation and equipment) and an inadequate integration and coordination in the marketing system. A lack of roads and poor condition of existing roads, especially in the Coast, have contributed to high marketing costs and have limited the availability of agricultural inputs in potentially productive areas. An absence of a reliable marketing information system and scarcity of medium and long-term funds for credit for on-farm storage facilities have also impeded marketing development and contributed to high product losses.

The intervention of the public sector in the market has increased notoriously. The Government efforts in marketing have been established as administering a set of prices, input controls and intervening directly in the purchase, storage and sale of selected commodities at wholesale and retail levels through the government entities ENAC and ENPROVIT. ENAC has been ineffective in supporting basic commodity prices, especially for small-scale farmers. The lack of well defined

objectives, poor management and defficient structural and financial support have contributed to erratic market intervention and have caused financial losses. ENPROVIT has proven to be a costly way of trying to enforce official prices by delivering a limited quantity of commodities to a small percentage of consumers.

Despite the Government's increased roll in the market, it has failed to generate a coherent long-term agricultural marketing system development strategy. The lack of coordination among public agencies and between public and private sectors contributes to a fragmented and disjointed set of government programs which discourages the private sector and wastes public resources.

Moreover there has been very little support to private marketing through lines of credit, technical assistance, research or training.

The lack of institutional and professional capacity to conduct policy analysis and market planning is a serious constraint to the development of an effective public sector role in marketing policy. The unreliable information system has also impeded an effective marketing framework. There are very few Ecuadorean professionals with specialized academic training and significant field experience in agricultural marketing. There also is a lack of mid-level managers to fill marketing positions in the public and private sectors.

Even with increased public sector intervention in the market, the majority of the agricultural marketing system remains in the private sector. Large firms have a dominant position in the marketing of the major export crops and industrialized commodities (sugar, edible oils). The marketing systems for most other food and livestock products are composed of small firms with very limited capacities to adjust to changes in market conditions.

2. AGRICULTURAL OUTPUT MARKETING

Output marketing systems in Ecuador reflect the structure of production and consumption. Domestically consumed foodstuff such as basic grains, potatoes, vegetables and fruits are produced primarily by small and medium farmers under traditional methods and are purchased and consumed by population with limited purchasing power and no refrigerated

storage. Thus, consumers usually buy in small lots on a day to day basis. The marketing system for these foodstuffs is characterized by a proliferation of intermediaries in the various market stages, generally operating on their own account. Four general categories of market intermediaries can be identified.

- buyer/sellers
- processors
- wholesalers
- retail distributors

The buyer/seller group consists of a) trucker/buyers who buy directly from farms at harvest, either at the farm or at nearest road or town. Because these buyers operate with no storage facilities and their own limited capital, they resell almost daily to other buyer/sellers, wholesalers or to processors. In the case of rice and corn, some of them also sell to ENAC (The Government Marketing institution at the wholesale level). b) Wholesalers buy from trucker/buyers or in many cases have their own transport and buy directly from farmers. Most of them have storage facilities, although in the case of perishables, it usually is not refrigerated. They usually are better capitalized (sometimes they grant informal credit to farmers) than are the truckers/buyers and will store the products for some period of time speculating on prices.

Wholesalers sell to processors, to retail distributors, and sometimes to trucker/buyers who have a market. In some cases of products with low national prices, they also sell illegally to wholesalers in neighboring countries (barley, potatoes, beans, wheat, cocoa); c) A very few producers cooperatives market their production to ENAC, processors or wholesalers. Cooperative marketing of locally consumed foodstuffs is not well developed in the country and only small amounts of products enter in this marketing channel; d) ENAC, the Government agency responsible for implementing the Government's price stabilization program for basic grains, operates in the market place, buying principally from farmers but also from trucker/buyers. Lack of financial support, facilities and sound policies determine that only a small percentage of production is bought by ENAC. Managerial capability is weak and the operational cost is high resulting in considerable financial losses.

Processors. This group includes mainly animal feed processors, rice mills, oil processors, sugar refineries, and cotton gins. These buy directly from farmers, from truckers/buyers, wholesalers and some from ENAC. They utilize a significant part of production. However, it should be noted that at least 40% of the principal commodities (potatoes, soft corn, rice, dry beans, broad beans, cassava and plantains) are consumed on-farm or in the local area, without ever entering commercial markets channels. There are relatively few processors of fruits and vegetables. They obtain their products from contract growers. The operations of these fresh packing plants are discussed below.

Retail Distributors. These include private small shop owners, private retailers in public municipal markets and some modern supermarkets in the main cities. In addition, ENPROVIT (a Government Retailer) operates a distribution system throughout the country that competes with the private sector retailing basic foods and other consumer needs.

Municipal markets constitute the most important distribution channel for agricultural production destined for internal consumption. Large quantities of fruits and vegetables, grains, meat, poultry, dairy products and many other products flow through this distribution channel from rural production areas to the urban consumption centers. The products are moved by private trucks which in many cases, purchase the product for resale at a terminal market, in other cases, they may simply be handling products for other middlemen.

3. THE MARKETING PROCESS

Products may be picked up at the farm level, at the nearest collection centers or private rustic warehouses. These collection centers are rudimentary and frequently there are no facilities to protect the products, resulting in high losses at this level. From the collection points, the production is transported principally to municipal markets. The deficiencies in the Municipal markets in Ecuador are similar to those of other Latin American countries; a large number of stalls with limited space, poor physical facilities for handling, unloading and storage of products, rapid deterioration of produce and poor hygienic facilities. However, it is evident that the Municipal markets will continue to play the role of the main distribution channel for internal consumption in the short and medium-term. Almost all municipalities have one or more markets.

With the exception of a few wholesalers (the main one is a modern one constructed and operating in Quito), they are the sites of greatest importance in the distribution process. Wholesalers, retailers, tiendas (small stores) and supermarkets, all depend upon the municipal market for a wide range of products. These markets handle a very important part of the grain, vegetables, fruits, meat poultry and egg production for national consumption.

In this situation the municipal markets and their transportation network into the production zones must receive special attention in developing strategies to improve the marketing of agricultural commodities for local consumption.

For export products, and those requiring processing before entering the consumer market, the system is more highly integrated than for basic grains, potatoes, fruits and vegetables.

The number of processing firms are relatively small and they are usually supplied by a relatively few large farmers. In some cases, the processor produces his own supply or buys directly from farmers and also carries out the wholesale function. In the case of broiler production, the system is highly vertically integrated. Beef for processing is concentrated in a few meat packing operations but beef, pork and lamb for break domestic consumption is slaughtered primarily in municipal slaughterhouses.

In general, policies related to internal foodstuff marketing are based on "free enterprise". Although food products considered to be "basic", have been subject to an "official price" control, this has not been very effective.

The Government has relied on the buying operations of ENAC to stabilize basic grain (rice and corn) prices at the farm level. The sales of ENAC at the wholesale level and ENPROVIT at the retail level are intended to regulate consumer prices and assure availability in poor neighborhoods of a number of other food and non-food products considered to be "basic needs". All agricultural products are free to move anywhere in the country, subject only to sanitary regulations that are not always enforced.

Licenses are required for the export of agricultural

products, as well as uniform grades and standards of quality. However, grading and standardizing are not part of the internal marketing system.

There is no system that provides current and projected information to farmers about prices, suppliers, crop conditions, etc. Thus, the farmer's main source of market information is the trucker/buyer who comes to his farm or nearest town.

H. AGRICULTURAL TECHNOLOGY

1. EQUIPMENT

There are several types of equipment for which Ecuador has a significant need for the development of its agricultural potential:

- a. Wheeled tractors above 60 hp, and crawler tractors above 30 hp and associated implements.
- b. Irrigation, pumping and spraying equipment. While these products are already represented, the selection is limited.
- c. Grain drying, silo, and storage equipment.
- d. Sowing and harvesting equipment, especially for potatoes.
- e. Heavy thresher combines for rice.
- f. Small hand-hold tractors and associated implements.

There is virtually no production of agriculture machinery or equipment in Ecuador. Aside from the production of some hand tools (shovels and picks) the only machine manufactured at a very small scale (very few units) is a corn thresher sold under the trade name "COPAI".

2. SOIL CONSERVATION

Excessive soil erosion is a major problem in Ecuador. It occurs in the Sierra and Coastal areas of the country and is of such a magnitude that it has been described as the major

natural resource problem in Ecuador. Erosion is not only degrading the productive capacity of the land base but is also causing accelerated siltation of existing municipal and irrigation and hydroelectric projects and improved fisheries.

In Ecuador, soil conservation is a lower priority within the government and the general public than concern about increasing domestic agricultural production in the face of rapidly growing importation of foodstuffs.

Commercial agricultural firms use practices which are lower cost than soil conserving practices but reduce the long term productive potential of the soil. The attitude of producers leads to a trade-off of long term productivity for short term profits. This occurs not out of a specific calculation but out of ignorance.

Recently the GOE has had no comprehensive program for dealing with the devastating soil erosion problem. For many of these agricultural and rural development efforts, including maintenance of reservoirs for irrigation and hydropower, fundamental information on soils and soil conservation technologies is needed.

Initially the Ministry of Agriculture's Division of Agricultural Development (DDA) had a mandate calling for a comprehensive soils program. However, the DDA program was downgraded when PRONAREG (National Program of Regionalization) and PRONACOS (National Soil Conservation Program) were created. PRONAREG was given the responsibility for soil classification and mapping. PRONACOS was given the responsibility for developing soil conservation practices and promoting their adoption. The Agricultural and Livestock Investigation Institute (INIAP) through the Soil and Water Conservation Management Program (COMSA) has taken on an applied research program on soil conservation and through work with PRONACOS has initiated a training program for mid-level technicians.

The Division of Forestry Development (DDF) within the Ministry of Agriculture (MAG) with its involvement in reforestation is also interested in reducing soil loss. Its approach is to reforest areas that are not suitable for agriculture. However, there are no trained soil scientist in DDF to make judgements concerning appropriate land use and conservation practices.

Other GOE agencies outside the MAG have an interest in soil erosion and conservation but on a broader level than at the farm level. The Institute of Hydraulic Resources (INERHI) and the National Electrification Institute (INECEL) have an interest because of the sedimentation problem associated with their reservoirs. They view the problem from a total watershed basis. The situation at the farm level is appreciated by these groups but they have no way of dealing with the problem. Likewise agencies concerned with the well-being of small farmers realize that soil erosion is greatly reducing the potential of these families to sustain food production over long periods of time. These organizations largely have little technical competency for changing land use practices and improving yields. There is minimal liaison among these organizations

The French Government is providing technical assistance to PRONAREG in geomorphology, pedology, soils mapping and developing interpretive results and limitations of soils for crops, pasture and forest use. Support for the COMSA program stems from AID and the Inter-American Development Bank (IDB).

3. IRRIGATION

It is estimated that there are more than 320,000 ha of completely private irrigation systems and projects in Ecuador and about 40,000 ha of lands actually being irrigated with water developed by the public sector. Currently, considerable new private irrigation is being developed in the coastal region and about 60,000 additional hectares lie within the boundaries of operating public projects. Other public projects are planned.

There is a serious need for applied or adaptive research water management under both rainfed and irrigated conditions. Reliable information on potential production increases and costs of achieving them with improved rainfed water management is necessary in order to assess the real costs of irrigation projects.

Irrigation delivery by the private sector in Ecuador is extremely important since it is responsible for some 88 percent of the current total irrigation in the country. Much of the private sector irrigation is performed by fairly large landholders and commercial enterprises acting independently of other water users.

The vast majority of private irrigation organizations are in the Sierra, where farming and irrigation have been traditional for centuries. This is the area of predominant Indian ancestry where communal organizations and mutual cooperation have long been customary. Even prior to the pre-colonial period many Indians of the highlands have practiced irrigation in some form. Crude irrigation systems were constructed and operated by the Inca Empire, whose northern headquarters were located in Quito. Nearly all the old canals and ditches were later destroyed. Consequently, virtually all the irrigation works in operation today have been constructed in the post-colonial and modern eras. At present, irrigation entities operate many canal systems throughout the Sierra. Such organizations are most common among small and medium-scale class farmers.

The oldest of these modern day water user organizations date back to the 1930's, but some continue to be created even at the present time. They are most commonly known as Directorios de Agua or Juntas de Usarios, hereafter referred to as water user associations. These user associations have become very important as irrigation distribution organizations in Ecuador, and they are by far the most numerous of any formal irrigation institutions, public or private. For the most part, water user associations function well and are responsible for the delivery of a great deal of irrigation water.

Today, water user associations consist of anywhere from a handful to several thousand users. Water user associations are entirely financed through assessments levied upon each shareholder according to a set rate on the volume of water used or the number of hours specified in the use right. Both fees and labor assessments are levied. The levels of assessments vary with each organization and are usually fixed by the Board of Directors. These organizations commonly operate on low budgets with relatively few expenses. Consequently, the cash cost per shareholder per year is not burdensome.

The development of private irrigation institutions on the Ecuadorian coast has been quite different from the more traditional patterns of the Sierra. Irrigation in general has a shorter history on the coastal plain and, therefore, so do private irrigation organizations. Indeed, until some 40 years ago, no irrigated agriculture existed in the Costa. Although today there is a significant amount of coastal private irrigation, most of it has been developed by individuals acting

on their own initiative or by private business enterprise such as the large private sugar and banana plantations. These individuals and enterprises are autonomous in their irrigation operations.

Ecuador has an abundance of water resources. In fact, during the rainy invierno, too much water is often the problem. In addition to the abundant rainfall there are a number of lakes located in the Sierra region whose resources have been relatively untapped to the present.

Eighty-four separate river basins have been mapped in Ecuador, the majority of which flow westerly into the Pacific Ocean. A few of these are only small intermittent streams. However, the 11 most important rivers flowing into the Pacific discharge some $107,039 \times 10^{-6} \text{ m}^3$ yearly, while the three large rivers flowing east to the Amazon have an annual flow of $98,245 \times 10^{-6} \text{ m}^3$.

Few dams of any consequence have been constructed in the country, although CEDEGE (Study Commission for Development of the Guayas River Basin) is currently developing the Daule-Peripe Project which will consist of a large multi-purpose dam in the upper end of the Guayas Basin. Another large project is presently under construction at Pisayambo in the Sierra but will be used primarily for the generation of electrical power.

Until 1944, irrigation development in Ecuador was entirely dependent upon the private sector. However, in August of that year an autonomous government entity called the National Bureau of Irrigation was created to construct irrigation projects with public funds. The Ecuadorian Water Resources Institute (INERHI) was created on November 10, 1966. This new entity assumed the role of the old NBI. INERHI has 93,000 ha in projects at the moment. Of this total roughly 30,000 ha actually utilize the available water. Allowing for about 10,000 ha irrigated by other public entities such as CEDEGE, CREA, PREDESUR, etc., current water deliveries on public projects serve 40,000 ha. Meanwhile, some publicly financed projects, inherited by INERHI from the NBI, have fallen into disrepair.

4. FERTILIZER

a. CURRENT SITUATION AND OUTLOOKS

The main import is Urea while most of the rest are simple formulas and/or ingredients to be mixed locally by the GOE's fertilizer company FERTISA. Very few complete formulas are imported as this company has the monopoly of the fertilizer compounding in the country.

Barter deals with Yugoslavia, Hungary and other countries continue to be carried as part of the GOE's overall policy to obtain Urea and raw materials for FERTISA. These arrangements, fostered by the GOE policy to save on foreign exchange expenditures, have severed to increase dramatically fertilizer imports by private companies.

FERTISA's data on production during calendar years 1982 to 1984 is shown in the following table:

Item	Production		
	1982	1983	1984
		<u>Metric Tons</u>	
T.V.A. Plant	32,419	27,348	26,664
Sulphuric Acid	5,386	0	0
Superphosphate	6,195	1,965	1,550
Phosphoric Acid	314	0	0
Bulk Blending	0	0	5,139

The lack of production of acids since 1983 is due to the shutdown of FERTISA's facility as a result of consistent pressure from environmental and citizen's groups. Although FERTISA claims that the facility will be restarted by mid-1985, most sources contacted indicate that this is highly unlikely. The lack of its own production of acids has resulted in the constant decrease of phosphate fertilizers.

For calendar 1985, FERTISA estimates that sales of fertilizers will amount to 35,000 tons of complete formulas and 43,000 tons of complete formulas and 43,000 tons of simple formulas, of which Urea is estimated to reach the 19,000 ton level. In total, these 78,000 tons represent an increase of 15 percent over 1984 sales. Stocks as of January 1985 were

estimated at about 12,000 tons while another 5,000 tons were in the marketing pipeline.

A serious problem exists in coordinating supply with demand. Demand estimates for next year's requirements are made in the Ministry of Agriculture (MAG) without input from the various crop "Programas", such as Programa Nacional del Banano, Programa de Maiz (corn), and others. FERTISA, which markets around 50% of the fertilizer used in Ecuador and 91% of which is owned by the GOE, is also not consulted.

On the supply side, MAG-estimated demand is not coordinated with the Ministry of Finance to assure availability of foreign exchange. Since all fertilizer nutrients consumed are imported, the role of importers in supplying the needed nutrients is critical. There is no coordination between MAG who issues fertilizer import permits and importers until the day an importer decides to apply for a permit.

This lack of coordination in demand estimation and supply planning results in spot shortages of various fertilizer products during the year.

The GOE does not have a fertilizer buffer inventory program to assure adequate supplies of nutrients in case of international problems. A GOE inventory would solve most of the current spot fertilizer shortages. There is no information on how much fertilizer is in the pipeline (in transit or on order) and when vessels carrying fertilizer will arrive. There are no available records of the number of distributors/retailers or their locations.

Fertilizer promotion is almost nonexistent in Ecuador. There is little contact between importers who market fertilizer and fertilizer researchers or agricultural extension workers. Importers are selling into a market without making any meaningful efforts to improve fertilizer use efficiency or increase use. There is no fertilizer sales literature or fertilizer use recommendations published by the markets for farmer use. There is a complete lack of a coordinated national program to promote the efficient use of fertilizer. Retailers and distributors have inadequate knowledge about the fertilizer products, their proper use, and crop nutrient recommendations. Few have ever attended any fertilizer training programs. Distributors have expressed an interest in attending in-country training programs which would help them explain to farmers how

to get better results from fertilizer and how they can increase their sales.

All fertilizer nutrients used in Ecuador are imported as ammonia, urea, ammonium sulfate (AS), diammonium phosphate (DAP), triple superphosphate (TSP), phosphate rock, muriate of potash (MOP), sulfate of potash (SOP), and/or compounded fertilizers.

There is no nitrogen production in Ecuador. The phosphoric acid plant at Fertilizantes Ecuatorianos, S.A. (FERTISA) was closed in 1981 and only small quantities of single superphosphate are being produced (350 mt produced in 1983) with imported phosphate rock and imported sulfuric acid.

FERTISA has a TVA granulation unit with a capacity of 40,000 mt per year. In 1983 it produced 27,00 mt of granular NPKs. All material used in the granulator are imported.

FERTISA also produces single superphosphate (SSP) using imported phosphate rock and currently imported sulfuric acid. The SSP plant has a capacity of 34,500 mtpy, however, the plant produced only 350 mt in 1983.

FERTISA also has a bulk-blend plant with a capacity of blending 50 mtpy.

FERTISA is a company with mixed ownership (public and private); Banco Nacional de Fomento owns 62.42%, and the Corporacion and Financiera Nacional, 23.17%. Other GOE public owners include Programa Nacional del Banano, Programa Nacional del Algodon (cotton), Programa Nacional del Arroz (rice), Maiz (corn) y Control de Philadoras y Molinos and others. GOE public ownership totals 91.16% with only 8.84% owned by two private sugar concerns.

Permits for importing fertilizer are issued by PRONACOS (which is part of MAG) to anyone who applies and meets the import requirements. Besides FERTISA, there are around 12-14 companies importing fertilizers.

There are no records on fertilizer use by province or zones kept by MAG. FERTISA has records of sales to their distributors by town, province, and the total number of bags each purchased in a given year. FERTISA is the largest marketer of fertilizers in Ecuador and accounts for 40-63% of

the fertilizer nutrients used in the country. FERTISA has a soil testing laboratory which tested around 1200 samples in 1983.

FERTISA receives and stores refrigerated anhydrous ammonia in a 12,000-mt tank. Sulfuric acid is imported and stored in a tank of around 5,000 mt capacity. Fertilizer materials are received at FERTISA's dock, which handles vessels of around 8,000 mt capacity. Dry materials such as urea, DAP, MOP, and phosphate rock are stored in bulk for producing various grades of NPKs and also bagged as needed to meet sales orders.

The three largest importers after FERTISA are Rey Banano del Pacifico of Guayaquil, Exportadora Bananera Noboa, S.A. of Guayaquil, and Servicios Agricolas S.A.C. A new importer has just started importing and marketing fertilizers, COORSA (Camara de Agricultura). This is a farmer's cooperative whose first import order in 1984 was for 5,000 mt made up of 5 products: urea, AS, MOP, DAP, and TSP. They have 16 local associations acting as distributors. These distributors will receive a margin of 5%-9% on retail sales. COORSA has rented four warehouses where distributors will pickup products.

In Ecuador, the term distributor is used to include those who not only sell to retailers but also sell, in some instances 100%, directly to farmers. In the coastal area (Costa), most of the so-called distributors sell directly to farmers. Distributors with sales of 300 mtpy are solicited by importers to sell their products. In the mountain areas (Sierra), distributors are reported to sell on the average to four retailers besides selling to farmers.

For 1983, FERTISA listed 36 distributors of which 8 were located in the Costa. It is estimated unofficially by PRONACOS that there are on the average around 12-15 sales outlets in each of the 15 principal agricultural provinces in the country or around a total of 195-200 distributor/retailers in Ecuador. MAG offices in each province license each distributor/retailer.

Large farmers who have trucks or have money to hire trucks have no problem in obtaining fertilizer when it is available. Small farmers who only need three or four bags have a problem in terms of getting to the limited number of dealers, particularly in the Sierra. Farmers who must carry a 50-kg bag of fertilizer 5 km or more over mountains would have a serious access problem.

MAG has encouraged the establishment of input stores which have about three-fourths of their capital supplied by MAG and the balance by private investors. These input stores are known as "insumos", and there were about 40 of them in operation in 1982. Insumos are independent and can buy from any source they wish. It is reported that they have not functioned well in supplying farmer input needs, and because of weak management a number of insumos have failed.

DAP, MOP, and some urea are imported in bulk for formulating compound NPKs. All products marketed are in 50-kg woven plastic (polyethylene or polypropylene) bags.

Imports are warehoused primarily at or near the ports of importation. The two principal ports for fertilizer are Guayaquil and Puerto Bolivar. Importers attempt to limit time of storage to 3 months or less due to high interest costs. Distributors/dealers order fertilizer on an "as-needed basis", attempting to maintain a near zero inventory level.

I. AGRICULTURAL EDUCATION

1. OVERVIEW

Agricultural education is an important sub-set of general education in Ecuador. With 50 percent of the total economically active population and 75 percent of the rural counterpart population engaged in agriculture, training, skills, and education in agriculture are of considerable consequence. All formal agricultural education in Ecuador is provided at the secondary level by agricultural high schools and at the superior level by selected universities. No formal agricultural training is offered in elementary schools.

2. SECONDARY SCHOOLS

Currently, 45 agricultural high schools (colegios) operate in Ecuador and generally service all regions of the nation. The standard high school program consists of a 3-year plan (grades 7,8 and 9) for basic subjects such as math, social studies, and natural sciences, and a 3-year diversified curriculum (grades 10, 11 and 12) for either humanities or for agricultural, industrial, or technical training. Both courses of study qualify graduates for admission to the university system. Attempts are made to make the courses practical and

relevant. However, lack of textbooks and other demonstration materials restrict their effectiveness. Furthermore, most teachers of agriculture in secondary schools have no formal training beyond high school. In 1980-81, 959 students graduated in the agricultural option and 1,187 graduated in 1981-82.

3. NATIONAL UNIVERSITIES

Agricultural instruction at the university level is provided by four national, five technical and polytechnical, and three private universities. Responsibility for these programs rests with the Ministry of Agriculture, but the institutions maintain a strong autonomy, a principle of long standing throughout Latin America as a protection from government intervention. The universities are mainly teaching centers with minimal faculty involvement in research work. Teaching is basically a part-time activity as faculties are drawn mostly from those holding other employment in either the private or public sector. One study estimated that about 37 percent of those teaching on agriculturally related faculties were considered full-time and about half of these worked less than 40 hours per week.

Data on university level training is extremely scarce. From 1971-76, reportedly 1,456 students graduated from higher education agricultural programs. Of these, 70 percent earned degrees in agronomy, and 46 percent came from two national universities located at Quito and Guayaquil. Estimates by CONFCA place graduates from 1981 through 1984 at 728, 605, 515, and 465 for the respective years. In addition to agronomy, degrees are offered among various universities in agricultural engineering, veterinary science, forestry, animal science, and food technology. No degree programs exist in agricultural economics.

4. TECHNICAL UNIVERSITIES

The Polytechnical/technical Universities provide an institutional arrangement which contrasts in many ways with that of the national universities teaching agriculture. Most faculty are full-time (as are the students), they engage in research activities as funding permits, and the salary scale and incentive system encourage pursuit of academic excellence. Many of the technical universities compete for research grants either from GOE or private sector institutions. Salaries and

other benefits for full-time faculty average from S/. 30,000 to 40,000 monthly.

Entrance examinations are required at most technical universities and high levels of scholarship are enforced. Of particular interest is the coordination these institutions maintain with the private sector. The contacts and information flows result in more relevance in student training and high rates of student job placement. These institutions also demonstrate some flexibility in adding and eliminating study areas as demand and national needs dictate. Most technical programs in agriculture are 5-6 years, the same as for national university study.

5. OTHER

The Ministry of Agriculture administers a National Forestry Center at Conocoto. The Center was established in the early 1970s with FAO assistance to provide non-degree, short courses to forestry technicians. The Center's program was initially quite regular, but in more recent years has become sporadic. Declining job options for forestry trainees is reportedly the reason.

6. ENROLLMENT

Data on actual enrollment and graduates of higher agricultural education in Ecuador are scarce. Informed estimates place student enrollments in agriculture at not more than 8 percent of total students. Most agricultural students strongly prefer agronomy. Lesser numbers study agricultural engineering, and veterinary science, as well as, forestry and animal science. Interestingly, there is no degree offered in any of the institutions of higher education for the study of agricultural economics and students are not exposed in a meaningful way to the extensive number of related areas such as agricultural policy, marketing, and planning. At national universities, all economics are taught in the Economics Faculty which most often treat the subject more in terms of political economy than as the science of economics. Evenso, since faculties are self-contained, students in agriculture are not permitted to take economics from other faculties. At both the national and technical universities, 2 or 3 survey courses in economics are offered within the agricultural faculties with some tendency toward applied areas such as land appraisal. Many are taught by part-time professors with some economics training.

The universities and polytechnicals which offer agricultural training, their locations, and degrees are as follows:

<u>Public Universities</u> <u>Polytechnicals</u>	<u>Location</u>	<u>Degrees Granted</u>
1. Central University of Ecuador	Quito	(1) Agronomy (2) Veterinary Medicine
2. State University of Guayaquil	Guayaquil	(1) Agronomy (2) Veterinary Medicine (3) Animal Science
3. Technical University of Manabi	Portoviejo	(1) Agricultural Engineering (2) Agronomy (3) Veterinary Medicine (4) Animal Science
4. National University of Loja	Loja	(1) Agronomy (2) Veterinary Medicine (3) Animal Science (4) Forestry
5. Superior Polytechnic School of Chimborazo	Riobamba	(1) Agronomy (2) Animal Science
6. Luis Vargas Technical University of Esmeraldas	Esmeraldas	(1) Forestry (2) Animal Science
7. Technical University of Machala	Machala	(1) Agronomy (2) Veterinary Medicine (3) Animal Science
8. Babahoyo Technical University	Babahoyo	(1) Agronomy
9. Ambato Technical University	Ambato	(1) Agronomy (2) Food Technology
<u>Private Universities</u>		
1. Central University of Guayaquil	Guayaquil	(1) Animal Science

2. Private Technical University of Loja	Loja	(1) Agricultural Industrial Engineering
3. Cuenca Private University	Cuenca	(1) Agronomy

7. PROBLEM AREAS

- There is a lack of advanced training among professors teaching agriculture in higher education. Teachers at secondary levels are also underqualified.
- There are no post-graduate training opportunities in agriculture in Ecuador. Options abroad are limited by lack of scholarships and second language capability of participants.
- There is a high proportion of faculty who teach only part-time in the national universities and this places extreme limits on research potentials. Furthermore, commitments to professionalism, scientific advancement, and academia suffer. University faculty are not part of a problem-solving cadre of scientists needed by Ecuador to provide scholarly treatment to a broad range of critical social and policy issues which are emerging as the nation develops.
- Agricultural curricula are highly theoretical and lack sufficient practical application. Furthermore, degree offerings are not specialized and there is a limited scope of degrees offered. No degree is available in agriculture economics which means a lack of student exposure to many related areas such as agricultural marketing, policy etc.
- The number of agricultural graduates is declining due to lack of job opportunities which is likely the result of: (1) an oversupply of agricultural generalists (primarily agronomists), (2) failure of the training to meet employers needs, and (3) absence of effective communication between the universities and the labor markets which utilize the students.

- The agricultural training system is limited by inadequate land, equipment, and tools for class demonstrations, laboratory equipment and library and reference materials. In particular, there is a deficiency of textbooks and materials written in Spanish.
- The overall data base for educational planning and decision making is not complete, and system wide information on job placement is almost totally non-existent.

J. RESEARCH

The current system of agricultural research in Ecuador began in 1959 when INIAP, the National Agricultural Research Institute, was created. The organization consists of administrative offices in Quito and Guayaquil, six experiment stations, an experiment center, a production research center, five experiment farms, and a regional center.

INIAP is an autonomous agency associated with the MAG, charged with guiding and carrying out agricultural research in accordance with the nation's agricultural priorities. It is governed by an administrative council composed of the following members:

- Minister of Agriculture (President)
- Representative of the Agricultural Private Sector
(Alternate President)
- Finance Minister
- Representative of the National Development Council
- Manager of the National Financial Corporation
- Manager of the National Development Bank (BNF)
- Director General of INIAP

INIAP employs some 330 technical personnel, 325 in administration, and 697 farm workers. It has an annual budget of about 3.5 million dollars, which while fluctuating in recent years has remained relatively constant in real terms.

A high proportion of all agricultural research in Ecuador is done by INIAP, although this situation is changing due to an increased interest and capability by the Universities, technical schools and institutes. The resources available to these institutions are, however, very limited. INIAP has about 20 formal agreements with universities and similar institutions, around 50 with private and public firms, and some 20 international institutions.

The following institutions do limited research:

1. The Central University of Quito, Polytechnical School.
2. The National University of Guayaquil.
3. The Chimborazo Polytechnical School.
4. The University of Machala.
5. The Milagro School.
6. The Leonardo Murialdo de Archidona School.

An institution called the National Science and Technology Council (CONACYT) coordinates science and technology activities. Projects within INIAP are reviewed and approved or denied by this Council.

Research is conducted at three different levels:

1. Experimental Stations- Controlled experimentation to improve genetic material, cultural practices (including fertilization), disease and insect control, and animal management.
2. Regional Experimentation- Studies on the behavior of technology at the farm level to determine the influence of climate, soil, and other cultural differences on the acceptability of the technology.
3. Production Research- Studies conducted under the agro-socioeconomic conditions of farmers in the various regions. This program was initiated in 1977 and identified as the Program for Investigations in Production (PIP).

INIAP has eight Departments at the national level: Agricultural Economics, Agricultural Engineering, Communication, Nutrition, Biometrics, Station Planning and Development, Coordination of Internal Projects, and Training.

These departments function mainly in the central administrative offices in Quito and in the Santa Catalina Experiment Station. In addition to these departments, INIAP has others at the Experiment Station level. The placement of experiment stations is based on the conduct of research with

representative crops for the different ecological zones of the country and are:

Santa Catalina Experiment Station- Located 14km south of Quito

Programs: Cereal grains (wheat, barley, and oats), corn, seed legumes, potatoes, vegetables, pastures, dairy cattle, and swine.

Departments: Soils, Plant Pathology, Flour Milling & Quality, Nutrition, Barley Quality, Corn Quality, Veterinary Medicine, and Swine.

Pichilingue Experiment Station

Programs: Cacao and coffee, corn, bananas, oil bearing crops, (soybeans, peanuts, sesame seeds), pastures, beef cattle, dual purpose cattle.

Departments: Soils, Plant Pathology, Weed Control, and Seed Production.

Boliche Experiment Station- Located 26km east of Guayaquil

Programs: Rice, cotton, oil bearing crops, (soybeans, peanuts, sesame seeds, castor beans, safflower, and sunflowers), bananas, seed legumes, pastures, and swine.

Departments: Soils, Entomology, Plant Pathology, Weed Control and Seed Production.

Portoviejo Experiment Station- Located 12km south of Portovejo

Programs: Cotton, annual oil bearing crops, peanuts, sesame seeds, castor beans, safflower, sunflowers, corn and sorghum, wheat, and partures.

Departments: Soils, Entomology, Plant Pathology, Weed Control, and Seed Production.

Santo Domingo Experiment Station- Located 38km west of Santo Domingo de los Colorados

Programs: African palm, pastures, cattle, swine.

Departments: Soils, Entomology, and Plant Pathology.

Southern Experiment Station- Located 19km north of Cuenca

Programs: This center collaborates with the Santa Catalina station in research programs for cereal grains (wheat, barley, and oats), corn, potatoes, pastures, and dairy cattle.

Napo Experiment Station- Located 52km out on road to Lago Agri-Coca

Research: Development and transfer of technology for small farmers in the Ecuadorian Amazon region. This Station works in coordination with other programs and departments of the Institute.

K. TECHNOLOGY TRANSFER (EXTENSION)

MAG is the main public agency for extension within the agricultural sector even though other agencies associated with the MAG also carry on extension activities. Some private institutions also carry on extension activities but only on a very limited scale.

Within MAG, extension activities are carried on with its general offices, zone offices, and the National Programs for Animal Health, Bananas, Coffee, Cocoa, Rice and Milling Control, and Cotton and Oilseeds. There appears to be no formal linkage between these extension programs and the research personnel of INIAP, but INIAP does apparently conduct some independent extension activity.

As a result, individual farmers must rely on services from several technicians who are employed by different agencies. Coordination among these agencies is poor and few have any strong ties with agricultural research. Generally there is no formal arrangement linking extension with research and coordination, at best, carried out on ad hoc basis. Research results, generated by INIAP are transmitted to various agencies by means of technical bulletins, seminars and demonstration programs, but there is no mechanism for facilitating effective follow-up and feedback after the technical information has been disseminated. Further the coverage of extension services in key production areas is limited to the better farmers/technicians. A lack of transportation is also an impediment to providing services. Additionally, the lack of sufficient financial resources and proper training for the

staff have constrained the effectiveness of extension services.

These factors have determined that extension services in Ecuador are highly fragmented and generally inadequate and ineffective. Consequently, the transfer of appropriate technology and innovations to producers for increasing productivity and diversified production is another constraint, with most farmers receiving only limited technical support. At this time, there is no central unit within the Government responsible for coordinating and providing direction for the implementation and development of a feasible national extension system.

L. AGRIBUSINESS/AGRO-INDUSTRY

Agribusiness includes enterprises which produce, process, and/or market crops, livestock, fishing and forestry products, or which manufacture or distribute farm supplies. Agro-industries are defined as enterprises that process raw materials into consumer goods or inputs for other industries.

Agro-industry contributed 99. of the DDP in 1982, accounting for 72 percent of total non-petroleum industrial production. It also provided employment for 2 percent of total.

Of the approximately 1,000 agro-industries in Ecuador, 30 percent are located in the province of Pichincha and 30 percent in Guayas. This apparently indicates that the proximity to markets and developed industrial infrastructure are more important location decision factors than closeness to raw material sources. There is a difference in the relative concentration of types of agro-industries in these two centers. Guayas is in order of major importance, principally engaged in beverages and food, while in Pichincha the major emphasis is in textiles and food.

Agro-industries in Ecuador produce a wide variety of products including leather goods, paper and paper products, wood products, processed foods and beverages, tobacco products, animal feeds and alcoholic beverages.

This industry as a whole is dependent on imports for capital goods.

Agro-industry in Ecuador has suffered indirectly because of the tendency for agricultural sector policies to be income distribution oriented, as opposed to production oriented. This has resulted in supply inconsistencies and insufficiencies domestically and a reliance on imported, and in some cases, subsidized inputs.

Technical expertise in agribusiness technology, marketing and management are generally unavailable within Ecuador. Private sector firms considering plant modernization, requiring quality control improvements in order to enter foreign markets, requiring improvements in marketing and managerial systems, trouble shooting, etc., need foreign exchange and institutional support to finance and locate appropriate short term technical assistance. While technical assistance is generally provided through multilateral or bilateral agencies to public sector institutions, there is no established vehicle by which private sector firms can obtain the technical and managerial assistance which is periodically required.

M. FISHERIES

1. GENERAL

In terms of fisheries, this sector generates substantial foreign exchange through the export of fish, shellfish and fish products. Earnings from shrimp exports amounted to almost \$200 million in 1983 and fisheries exports now occupy second position, behind petroleum, as the main source of foreign exchange. Approximately, 4.7% of the national labor force is involved in fishing and fishing related activities. The fisheries subsector at present provides 1.3% of GDP but its importance is increasing rapidly due to its extremely high growth rate in recent years; a 17.5% average annual increase over period 1978-82.

In 1984, the Ecuadorean fishing industry recovered from the disastrous effects of the 1982-83 El Nino. Shrimp production, however, dropped from the last year's record levels and may not grow again for several years.

The fishing industry is centered in Manta and Salinas.

There is a small-scale domestic production of small-to-medium-sized wooden fishing vessels, and a similar

production of ropes and nets. Virtually all other items must be imported

Industry leaders are optimistic that the new government of Leon Febres Cordero will pursue policies beneficial to the fishing industry; but the government has not yet done anything specific to give this industry major tangible benefits.

2. FISHING FLEETS

A. PELAGIC SPECIES

Ecuador's pelagic fishery consists of a fleet of some two hundred purse-seiners ranging from small wooden boats to steel-hulled vessels of up to 250-ton capacity. The annual catch of small pelagic species averages 550,000 tons. Most of it is made into fishmeal.

In April 1983, the drop in fishmeal production caused by the reduced catches compelled the GOE to temporarily ban all fishmeal exports, and grant special permission for imports to meet domestic demand. Because of the shortage of small pelagic fish, the GOE also lifted the fishing ban on Chuhueco (Centengraulis Mysticetus). Fishing for Chuhueco was banned several years ago because it was being fished out, but Chuhueco were relatively abundant in 1983, and the catch was up nine-fold from 1982.

The pelagic species are at normal levels in 1984. Not only are catches up, but the quality of the fish has improved. Fishermen complained that what fish they did catch last year were very lean, not good material for the meal and oil plants. They say that this year the fish are much fatter. Preliminary statistics indicate export earnings of \$61 million through October 1984.

Ecuador is 7th among world producers and exporters of fishmeal.

b. TUNA SPECIES

In March 1983, the U.S. lifted the two year old ban on imports of Ecuadorean Tuna. Thus Ecuador was able to regain its position as the third-largest exporter of tuna to the U.S.

The total catch for 1983 was 22,931 tons, mostly skipjack. Only 817 tons were exported to the U.S. - most of it yellowfin.

Through the first week of August, 1984, 22,000 tons of tuna were landed in Ecuador nearly equal to the amount landed in all of 1983. Around mid-year, catches began to decline because of colder offshore waters.

The biggest development for the tuna industry since the U.S. lifted the import ban was the leasing of two U.S. super-seiners by INEPACA, Ralston-Purina's subsidiary here.

When the super-seiners arrived, local fishermen were afraid INEPACA might be swamped with fish and they themselves would not be able to sell their catches. Although INEPACA has been receiving more fish than it can pack and is now sending 40 percent of its products to Puerto Rico, it has promised to buy all the fishermen can catch. To keep super-seiners from competing with local fishermen, they are supposed to fish some two hundred miles offshore. Only thirty Ecuadorean boats operate at that distance.

The Ecuadorean tuna industry's biggest current problem is selling its product. Part of the problem is the global tuna glut. Ecuadorean producers also worry about embargoes and import bans by their major purchasers. Right now, the Colombian import restrictions are particularly troublesome, of course, but negotiations in October 1984 appear to have reopened access to this market. The largest processing plants are Inepaca, Nirsa, and C. Isabel.

c. SHRIMP SPECIES

Ecuador again produced a record shrimp harvest in 1983. In 1982, exports were 37 million pounds; in 1983, 51 million pounds were exported. Ecuador remained second only to Mexico as a supplier of shrimp to the U.S.

About 60 percent of 1983's shrimp harvest came from ponds. With its warm climate and the arrangement of its estuaries with a high tidal range, Ecuador's coast is ideal for shrimp-farming. There are approximately 35,000 hectares of ponds under culture and another 7,000 hectares of unused ponds, 80% located in Golfo de Guayaquil.

Although ocean shrimping has been declining for years, 1983 was an exception because of the effects of the Nino. Benefitting from increased nutrients washed into the ocean by Nino flooding and from the absence of predatory fish driven away by the Nino, the shrimp population in Ecuadorean waters ballooned. Ocean shrimpers' catches were much greater than normal. In recent years, ocean shrimping has produced about eight million pounds annually. In 1983, twenty million pounds were taken.

Since the passing of the Nino, conditions have returned to normal in the Gulf of Guayaquil and offshore waters. As the flooding abated, nutrient levels in the water dropped; water temperatures dropped; and there are many more fish present. Consequently, the shrimp population is down, and catches have dropped from last year's heights to previous levels.

The greatest problem facing shrimp-farmers in Ecuador is a shortage of post-larvae for stocking their ponds. Almost all shrimp growers rely on naturally-occurring larvae harvested from estuaries for stocking ponds. Although pond acreage has continued to expand and demand for post-larvae increased, the same conditions that cut catches of ocean shrimp reduced supplies of post-larvae.

Many government officials believe the post-larvae problem is exacerbated by too-frequent harvesting of shrimp- sometimes four or five times a year- producing smaller shrimp and requiring relatively more post-larvae for frequent re-stocking. There have been attempts to regulate the size of shrimp exported and force growers to harvest less frequently, but the industry has seen these as a threat to its profits and has, thusfar, successfully resisted. More recently, though, rising post-larvae prices may have persuaded growers where government regulation failed; there appears to be some slowing of harvesting.

Much of the hope for renewed growth in shrimp farming is based on production of post-larvae in hatcheries. The use of hatcheries in Ecuador is still limited. Other concerns are quality control and pollution damage.

Use of chemicals in agriculture is uncontrolled, and the farmers seem unaware of the damage done by chemical runoff. The growers themselves, when cutting mangrove trees to clear land for ponds, have produced tannin toxicity which stunts the

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growth of shrimp. The Nino flooding caused a malaria epidemic, to which the GOE has responded with aerial DDT spraying, which could contaminate shrimp ponds.

FISHING FLEET CAPACITY
average for periods
in net metric tons

Year	Tuna	Sardines and whitefish	Shrimp	Lobster	Total
1976	3.079	1.517	4.673	123	9.392
1977	3.368	1.305	4.895	29	9.597
1978	4.875	3.291	4.643	29	12.838
1979	2.947	3.183	4.274	29	10.433
1980	4.942	5.086	3.847	29	13.904
1981	4.700	5.383	4.953	29	15.065
1982	5.598	4.043	4.941	29	14.611
1983	7.014	5.354	5.303	n.a	17.671

FISHERIES EXPORTS
(excluding shrimp)

V O L U M E
(in mt)

	1980	1981	1982	1983	% inc. 83/82
Fishmeal	82,517	89,409	102,103	24,484	(76.0)
Tuna, canned	3,055	4,028	3,873	2,508	(35.2)
Sardines	29,764	28,845	25,588	6,285	(75.5)
Tuna, frozen	11,111	6,400	5,473	8,215	(50.1)
Mackarel, frozen	5,827		5,239	3,300	(37.0)
Mackarel, canned	1,991	3,374	2,068	888	(57.1)
Live fish	3	1	1		
Other	1,909	3,821	1,131	593	(47.5)
TOTAL	136,178	135,877	145,476	46,247	(68.2)

Part of the drop in shrimp exports can be attributed to smuggling to Peru. Due to different currency exchange and export subsidy policies, Peruvian exporters are in a position to offer better prices for Ecuadorean shrimp, which is marketed in Peru for reexport to the U.S.A.

There are about sixty exporting companies. Those exporting the largest amounts of shrimp in 1983 were (in kgs): Empacadora Nacional (2.3 m), an increase of 5% in 1983 year on year; Exporklore (1.4 m), same level as in 1982; Marfrut (1.3 m), a slight decline; Rosario (1.3 m), a 49% increase; Ipesa (1.3 m), double than in 1982; Copesa (1.1 m), up 64%, Frescamar (1.1 m) down 8% and Fribalso (1.0 m), up 150%.

3. DEMAND

a. DOMESTIC

It is estimated that fish makes 24% of all flesh canned in Ecuador. The National Fisheries Institute (INP) figures that the 1982 fish consumption was 45,420 mt. In 1983, on account of production drop, domestic consumption also fell, so that figures for that year are not representative.

Domestic demand favors fresh fish (34,000 mt). Canned goods are also well received (9,500 mt). Consumers do not favor frozen fish (420 mt) and salted and dry fish (1,300 mt). The feed industry demands 45,000 mt of fishmeal. All told, 90,000 mt of fish products are sold in the domestic market, less than 13% of catches (725,000 mt).

Per capita demand of fresh fish has remained at a remarkable low level in Ecuador. It is 7 kg/year in the Coast and 1.5 kg in the Sierra. That for canned fish is about one third or one fourth that amount.

The public sector shows interest in expanding the domestic market. INP has prepared a promotional campaign to goad consumer interest. The Institute's pilot plant has developed at least ten inexpensive products, some of which it is announced, will soon be produced by local factories. If what is now turned into fishmeal is instead converted into inexpensive fish products, Ecuador's dietary problems would be solved, say INP technicians.

b. EXPORTS

Fishmeal is the most important fisheries export, with 24,484 mt good for 52.9% of non-shrimp fisheries exports in 1983. In value terms, its share (30.9%) is considerably less, on account of lower prices for fishmeal than other products.

In 1982 fishmeal exports showed considerable growth, as a consequence of better use of installed capacity. This countered the fall in the international price, at its lowest since 1976.

Shrimp exports grew in volume 48 percent per year during 1979-83. By 1983, Ecuador was the second largest shrimp exporter in the world (after Mexico) and total fish and shrimp exports were second in value only to petroleum. Virtually all of this increase came from shrimp farms.

3. ORGANIZATIONAL STRUCTURE

The government has a wide ranging participation in the fishing industry. Ecuador advances its international fishing policies more aggressively than most other countries and is a key participant in matters relating to the Law of the Sea under the auspices of the United Nations. The statutes for regulating its fishing industry are likewise aggressive. While there is intent to enforce these statutes the reality is often a different matter.

The government is supposed to provide a 15 percent subsidy for fish exports. Fish exporters, however, claim that this subsidy is slow and uncertain in coming. The National Development Bank (Banco Nacional de Fomento -BNF) has funds to help small fishermen purchase equipment; however, these funds are reportedly difficult to obtain and insufficient for the quality and capacity of equipment needed. The National Finance Corporation (Corporacion Financiera Nacional - CFN) is active in providing funds to the industrial sector and is involved in the IBRD fishing project.

The private sector fishing industry encompasses a wide range of endeavor. By species the fleets may be divided as to tuna, whitefish, or shrimp.

N. FORESTRY

1. General

Over one-half of Ecuador's land surface is or should be dedicated to forestry activities. Around 15.6 million hectares are most appropriately used for this purpose. Forestry contributes approximately 4 percent to the GDP, this is relatively small.

Nevertheless, when the tremendous volume of wood used

for fuel and rustic construction and the contribution of forested watersheds to the quality and quantity of water available for irrigation, hydroelectricity, and domestic uses, which are unaccounted for in the official statistics, are considered, the importance of the forest resource is significantly greater.

The total production value of the forest industries (excluding particleboard) has been increasing its share of the total manufacturing industries from 2.2 percent in 1970 to 4.6 in 1978. (CENDES, 1979). The forestry sector employs approximately 20,000 persons in forest industries and 8,000 in harvesting activities (CENDES, 1979), excluding the amount of human efforts devoted to getting fuelwood. Forestry plantations and management employ around a thousand persons and the PNF (Forest Service) around 600. Exports of wood products has increased rapidly from 15 million dollars in 1977 to more than 54 million dollars in 1980. The forestry sector does not fully supply internal requirements for wood and wood products.

In Ecuador, there are three different geographic/climatic zones with respect to forestry: the highlands (Sierra), the arid coast and the humid tropics; including the northwestern coast and the Amazonian basin (Oriente).

The forest resource serves two major functions, productive and protective, both of which are essential to the development of Ecuador.

Productive functions of the forest resource include:

Production of plywood, particle board and high value woods such as balsa for export and internal consumption.
 Import substitution in pulp and paper production and in natural rubber.

Production for internal consumption of sawnwood, poles and, particularly, fuelwood to serve as a substitute for petroleum derivatives which will become increasingly expensive.

Protective functions include:

Protection of major infrastructural investments in hydroelectric generation, water supply and irrigation through management of protective forests.

Maintenance of coastal fisheries and shrimp farm production through protection of coastal mangroves.

Forest production is primarily a private enterprise activity which can be enhanced by support from public institutions. Management of the protective forest resource is largely a function of the public sector.

Ecuador's forest resources are being inefficiently and uneconomically used. In the Sierra, population pressures combined with an inequitable land tenure system has meant that the natural forests have been cleared for fuelwood and cultivation when they should have been left in forests. This fact has also contributed to serious erosion problems. In the Oriente, colonization and petroleum exploration are combining to cause extensive deforestation. Although parts of the Coast have always been arid, the humid province of Esmeraldas is still largely in natural forest. This natural forest is now being threatened both by settlers and concessionaires for the timber industry.

If the present trend continues, the forestry resource will be effectively depleted within 15-20 years.

2. Deforestation

Although one half of Ecuador is still forest, deforestation and its negative agricultural and demographic implications affect all three regions of the country.

The clearing of forests combined with inappropriate land use has had several consequences: a) soil productivity is degraded, often irreversibly; b) the increased erosion rates often jeopardize major downstream investments in hydroelectric power, irrigation and/or potable water; and c) the desertification process which is occurring in parts of Ecuador is exacerbated.

The most serious deforestation in Ecuador is occurring in the Oriente where settlements have been established along access roads to the petroleum fields. In the Oriente and the Costa, government policy has exacerbated deforestation by promoting the colonization of virgin lands and encouraging the clearing of lands for "productive use". If the current pace of deforestation continues, Esmeraldas province will be denuded within 20 years. Parts of the Sierra have been historically bare because of the arid climate, the loose porous volcanic soil, and the lack of soil conservation measures since the colonial period. Nonetheless, human activities at higher elevations are steadily eliminating the remaining vegetation.

Improper farming practices and the clearing of forests for firewood and charcoal production are causing serious soil erosion. The areas most acutely affected are Chimborazo, Cotopaxi, and Loja provinces in the Sierra; the extreme western areas of Manabi and Esmeraldas in the Costa, and the Cordillera Oriental.

On the coast, the destruction of coastal mangroves threaten the future of the shrimp industry while deforestation in other coastal areas are believed to have led to growing desertification.

Soil erosion has become a contributing factor to downstream flooding due to sedimentation of rivers and silting of narrow flood plains in Interandean valleys. Deforestation also triggers landslide activity by reducing soil cohesion and moisture retention and is a major factor in the desertification process.

It is estimated that within the past 25 years arid land has increased by 31.5 percent with 10,000 square kilometers now estimated to be arid. Presently about 5,000 hectares a year are being transformed into desert. Also this presents serious economic implications for the 45 percent of rural households and many rural small enterprises which still depend on fuelwood for most of their domestic energy needs; the task of gathering fuel falls largely on women and is becoming increasingly more difficult.

3. Reforestation

Reforestation projects have been initiated in the Oriente and Costa. Many schemes are ill-conceived and incomplete due to a limited understanding of the forests' complex vegetation. Some projects have resulted in the reforestation of the lower portions of steep hillsides but have left the critical higher areas bare. As a result, the landslide potential which the project was designed to minimize remains unchanged. Eucalyptus and pine are the most common species used for reforestation, primarily because of their rapid maturation. Mountain slopes surrounding Quito have been extensively reforested with eucalyptus.

An ambitious reforestation project is being administered through the National Forestry Program (Programa Nacional Forestal). In the late 1970s, 130,000 hectares were to be forested, but only 12,255 were planted due to budgetary

constraints. For the 1980-84 period, over 127,000 hectares were targeted for reforestation. The following chart indicates which provinces would be covered by the program:

<u>Location</u>	<u>Total area (hectares)</u>	<u>1980-84 (hectares)</u>
Cotopaxi - Pichincha prov.	50,000	25,000
Jubones (El Oro Province)	25,000	13,500
Poza Honda-Santa Elena (Guayas Province)	30,000	15,000
Loja Province	20,000	10,000
Carchi and Imbabura prov.	25,000	10,000
Chimborazo, Tungurahua and Bolivar provinces	50,000	26,500
TOTAL Public Sector	200,000	100,000
TOTAL Private Sector	100,000	27,400
TOTAL Program	300,000	127,400

Source: Plan Nacional de Desarrollo, CONADE

Eucalyptus has been planted throughout the Sierra. While it is effective as a windbreak in tall grassy areas where the soil is fine, eucalyptus is not universally appropriate for controlling soil erosion. The nature and concentration of surrounding growth are critical factors in determining the effectiveness of eucalyptus for soil conservation objectives. Pine trees have also been planted along Sierra hillsides in order to mitigate landslide potential. However, these projects often do not include the higher elevations which remain exposed to soil erosion.

There are also socio-cultural constraints to reforestation efforts in the Sierra. Because of the severe shortage of land in the highlands, forestry projects often displace pasture and farmland, frequently inducing human migration to the Costa. The rural highlander's ability to adapt to a new location is hampered by his unfamiliarity with the environment and local economy. Forestry projects should, therefore, be balanced with social considerations.

The current rate of reforestation, which is estimated at 2,323 hectares per year, is totally inadequate to replenish the forest resources harvested.

4. Demand for Wood Products

The greatest current demand for roundwood is projected

to be for charcoal-fuelwood. The need for fuelwood represents about 67 percent of the total needs while the rest is divided among sawnwood, panels poles, and pulp and paper. The demand for fuelwood is expected to grow significantly during the next decade, particularly if existing subsidies on petroleum derivative domestic fuels (kerosene) are reduced or eliminated. By 1990 the demand for fuelwood will be twice current levels or 10,200,000 cubic meters.

Sawnwood represents the second largest current use of wood. It accounts for approximately 30 percent of current consumption. The demand for sawnwood is also projected to double over the next decade.

Industrial uses account for a relatively small percentage of current consumption of wood. Wood panels (plywood), particle board, and paper products are manufactured in Ecuador. However, imported materials (waste-paper) or alternatives such as bagasse, are currently used for paper manufacture. Industrial uses are, nevertheless, the area where internal demand is expected to grow most rapidly. Particularly noteworthy is the proposed construction of a 150,000 metric ton per year pulp and paper mill. Should this mill be built the requirements for long fiber wood such as pine will be greatly increased. Current consumption of pulp and paper products accounts for almost the entire volume of wood and wood product imports which are imported. In 1980 more than 86 million dollars of wood products were imported.

There is a significant internal demand for natural rubber used for tire manufacturing. Currently, Ecuador produces about 20 percent of its natural rubber requirements while it imports the rest.

The future export market for forest products is also very promising, although it is more subject to international economic cycles and to changes in relative prices of exported products with possible substitute products. Ecuador has been the world's leading exporter of balsa wood for the past forty years. In 1980, it exported \$9.5 million of balsa and, while the international market price fluctuates substantially from year to year, it is probable that the volume consumed for industrial uses will increase significantly during the coming two decades. The export market for high value decorative veneer plywood panels made from tropical hardwoods has developed rapidly during recent years. Ecuador currently exports panels to Colombia and Venezuela but has not yet tapped potentially very lucrative markets in the United States and

Europe. The future export possibilities for these panels are very great compared to current production levels.

5. Problem Areas

a. Technical

A major constraint to the rational development of Ecuador's forest sector is the lack of knowledge about the tropical forest resource. Although two Ecuadorean universities (Loja and Esmeraldas) offer degree programs in forestry and the PNF has conducted several two year programs to train forest technicians, there are obvious deficiencies in the quantity and quality of the human resource base at both the professional and technical levels. The qualitative deficiency is caused in great part by a lack of information about the forest resource in Ecuador. Most of the limited research conducted in the tropics has been highly academic in nature with few linkages to the practical implementation of forestry programs. The practical work that has been done in Costa Rica, Surinam, and Brazil has been limited and none has been replicated in Ecuador. Basic information about nursery and planting techniques is not available nor does basic information about fertility requirements and plant diseases exist.

b. Socio-Cultural

A major consideration in the development of any large scale forest management/forestation activities is the relationship between the forest resource and the rural population in the Sierra, coastal, and Amazonian regions.

The Sierra population pressures combined with inequitable land distribution mean that land areas which, by their physical characteristics (soils, slope, altitude) should be classified as suitable only for forests, are being cultivated or used as pasture. In addition, the major use of the forest resource in the Sierra is as fuelwood. The rural highland population therefore does not appreciate future potential benefits from, for example, industrial utilization of pine trees. Consequently, there are limitations imposed by socio-cultural factors on the type of reforestation which is carried out as well as on how it is carried out. The recent tendency by the Ecuadorean forest sector agencies active in the highlands to promote the development of pine plantations presents several dangers over the long run.

c. Education

PRONAF has been training forestry personnel at an intermediate level for the past 20 years, however, most of these people have not been absorbed either by the Department of Agriculture or by the private sector which is a waste of technical and economic resources. On the other hand, there is a lack of qualified skilled labor in the wood industry and/or forest products.

6. Organization and Policies

a. Governmental

The Ministry of Agriculture's National Forestry Program (PNF) by law is responsible for establishing forest sector policies and for coordinating with other forest institutions to develop the sector. It is the only institution with functions relating to all aspects of forestry including national parks (except the Galapagos Islands), protective forests and matters related to natural areas and flora and fauna as well as to the management of productive forests and reforestation.

Currently, the PNF devotes a major part of its resources to the execution of reforestation activities. Another significant part of its resources is devoted to forest management. The PNF has a staff of 78 professionals and around 100 forestry technicians. Some of this work on training, research and management of natural areas includes protective forests and native parks.

In addition to the PNF, a number of institutions work in the forest sector. However, none has a broad-based approach with respect to the development of the forest sector. Several regional development institutions are implementing reforestation activities in the highlands. The PNF provides technical advise on a sporadic basis. Only EMDEFOR (Empresa de Desarrollo Forestal), a mixed enterprise has an adequate technical capability in reforestation matters. A few private sector institutions have initiated reforestation activities on a small scale in the Sierra.

A comprehensive Forestry Law was passed by Congress and signed by the President in August 1981. The Law not only provides significant tax incentives for afforestation/reforestation activities, but also provides the

legal base for a rational use of the forest resource. It specifically deals with the following topics - National Forest Patrimony, Protective Forest and Vegetation, Forest Management and Utilization, Control and Transport of Forest Products, Training and Forestry Research, Incentives for the Private Sector, Forest Industries, Administration of Natural Areas and Conservation of Wild Flora and Fauna. It sets broad policies, authorities and responsibilities in the subject areas and grants to the Ministry of Agriculture an adequate charter for coordinating the development of the forest sector.

b. Private

Various private sector institutions, mainly wood products industries, have demonstrated their interest in the national development of the forest sector. These industries are working on a small scale in activities to develop an adequate future supply of round-wood.

7. Wood Processing Industry

Ecuador presently has a very dynamic and rapidly growing wood processing industry. Although wood has always been used for construction, energy, decoration etc.; only for the past 30 years has there been mass industrialization.

During the last 2 decades a large number of small, medium sized and large plants have begun operating to transform and elaborate wood. The majority of the saw mills are small and portable.

Types and numbers of plants for 1983 are as follows:

Sawmills	446
Balsa Wood Plants	18
Bockboard, Particle-board, plywood and Veneer plants	13
Construction Material Plants	65
Furniture Factories	325
Paper Plants	6
Others	11

Full production capacity is much larger than the local demand, especially in the furniture and board sectors, thus the opening of new markets is imperative.

There are areas that need further development, both to supply local demand and new markets such as wood mouldings and doorstock.

In general, Ecuador has a modern and technically advanced wood-processing industry on par with the great wood-processing countries of South America.

To reap the most benefits from the forests and wood industry the following are still necessary:

- A Wood-processing Training Center
- Quality Control Systems
- Improvements of domestic commercialization
- Creation of an entity to introduce our products abroad.

0. LIVESTOCK

1. General

Livestock represents an important portion of agricultural production in Ecuador utilizing about 13 percent of the total land area (approximately 3.3 million hectares). The country is virtually self-sufficient in beef, pork, lamb, poultry and eggs but there is still some importation of powdered milk.

Animal husbandry is practiced in both the Costa and Sierra. Dairy cattle represent 29 percent of the total stock, cattle raising for beef accounts for 40 percent, and the balance is used for both purposes. Beef ranching is concentrated in tropical zones while hog raising is found in both the Sierra and Costa.

Cattle are raised throughout the country but major dairies are in the Sierra. Most cattle production in the Coast and eastern regions is dual purpose milk/beef. Swine are a small farm production enterprise, raised in a traditional way. Commercial production is only a fraction of a percent of total output. There are both large and small, commercial and traditional, poultry and egg farms with about 80 percent of output commercial. Commercial poultry production is highly vertically integrated.

Cattle production can be generally described as a small farm, low technology, dual purpose meat/dairy system in the Coast and the East. It is small farm and intensive with a medium level of technology, oriented to milk production in the

highlands. Over 50 percent of the total national herd (around 2.3 million head) is produced on farms of less than 50 hectares, with fewer than 21 head each. Approximately 50 percent of the cattle are "criollo" and 50 percent are crosses of Holstein (in the Sierra) and Brahman, Brown Swiss, Santa Gertrudis and others in the Coastal and Eastern regions.

The typical livestock enterprise can be characterized by several management problems. Some are due to a lack of understanding on the farmers' part and other as a result of a lack of extension services, adequate economic incentives (low prices) and a scarcity of medium and long-term credit. These facets impede the improvement of pastures, appropriate management and breeding techniques, and acquisition of improved bulls. As a result, there is a low birth rate, averaging 55-60 percent, and high mortality rates in adults (5-10 percent) and in calves (up to 25 percent). Inadequate nutrition results in low weight gains and/or milk yields. Reliable statistics on animal numbers, slaughter, meat production or by product production are still unavailable.

2. Dairy

Milk prices are drifting up and stimulating production. Higher prices are stimulating imports of U.S. and Canadian Holstein cattle for the cooler highlands and New Zealand's Cebu-Holstein crosses for the tropical coast. Dairy cattle numbers are probably increasing as a result of the GOE policies to increase milk production mainly in the Coast.

Milk production in the country continues well below consumption needs and about 5,000 tons annually of powdered whole milk is imported to fill the gap. Fluid milk reaching the market as pasteurized milk amounted to 107 million liters during calendar 1983 according to a recent MAG release. This represents approximately 11 percent of the estimated production of 970 million liters. The difference was used either at farm level, for small family type processing operations used for butter and/or cheese production (which do not have low "political prices"), or reached the consumer directly as unprocessed fluid milk.

Per capita consumption during 1984 is estimated at about 237 liters of fluid milk based on a revised population estimate of 8.8 million people. For 1985 consumption is estimated at 242 liters assuming the 2.6 percent population growth rate recently released by the National Institute for

Statistics and Census (INEC).

3. Beef

Beef prices have doubled recently and many cattlemen are now rebuilding their herds. Large ranchers are importing U.S. Brahman cattle and semen to increase beef output and raise the overall genetic quality of their herds.

Beef production in 1984 decreased by about 24 percent with an estimated production of 69,900 tons.

Cattle feeding practices continue confined to grass pastures with little or no supplementary feeding for either dairy or beef cattle because of high feed costs. Projections for 1985 continue to indicate an increase in cattle numbers after a long period of decline, primarily because of a sharp rise in beef prices.

4. Other Livestock

Swine numbers decreased during 1984 by about 6 percent primarily because of high corn and other feed prices rose sharply with the bad crops. Sheep numbers are decreasing by about 5 percent per year as wool and mutton have a limited demand, which remains stagnant. Horse numbers are reported by the MAG to be expanding at about 10 percent per year.

Projections for 1985 indicate swine numbers at 4.2 million, sheep and lambs at 2.1 million and horses at 590,500 head. Meat production for 1985 has been projected to the following levels: mutton and goat 12,300 tons; lamb, 6,500 tons; and, pork, 49,000 tons. All meat and meat products produced in the country are consumed here as there are no legal (and, so far, very little contraband) imports or exports of meat, meat products and meat by-products.

Total red meat consumption during calendar 1984 has been estimated at 134,400 tons while projections for calendar 1985 indicate 144,100 tons or a 7 percent increase. This amounts to about 15.3 kilos per capita considering approximately 8.8 million meat consuming Ecuadoreans in 1984 and about 15.8 kilos per capita in 1985.

5. Poultry

Historically, this has been Ecuador's fastest growing

meat producing sector. However, in 1983 there was a heavy reduction in bird numbers as floods, diseases, and scarce feed supplies resulting from the "El Nino" flooding phenomena adversely affected output. Trade sources indicate that production is now sharply recovering from last year's losses and higher prices are now stimulating production. Retail prices of broiler meat average \$1.00 to #1.50 per pound which keeps consumption lower than it would be at world price levels, however, consumption continues to climb.

Poultry meat consumption has increased by about 20 percent in 1984 or a total production of 36,500 tons while egg production was estimated at 899 million eggs or a 42 percent decrease. Projections for 1985 indicate a rebound in the long term trend of about 19 percent in meat and of 6 percent in eggs.

These data indicate a per capita consumption of about 4.1 kilos of poultry meat and 102 eggs during 1984 on an estimated population of 8.8 million consumers. For 1985, most forecasts expect a moderate increase in meat and egg consumption.

5. Outlook

Projections for 1985 indicate a moderately rising trend in cattle population, an increase in swine and perhaps a small increase in sheep and lambs. Poultry production is, as expected, on a rapid recovery spurred by sharply higher meat and egg prices. Weather conditions seem to have returned to normal improving pasture conditions in the Sierra while also in the Coast conditions have returned to normal.

Meat consumption is expected to continue increasing as it has in the past few years, at about 3 to 5 percent. The GOE agencies in charge of livestock, credit and planning continue projecting livestock numbers based on the 1974 census and under the premise that cattle numbers always increase no matter what happens in the field. However, the long-term outlook calls for a shortage of cattle, because of the slow recovery of the herds, particularly in times of high meat and dairy prices.

Foot and mouth disease continues as a problem with larger number of outbreaks reported in 1984. Reports from MAG indicate that vaccine production has not kept pace with vaccination needs of the country and imports of Colombian vaccine have been made. Blue-tongue, Leptospirosis and other diseases continue to plague the cattle industry, causing low

fertility rates, economic losses and a general low productivity in this industry.

P. CROPS

1. General

Numerous tropical and temperate crops are grown in Ecuador, but few farmers cultivate more than one or two different products. The following crops are produced primarily for export: bananas, sugar, coffee, and cacao; other crops are grown primarily for domestic consumption. The Guayas Basin is Ecuador's most important agricultural area where 75 percent of the oilseed crop, 50 percent of the corn, and 75 percent of the rice crop is grown. At higher elevations in the Sierra, both food grains and tubers are grown, while fruit orchards are abundant in lower tropical zones. Agricultural products in the Oriente include corn, naranjilla fruit, plantain, cassava, some sugarcane, and coffee. Rice, bananas, and cacao are also cultivated on a smaller scale in the Oriente. Livestock activity consists mostly of hog raising.

Ecuador is the world's largest producer of bananas. El Oro Province produces the greatest quantity although plantations are located throughout the Costa and on the western slopes of the Sierra. Almost 60 percent of coffee acreage is found in Manabi province; the remainder is in Los Rios, Guayas and El Oro provinces. Most of the cacao plantations are located in Guayas and Los Rios provinces. Sugarcane is cultivated throughout the Costa and Sierra, but is concentrated in Canar and Guayas. Large-scale rice production is confined to the Costa, primarily in Los Rios Province, and the central and eastern portions of Guayas Province. Some rice is also cultivated in the lowlands of El Oro Province.

Corn is grown throughout the country from sea level to altitudes of 2,900 m. The most important producing areas are the Sierra provinces of Bolivar, Tungurahua, Pinchincha, and Azuay. The costal corn crop matures in four months, about twice as fast as the Sierra crop.

Barley and potatoes are important staple crops grown throughout the Sierra. Barley yields are highest in Carchi, Pinchincha, and Bolivar provinces. Potato production is concentrated in the provinces of Cotopaxi, Chimborazo, Carchi, and Pinchincha. Other Sierra crops include sweet corn, onion, peas, lentils, yucca, and apples. At lower Sierra elevations,

the following crops can be found: pears, plums, oranges, avocados, and grapefruit.

Cotton is a secondary crop grown mostly on small holdings in Guayas and Manabi provinces. Oilseed is cultivated in Quevedo, Babahoyo, and Milagro.

2. Sufficiency

The trends on the amount of crop produced as compared to domestic requirement indicate that:

- a) All of the soft corn, dry beans, potatoes, cassava and peanuts that are produced in Ecuador are used for local consumption;
- b) Production of coffee, cocoa, bananas, abaca and castorbeans are consistently in excess of local demand;
- c) Crops which fluctuate between sufficiency and deficiency include hard corn, and rice;
- d) Crops which traditionally were produced in adequate quantities or in excess but which have become deficient during the last 2 years include sugarcane and cotton (this was due largely to unfavorable weather);
- e) A crop which was previously produced in inadequate quantities but has shown improvement in recent years is oil palm;
- f) Crops which are consistently produced in deficient quantities include barley, wheat and soybeans, although the latter is a new crop with growth potential.

3. Problem Areas

a) Asphalt Stain - seriously decreases yield of hybrid corn planted in high humidity areas. The disease has been diagnosed as a fungus infestation although the species has not been identified. Most sources contacted indicated that the higher air and soil moisture content of the areas where the problem is present, is one of the factors for its high incidence.

b) Seeds

Ecuador's imports of U.S. seeds continues to grow at a rapid rate as demand for agricultural inputs in this developing country outpaces local production. Traditional imports of horticultural and pasture seeds continue to increase, particularly since the MAG recognizes that the country is too

small to support research and development in these specialized crops. However, in the last three years the sharpest growth has been registered in the field crops area, such as hybrid corn, soybeans, sorghum, rice and cotton.

c) Drought

In the Sierra, localized droughts recur on a multi-year cyclical basis and usually affect grains, tubers and other subsistence crops. Poor cropping methods and limited irrigation works aggravate drought potential. In addition, the Santa Elena peninsula west of Guayaquil and some areas of Manabi Province are perennially arid except when an anomalous rainy season renders these locations fertile.

ANNEX 9-1

LIST OF MAJOR ASSOCIATIONS AND CHAMBERS OF AGRICULTURE

Camara de Agricultura de la Primera Zona
Ascazubi 134 y Av. 9 de Octubre
Quito, Ecuador
Senor Presidente
Tel: 234-173

Camara de Agricultura de la Segunda Zona
Escobedo 1210
Guayaquil, Ecuador
Senor Presidente
Tel: 517-863

Camara de Agricultura de la Tercera Zona
L. Cordero 657
Cuenca, Ecuador
Senor Presidente
Tel: 823-680

Camara de Agricultura de la Cuarta Zona
Chile y Guayaquil
Quito, Ecuador
Senor Presidente
Tel: 218-016

Asociacion de Ganaderos de la Sierra
San Ignacio 134
Quito, Ecuador
Senor Presidente
Tel: 524-948

Asociacion de Ganaderos del Litoral
Escobedo 1210
Guayaquil, Ecuador
Senor Presidente
Tel: 512-478

Asociacion Holstein Friesian del Ecuador
 Urb. Carcelen
 Quito, Ecuador
 Senor Presidente
 Tel: 531-237

Federacion de Algodoneros del Ecuador
 Escobedo 811
 Guayaquil, Ecuador
 Senor Presidente
 Tel: 306-695

Federacion Nacional de Cooperativas Bananeras
 Roca 207
 Guayaquil, Ecuador
 Senor Presidente
 Tel: 307-163

Federacion Nacional de Cooperativas Cafetaleras (FENECAFE)
 P. Aguirre 106
 Guayaquil, Ecuador
 Tel: 306-865

Asociacion Nacional de Cultivadores de Palma Africana
 Ave. 10 de Agosto 645
 Quito, Ecuador
 Senor Presidente
 Tel: 527-471

Asociacion de Productores Bananeros del Ecuador S.A.
 (APROBANA)
 Malecon 2002
 Guayaquil, Ecuador
 Senor Presidente
 Tel: 522-580

Asociacion de Canicultores de Imbabura y Carchi
 Bolivar 410
 Ibarra, Ecuador
 Senor Presidente
 Tel: 951-460

Asociacion Comercial Agropecuaria
 Ave. Cevallos 689
 Ambato, Ecuador
 Senor Presidente
 Tel: 823-455

Federacion Nacional de Cooperativas de Produccion Agricola
y Mercadeo

Ave. 10 de Agosto 1522
Quito, Ecuador
Senor Presidente
Tel: 527-519

Cooperativa Bananera de El Oro (BANAORO)

9 de Octubre 1801
Machala, El Oro, Ecuador
Senor Presidente
Tel: 920-540

Cooperativa Bananera Rio Jubones

Sucre 425, Oficina No. 5
Machala, El Oro, Ecuador
Senor Presidente
Tel: 920-045

LIST OF MAJOR PUBLICATIONS

El Agro

Casilla 1070
Quito, Ecuador
Luis Ernesto Davila B., Director

Desde el Surco

Casilla 1117
Quito, Ecuador
Ing. Temistocles Hernandez, Director

Siembra

Ave. 6 de Diciembre 225 y Piedrahita
Quito, Ecuador
Marco Andino Salgado, Director

El Agropecuario

Casilla 1163
Quito, Ecuador
Dr. Oswaldo Guzman, Director

ANNEX 9-2

UNCLASSIFIED - NOT OFFICIAL USDA DATA

QUITO, ECUADOR

LIVESTOCK AND LIVESTOCK PRODUCTS: Estimated Production in Ecuador during Calendar Years 1982 to 1985

Item	1982 <u>1/</u>	1983 <u>1/</u>	1984 <u>2/</u>	1985 <u>2/</u>
----- <u>Thousand Head</u> -----				
<u>Bovine</u>				
Population <u>3/</u>	3,200.4	3,263.3	3,323.9	3,378.4
Calf crop	756.1	770.0	784.6	798.2
Imports	1.0	1.0	0.5	1.0
Slaughter	587.6	603.6	620.9	636.6
Death loss	106.6	107.7	109.7	110.5
<u>Swine</u>				
Population <u>3/</u>	4,181.0	4,278.5	4,006.5	4,230.3
Pig crop	3,528.0	3,610.3	3,380.0	3,570.0
Imports	0.5	0.0	0.0	0.0
Slaughter	1,693.0	1,732.0	1,376.2	1,441.0
Death loss	1,738.0	2,150.3	1,780.0	2,150.0
<u>Sheep and Goats</u>				
Population <u>3/</u>	2,591.0	2,484.0	2,343.0	2,086.2
Lamb crop	896.0	860.0	810.2	722.3
Imports	0.0	1.0	0.0	0.0
Slaughter	706.0	707.0	787.0	886.0
Death loss	297.0	295.0	280.0	250.0
<u>Horses</u> <u>3/</u>	420.0	485.0	525.0	590.5

ECUADOR

Livestock Products -----Metric Tons (000's)-----

Meat

Beef and veal	98.8	92.4	69.9	76.3
Sheep and goat	9.9	9.8	10.9	12.3
Lamb	5.2	5.2	5.8	6.5
Pork	57.6	58.9	46.8	49.0
Poultry	45.7	30.4	36.5	44.5

<u>Milk (Total)</u>	897.2	934.8	950.5	991.6
Production <u>4/</u>	893.4	931.2	945.5	987.6
Imports	3.8	3.6	5.0	4.0

<u>Tallow (Total)</u>	20.6	23.0	22.1	20.0
Production	11.4	11.0	10.0	9.0
Imports	9.2	12.0	12.1	11.0

<u>Lard (Total)</u>	20.2	16.0	10.0	10.0
Production	10.2	10.0	10.0	10.0
Imports	10.0	6.0	0.0	0.0

Eggs -----Million Units-----

Production	1,470.0	1,550.0	898.9	952.8
Imports	2.0	1.0	1.0	1.0

-
- 1/ Estimates
 - 2/ Projected
 - 3/ Estimated as of January 1
 - 4/ Estimated weight of 1 liter is 2.15 pounds
 - 5/ Powdered Milk for reconstitution only

SOURCE: MAG, Central Bank, Empresa de Manifiestos, Trade, AgAttache' Office

ANNEX 9-3

CROP PRODUCTION

In terms of area harvested in 1983, the following crops represent 93 percent of the total cultivated land in Ecuador:

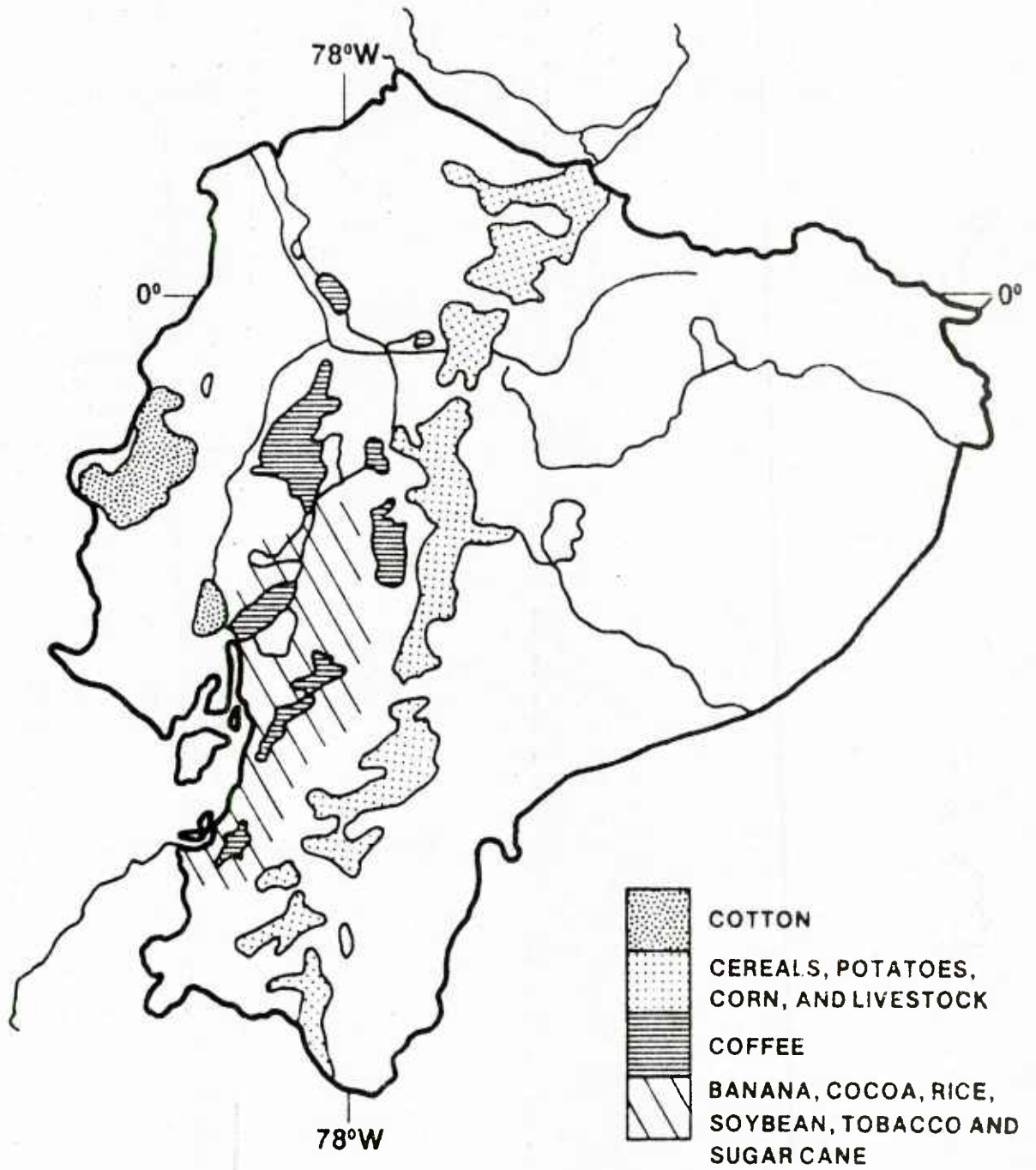
Major Crops in Ecuador

<u>RANK</u>	<u>COMMODITY</u>	<u>HECTARES HARVESTED</u>	<u>METRIC TONS PRODUCED</u>
1	Coffee	320,000	82,860
2	Cocoa	277,000	55,000
3	Corn, Yellow	153,000	225,000
4	Rice, Milled	93,000	162,000
5	Corn, Sweet	90,000	76,500
6	Beans, dry	60,000	34,500
7	Bananas	45,000	1,164,000
8	Barley	34,000	32,000
9	Potatoes	31,000	394,000
10	Oil Palm	29,800	62,000
11	Cassava	27,000	240,000
12	Sugarcane	25,000	125,000
13	Wheat	22,000	23,000
14	Soybeans	20,000	34,000
15	Abaca	14,000	12,000
16	Castorbeans	9,500	7,500
17	Peanuts	9,500	5,700
18	Cotton, lint	5,000	2,250
19	Tobacco	1,700	2,800
20	Tea	1,300	5,120
21	Sorghum	500	1,000
22	Oats	500	500
23	Pyrethrum	380	300

1,269,180

APPENDIX 9-1

	<u>Page</u>
DISTRIBUTION MAP (AGRICULTURE)	A9-1
CROP DATES	A9-2
IMPORT/EXPORT CROPS	A9-3
AGRICULTURAL TRADE SUMMARY	A9-4
PRODUCTION IN ECUADOR (1981 - 1985)	A9-5
CONSUMER PRICES (1984)	A9-6



Distribution of Major Commercial and Subsistence Crops in Ecuador.

<u>Region and Crop</u>	<u>Crop Dates</u>	
	<u>Planting Months</u>	<u>Harvesting Months</u>
<u>Coast</u>		
Bananas	--	Year-round
Cacao	--	March-May
		July-November
Coffee	July-August	December-January
Corn	December-January	July-December
Cotton	December-January	May-June
Peanuts	--	July-October
Rice	January	June-September
	June	April-June
Sugar cane	year-round	September-December
		July-February
<u>Sierra</u>		
Barley	November-January	July-August
Beans	January-March	June-October
Corn	September-December	July-October
Oats	November-February	August
Potatoes	January-February	July-September
Quinoa	July-August	November-December
Wheat	January	July

Source: FAO Agricultural Report, Planting and Harvesting Dates in Latin America.

Imports of Crops by Ecuador
(1,000 mt)

	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983*</u>	<u>1984**</u>
Wheat	255	268	290	300	325	358	380
Soybeans	227	156	195	246	320	360	250
Sugar	0	0	0	19	0	102	35
Barley	38	38	32	32	26	27	36
Maize: Yellow	20	0	0	10	0	11	30
Rice	15	25	25	7	0	35	20
Oats	28	28	28	29	25	15	20
Cotton: Lint	0	0	0	0	0	8	8
Sorghum	0	0	0	0	0	10	0
Oil Palm	1	4	4	4	0	0	0

Exports of Crops by Ecuador
(1,000 mt)

	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983*</u>	<u>1984**</u>
Bananas	1,363	1,386	1,388	1,247	1,254	871	1,200
Coffee	85	71	71	66	96	99	90
Cocoa	81	90	90	80	83	55	57
Sugar	74	80	69	43	0	0	30
Castorbeans	10	10	8	17	8	4	6
Abaca	11	10	9	10	9	11	10
Tea	1	2	2	2	1	2	2
Maize: Yellow	0	4	0	10	26	0	0
Cotton: Lint	0	2	0	3	0	0	0

*Estimated

**Projected

AGRICULTURAL TRADE SUMMARY FOR ECUADOR Calendar Year 1984
(Thousands U.S. Dollars)

Commodity	Agricultural Imports (CIF)			Commodity	Agricultural Exports (FOB)		
	Total	From U.S.	% U.S.		Total	To U.S.	% U.S.
Wheat	61,042	61,042	100	Bananas	127,618	76,264	60
Soybean Oil	39,148	39,148	100	Cocoa Beans	95,991	58,924	61
Sugar	20,808	0	0	Nat. Rob. Coffee	88,698	75,744	85
Cotton	19,466	19,466	100	Washed Rob. Coffee	34,318	31,557	92
Bovines	9,661	103	1	Chocolates	29,961	21,067	70
Barley	8,335	0	0	Wash. Arab. Coffee	29,608	25,587	86
Soybeans	7,274	7,274	100	Nat. Arab. Coffee	22,115	17,249	78
Tallow	6,996	6,996	100	Soluble coffee	19,505	13,700	70
Corn	6,122	6,122	100	Sugar	15,271	15,271	100
Rice	5,650	0	0	Abaca	11,822	4,157	35
Powdered milk	5,251	0	0	Cocoa liquor	10,247	4,423	43
Oats	3,192	0	0	Wood	8,325	7,401	89
Tobacco	2,969	132	4	Cocoa butter	7,516	4,958	66
Modified milk	2,939	209	7	Plantains	5,168	5,161	99
Lupulin extract	2,356	2,355	100	Banana products	4,281	1,772	41
Tomato paste	1,931	0	0	Veget. extracts	3,288	742	23
Soybean meal	1,237	1,237	100	Particle boards	2,739	1,783	65
Pasture seeds	1,121	764	68	Roasted coffee	2,528	2,501	99
Lentils	1,087	742	68	Cocoa cake	2,109	1,164	55
Poultry	1,069	1,019	95	Molasses, inedible	1,563	1,563	100
Vegetable seed	1,065	946	89	Canned fruits	1,338	236	18
Wines	1,044	0	0	Tea	1,175	554	47
Dietetic prep	731	0	0	Tobacco	993	334	34
Soybean seed	655	159	24	Ivory nut	645	2	0
Milk Replacer	619	196	32	Cut flowers, fresh	587	569	97
Other veg. oils	536	258	48	Cocoa powder	521	75	14
Other seeds	447	228	51	Melons	511	492	96
Fruits: fresh	333	0	0	Pyrethrum extract	346	109	32
Semen	223	222	100	Other Canned Prod.	265	70	26
Sorghum	130	90	69	Other Fresh Fruit	262	98	37
Vegetables dried	36	36	100	Cereal flours	261	31	12
Spices	25	21	83	Castorbeans	201	0	0
Others	14,594	5,941	41	Others	130	101	78
Totals	228,092	154,714	68	Totals	529,906	373,659	70

Net Trade, Total \$ 301,814

Net Trade, USA \$ 218,945

SOURCE: Central Bank of Ecuador - Import and Export Permits Granted

Revised 02/12/85

PRODUCTION IN ECUADOR during Calendar Years 1981 to 1985

Commodity	1981 Final	1982 Final	1983 Revised	1984 Estimate	1985 Forecast
	<u>Metric Tons</u>				
Abaca	12,000	12,000	12,000	12,000	13,460
Bananas	<u>1/</u> 2,274,639	1,720,992	1,295,147	1,524,210	1,705,000
Barley	31,100	31,100	32,000	33,000	33,000
Beans, dry	35,000	34,000	34,500	33,600	33,600
Cassava	236,000	236,000	240,000	243,000	234,000
Castorbeans	<u>2/</u> 10,900	10,500	7,500	8,000	8,000
Cocoa	<u>2/</u> 95,000	87,500	55,000	55,000	110,000
Coffee	<u>2/</u> 101,542	110,100	82,800	93,000	102,000
Corn, Yellow	231,800	180,000	168,866	224,800	300,000
Corn, sweet	72,250	76,500	76,500	68,000	68,000
Cotton: Lint	14,928	10,014	3,266	3,622	10,886
Oats	500	500	500	500	500
Oil Palm	<u>3/</u> 43,700	55,900	62,000	75,000	80,000
Peanuts	<u>4/</u> 11,300	10,000	11,000	8,000	10,000
Potatoes	323,200	394,400	394,400	363,000	385,000
Pyrethrum	300	300	300	304	304
Rice, milled	259,200	227,000	162,000	258,000	285,000
Sorghum	1,000	1,000	1,000	10,182	12,218
Soybeans	<u>4/</u> 37,400	8,120	6,000	45,000	55,000
Sugar	<u>5/</u> 321,668	254,000	220,000	328,000	348,000
Tea	5,710	5,120	5,120	5,120	5,120
Tobacco	<u>6/</u> 3,201	3,000	2,800	4,571	4,580
Wheat	27,000	22,000	23,000	21,000	19,000

- 1/ Registered for exports only
2/ Products are included on a bean equivalent basis
3/ Red Oil basis only
4/ For edible oil only
5/ 96 degree polarization standard
6/ Dry weight basis

SOURCES: Ministry of Agriculture (MAG), Central Bank of Ecuador; Empresa de Manifiestos, Industry, AnAttache Office

CONSUMER PRICES in Ecuador as of December 31, 1984

Commodity	Domestic Unit	1983 Price	Official Price	1984 Price	Price Increases	
					vs Official	vs 1983
			Suces/Unit			
					Percent	
Rice	Pound	18.00	24.67	25.00	1.34	38.89
Eggs	Unit	7.50	6.00*	9.50	58.33	26.67
Milk	Liter	21.00	22.50	25.00	11.11	19.05
Bananas	Unit	3.00	1.50*	3.50	133.33	16.67
Plantains	Unit	3.00	2.00*	5.00	150.00	66.67
Sugar	Pound	18.00	17.00	20.00	17.65	11.11
Cooking oil	Liter	96.00	111.00	125.00	12.61	30.21
Meat, tenderloin	Pound	98.00		120.00		22.45
Meat, with bone	Pound	75.00		110.00		46.67
Fish meat	Pound	85.00		100.00		17.65
Tuna, canned	6 oz can	46.00	39.00	54.00	38.46	17.39
Noodles	Pound	30.00	23.50	37.20	58.33	24.00
Beans	Pound	64.00	45.00*	60.00	33.33	(6.25)
Potatoes	Pound	12.50	7.67	8.50	10.82	(32.00)
Onions	Pound	18.00	14.00*	25.00	78.57	38.89
Lentils	Pound	51.00	51.00*	80.00	56.86	56.86
Peanuts	Pound	50.00	50.00*	120.00	140.00	140.00
Tomatoes	Pound	20.00	20.00*	40.00	100.00	100.00
Meat, Pork	Pound	75.00	70.00*	100.00	42.86	33.33
Meat, Poultry	Pound	80.00	70.00*	100.00	42.86	25.00
Meat, Lamb	Pound	60.00	70.00*	85.00	21.43	41.67
Pineapple	Unit	25.00	20.00*	60.00	200.00	140.00
Papaya	Unit	10.00		25.00		150.00
Orange	Unit	2.00		3.80		90.00
Strawberries	Pound	14.00		20.00		42.86
Grapes	Pound	20.00		40.00		100.00
Apples	Unit	10.00		20.00		100.00
Lemon	Unit	2.50	2.00*	3.00	50.00	20.00

* Suggested price, not official.

NOTE: Weighted average official exchange rates are: 30 Suces per Dollar for 1982; 44 Suces per Dollar for 1983 and an estimated 62.5 Suces per Dollar for 1984.

SOURCE: News releases

IN-COUNTRY RESOURCE ANALYSIS • SUMMARY MATRIX

CHAPTER 10
PUBLIC FINANCE

<i>Resource Category</i>	<i>Estimate of Availability Status</i>
GENERAL	Ecuador's external debt problems are a result of the expansionary fiscal and monetary policies of the 1970s.
PUBLIC SECTOR EXPENDITURES	Ecuador's public sector expenditures grew at twice the rate of gross domestic product while revenues to finance the expenditures remained constant. The difference was made up by foreign borrowing.
FUNCTIONAL DISTRIBUTION OF FUNDS	The principal areas receiving funds in order are education, defense, regional development, and governmental operations.
EARMARKING FUNDS	Most agencies receive a percentage of the value of the oil revenues.
SUCRETIZATION PROGRAM	The Central Bank was required to absorb the foreign debt of many private Ecuadorean banks.

CHAPTER 10
PUBLIC FINANCE

A. GENERAL

Ecuador's present crisis can be traced to the expansionary fiscal policies since 1973. The windfall gain from petroleum was received and spent by the Ecuadorean government in addition to large foreign borrowing. In 1973, Ecuador had a public sector surplus of 3 percent GDP. By 1975, this surplus had become a deficit of 2 percent of GDP. There has not been a surplus since 1973 and the deficit in 1982 reached 8 percent of GDP. By the end of 1982 Ecuador had exhausted its foreign borrowing capacity.

B. PUBLIC SECTOR EXPENDITURES

By any measure the Ecuadorean public sector grew rapidly during 1973-1982. The public sector's value (at constant prices) more than tripled and it grew at twice the rate of the GDP.

Total public expenditures increased from 23 percent of GDP in 1973 to 34 percent in 1982. The only statistic related to the GDP that did not grow was public service revenues; consequently, the increasing deficits (Receipts-Expenditures) had to be made up by government borrowing.

This stability of revenues indicated that some tax receipts were decreasing. By 1982, non-oil taxes had fallen by 40 percent as a share of GDP while petroleum taxes rose rapidly. The relative tax burden paid by Ecuadoreans was dropping, as well as their relative payments for public services, while their income was increasing at unprecedented rates.

Public sector investments did not decline either in real terms or relative to GDP as the government resorted to foreign financing of the deficits. In 1973 savings exceeded capital expenditures by 40 percent, by 1978 savings were less than 50 percent of investments and by 1982 savings were financing less than 25 percent of investments.

The inherent pitfalls of these policies surfaced in 1982. Ecuador's expansionary fiscal policies had generated an unsustainable situation. This occurs when the level of foreign interest payments exceeds the net foreign public borrowing. Interest payments on external public debt was 1.3 percent GDP in 1973 and had risen to 3.3 percent in 1982.

This problem forced the government to resort to inflationary financing through the Central Bank to cover its public sector deficit. The fixed exchange rate and the increasing inflation contributed significantly to capital flight and cut exports. When the crisis finally hit, its magnitude was increased by the previous reliance on imports and the attempt to continue borrowing in the 1980-81 time frame. The only solution left was devaluation of its currency which would encourage exports and decrease imports.

C. FUNCTIONAL DISTRIBUTION OF EXPENDITURES

The four general areas of expenditures are General Public Services - 29.8 percent, Social Services - 36.3 percent, Economic Services - 16.7 percent, and Regional Development - 17.3 percent. General Services is composed of defense - 18.8 percent and government operations - 11.0 percent. Social Services is made up of education - 27.2 percent, welfare - 1.2 percent, and health - 7.9 percent.

Education receives the largest share of the federal expenditures followed by defense, regional development, and government functions.

D. EARMARKING FUNDS

The discovery of oil and consequently, the easy revenues for the government, apparently softened the resolve to collect other taxes. Non-petroleum taxes fell from 17 percent of GDP in 1973 to 10.5 percent of GDP in 1982. Many policies contributed to this decline.

During the 1970s, most inputs and capital imports for industrial use were exempt from import duties: As the industrial sector developed through import substitution, import duties--Ecuador's main tax source in 1973--fell in relative terms. Another important source of taxes--export duties--also fell. The progressive appreciation of sucre (fixed exchange) rendered exports less and less competitive or profitable for domestic firms. By 1981, the authorities had effectively

removed all export taxes rather than devalue the currency.

There are 14 different taxes on petroleum. The revenues from these taxes are earmarked for 21 different agencies. In 1982 taxes on petroleum represented 63 percent of total tax income. Considering that interest payments have to be paid, about 47 percent of the public sector's revenues and 73 percent of the current revenues of the budget are earmarked. Earmarking is generally unadvisable but especially so at times of stringent financial constraints.

E. MONETARY POLICIES

The monetary policies started in the 1970s (like the fiscal policies) led Ecuador to the current crisis. Ecuador's interest rate, exchange rate, and fiscal policies gave little incentive for its citizens to place their savings in either the banking systems or sucre-denominated financial instruments. At the same time, these combined policies stimulated a level of borrowing far beyond possible financial savings, inducing Ecuadorean firms to seek credit abroad. These combined policies were unsustainable in the long run; they succeeded only as long as the public and private sectors could borrow abroad.

F. INTEREST RATE POLICIES

The Ecuadorean Monetary Board has a long tradition of rigidly controlling interest rates. From the early 1970s until 1981, the regulated interest rates remained virtually unchanged even though the rate of inflation exceeded the interest rates in each year. Therefore, the real rate of interest was negative in each year. In 1982 and 1983 interest rates were increased but they were still below the rate of inflation. The result was that few Ecuadoreans invested in savings accounts in Ecuador and there were many more potential borrowers than there were lenders. The Ecuadorean Central Bank then became the lender to the private banks so the private banks could loan funds. This process was the mechanism for rapid monetary expansion. The short fall between domestic savings and domestic borrowing had to be made up by the Central Bank. This was easily accomplished as long as the Ecuadorean government's fiscal policy of borrowing abroad continued to put sucres into the Central Bank. When the foreign loans were curtailed in late 1982, the process came to an abrupt halt.

G. THE SUCRETIZATION PROGRAM

Because of the government financial policies, the Ecuadorean private sector sought foreign sources of credit and the external debt of the industrial sector tripled in sucre terms between late 1982 when devaluation began in 1984. To alleviate the burden of foreign debt, the Central Bank entered into a "sucretization program" whereby the Central Bank assumed the foreign debt of the private sector in exchange for the latter's assumption of a sucre obligation to the Central Bank. The program provides that the financial intermediary that secures foreign funds and the borrowing firm pay the Central Bank an amount equal to the dollars owed, plus interest, fees, and a commission to cover the foreign exchange risk of the total loan. The Central Bank is aware that some firms in the private sector cannot handle the current terms and conditions as established.

Many of these loans will be rescheduled or the current repayment schedule will bankrupt some Ecuadorean firms. The repayment of the foreign debt is the critical monetary policy issue facing the Ecuadorean (Central Bank) government through 1990.

IN-COUNTRY . SUMMARY MATRIX

RESOURCE ANALYSIS

CHAPTER 11
PUBLIC
FACILITIES

<i>Resource Category</i>	<i>Estimate of Availability Status</i>
WATER AND SANITATION	<p>Accessibility to potable water is approximately 80 percent for urban and 15 percent for rural population. The figures for sewage are 63 and 11 respectively. Leading cause of death in Ecuador is diarrheal diseases and a major cause of these diseases are the consumption of poluted water. Improving the potable water supply is a high priority in the Ecuadorian Intergrated Rural Development Plan.</p>
ELECTRICITY	<p>60 Hertz, AC, 110-22 volt 1, 2, and 3 phase system. 1300 MW of capacity in 1984 of which approximately 50 percent was hydroelectric generation. 650 MW of additional hydro capacity will be added by 1989, bringing total capacity to 1950 MW of which 67 percent will be hydroelectric. The national plan to interconnect all generators continues. All transmission lines are 138 KV or 230 KV lines. Pricing of electricity is considerably below the cost of production.</p>

CHAPTER 11

PUBLIC FACILITIES

A. WATER & SANITATION

The creation in 1965 of the autonomous agency Instituto Ecuatoriano de Obras Sanitarias (IEOS) under the Minister of Health, was the first major step in the development of safe drinking water in Ecuador. During the period 1973-78 IEOS developed 172 rural water system plants and major city (urban) water purification plants. Between 1978 -1982 approximately 80 water systems were completed.

Currently the urban areas of Ecuador with about 50 percent of the population have 80 percent potable water and 63 percent sewage accessibility. The rural areas have a 15 percent potable water and 11 percent sewage and latrine accessibility.

In general, the urban potable water areas need a great deal of improvement and modernizing. Refuse disposal under IEOS uses the basic land fill system where garbage is literally buried at certain depths in specified areas. The land, when filled, is then put to some other specified use. This is the same method as used in most of the United States. Historically, the selection of landfill sites has been random in nature and unplanned as to other impacts upon health, economy or the overall benefit of society. Long term resource planning needs to incorporate refuse disposal due to its interactive effects with the health of the population.

The leading cause of death in Ecuador is diarrheal diseases. A major cause of the disease is the consumption of polluted water. The GOE has committed through the National Development Plan 1980-84 to significantly increase the accessibility of the rural population to potable water and to improved sewage/sanitation systems. The primary method for accomplishing this task will be through institution-building activities undertaken by IEOS to develop rural water supply and sanitation coordination units; strengthening provincial water development districts and the construction of low cost gravitational potable water systems. The national goal is to increase potable water availability in the rural area to 70

percent of this population by 1990. This project will be a part of the Intergrated Rural Development Plan - a plan addressing health maintenance, water, and sanitation/sewage problems.

The Ecuadorian Institute for Sanitary Works will contract (or construct) approximately 250 rural water supply and sanitation systems over the next 5 years.

The principal vehicle for accomplishing the water system will be gravity (spring fed) flow using, PVC piping to either individual homes or to the local area. For sparsely populated areas, shallow wells using hand pumps will be the water extraction method.

The sewage system will be principally of improved pit latrines and compesino pour-flush toilets.

The sparcity of the rural population requires small scale technical solutions to the problems of potable water and sewage disposable.

B. ELECTRICITY

Ecuador has embarked on an ambitious national electrification program with particular emphasis on developing the country's considerable hydroelectric potential. The State Electrification Institute's (INECEL) short-term master plan (1980 to 1984), anticipates total investment for the period of over one billion dollars in generation facilities, 520 million dollars in transmission and distribution lines and equipment, and a 72 million dollar rural electrification program (all values as of January 1980.) The 1981 generation capacity of 855 MW is to be augmented by 1,000 MW during the five year period with an additional 1,000 MW to be under construction by 1984. Over 80 percent of the new generation capacity is or will be hydroelectric. The short-term master plan also calls for the completion of a 2,000 km 230 and 138 KV national transmission grid linking the major cities and generating plants, along with 1400 km of 69 to 13.8 KV subtransmission line and a distribution network. Through its investments in hydroelectric generation and greater transmission capacity INECEL hopes to increase the portion of the population served by electricity from the current figure of 40 percent (concentrated in the major cities of Quito and Guayaquil) to 55 percent, with only marginal increases in reliance on fossil-fuel power generation.

INECEL enjoys a monopoly as the lead agency and major end user in Ecuador's electrification program. Created in 1961, INECEL is charged with planning and executing the country's National Interconnected System (SNI), consisting of major power plants and transmission grid, and oversees purchases made by the electric power companies by virtue of its position as major stockholder. Although it receives a percentage of all petroleum sales, INECEL does not have the financial resources required to carry out major electrification projects. As a result, financing is a key factor in project planning and implementation, and may be more important than technical specifications or price in determining an eventual sale. This is primarily due to constraints of credit being given Ecuador since 1982.

By 1984 Ecuador had 1300 MW (excluding emergency and privately owned systems) of which over 50 percent was hydroelectric.

Current plans are for a 500 MW generating plant to be constructed in 1985-88 with operation scheduled for 1989. This 500 MW of hydro generation along with the 150 MW Agoyan hydroelectric plant (operational in 1987) will carry Ecuador into the mid 1990s. It will also significantly reduce the usage of petroleum fuel for the existing thermal units.

Ecuador has potential hydro capacity for 20,000 MW. This will position Ecuador for sustained growth in the next century. Ecuador's electrical current is 110 or 220 volts AC, 60 hertz, single, two or three phase, depending on the purpose for which it is used and region where it is located. Ecuador's transmission grid system consist of about 1300 km of 230 KV and 138 KV lines. An additional 500 KM of transmission lines are planned to be constructed by 1989. The distribution system consist of about 3000 KM of 13.8 KV and 200 KM of 69 KV line. Planned expansion by 1989 requires and additional 3000 KM of 13.8 KV and about 200 KM of 69 KV line.

Financing plays a major role in all INECEL's projects. INECEL's internal financing resources consist of a 47 percent cut of petroleum sales, based on a price of US\$23.50 per barrel, and what it is able to earn through the sale of power. This last amount is negligible as tariffs have yet to catch up to a continued hike in fuel prices in which diesel, the primary generator fuel, jumped from 3.40 in 1980 to 55 sucres per gallon. As of 1983, over 60 percent of INECEL's projected investment in the SNI will require outside financing, either through government to government loans, international develop-

ment institution loans, or supplier credits. This financial deficit may rise even further due to construction cost overruns, delays in project implementation, and continual equipment price increases. According to one observer, these last factors have raised the cost of a hydroelectric facility over the past five years from 1,000 to 3,500 dollars per kilowatt. Internal economic factors affecting costs have been the 1980 doubling of the minimum wage, a shortened work week (40 hours), and a national shortage of cement, and the continued devaluation of its currency. In January 1985, the currency was worth less than 25 percent of its 1980 value.

A major problem exist in INECEL's structure and this is in two areas: pricing of electricity and excessive work force relative to the load.

The price of electricity is and has been significantly below its long run cost of production, encouraging poor (economic) usage. In the summer of 1984, the price of electricity was increased 2 percent per month. The government intends to continue this rate of increase until the price of electricity equals cost of production. This is a very important move considering the degree of differences between cost and price.

However, with inflation running at close to 25 percent annually, the 2 percent monthly increase will just stay up with inflation and the real spread between cost and price will still exist.

The second major problem involves an overhire of personnel. The number of people hired to do a job is about three times the number in an American electric company. The "featherbedding" policy must be addressed. Management must undertake steps to reduce cost and non-productive personnel.

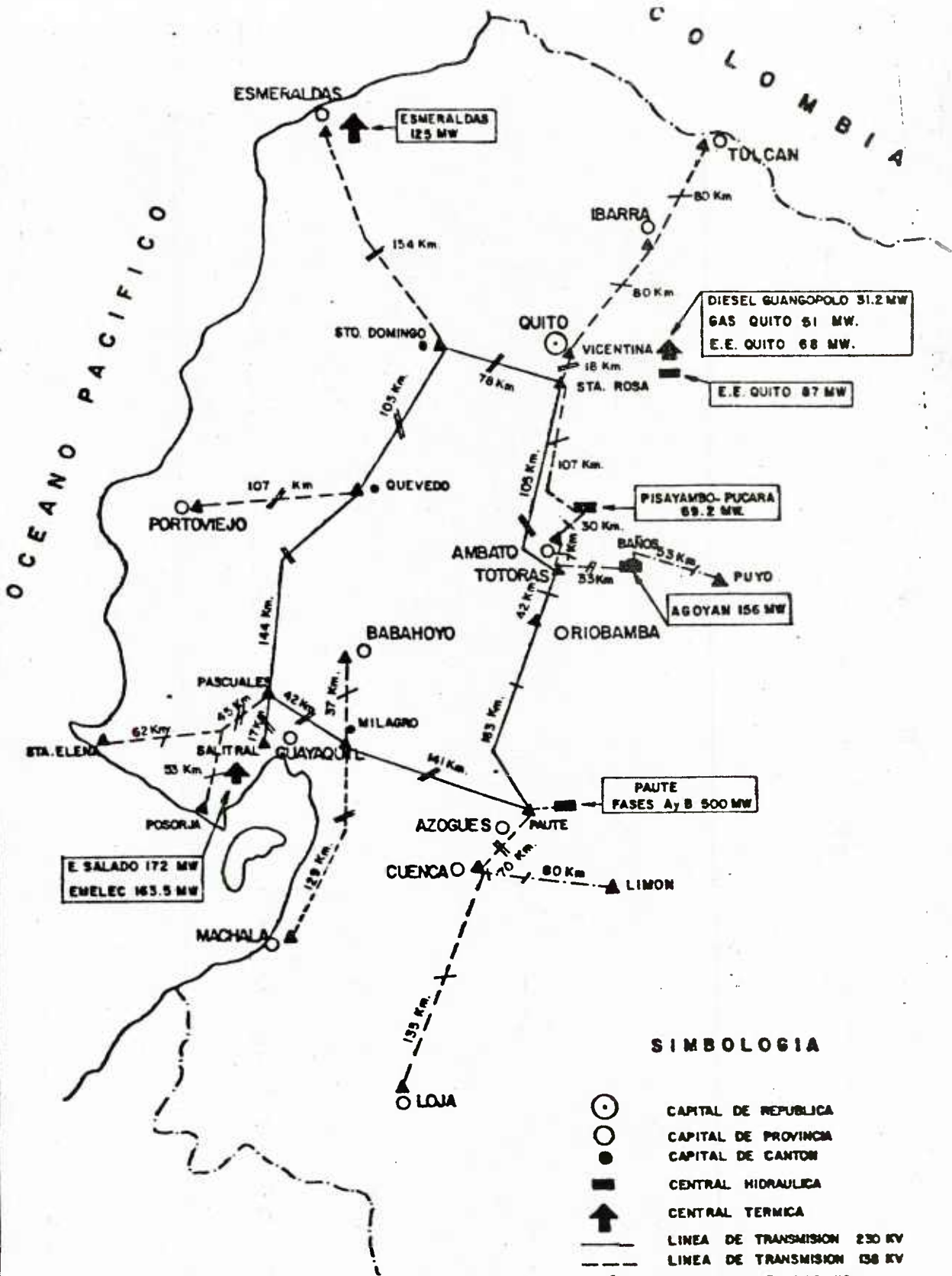
APPENDIX 11-1

EXISTING ELECTRIC SYSTEM MAP

A11-1

1989 ELECTRIC SYSTEM MAP

A11-2



OCEANO PACIFICO

COLOMBIA

PERU

SIMBOLOGIA

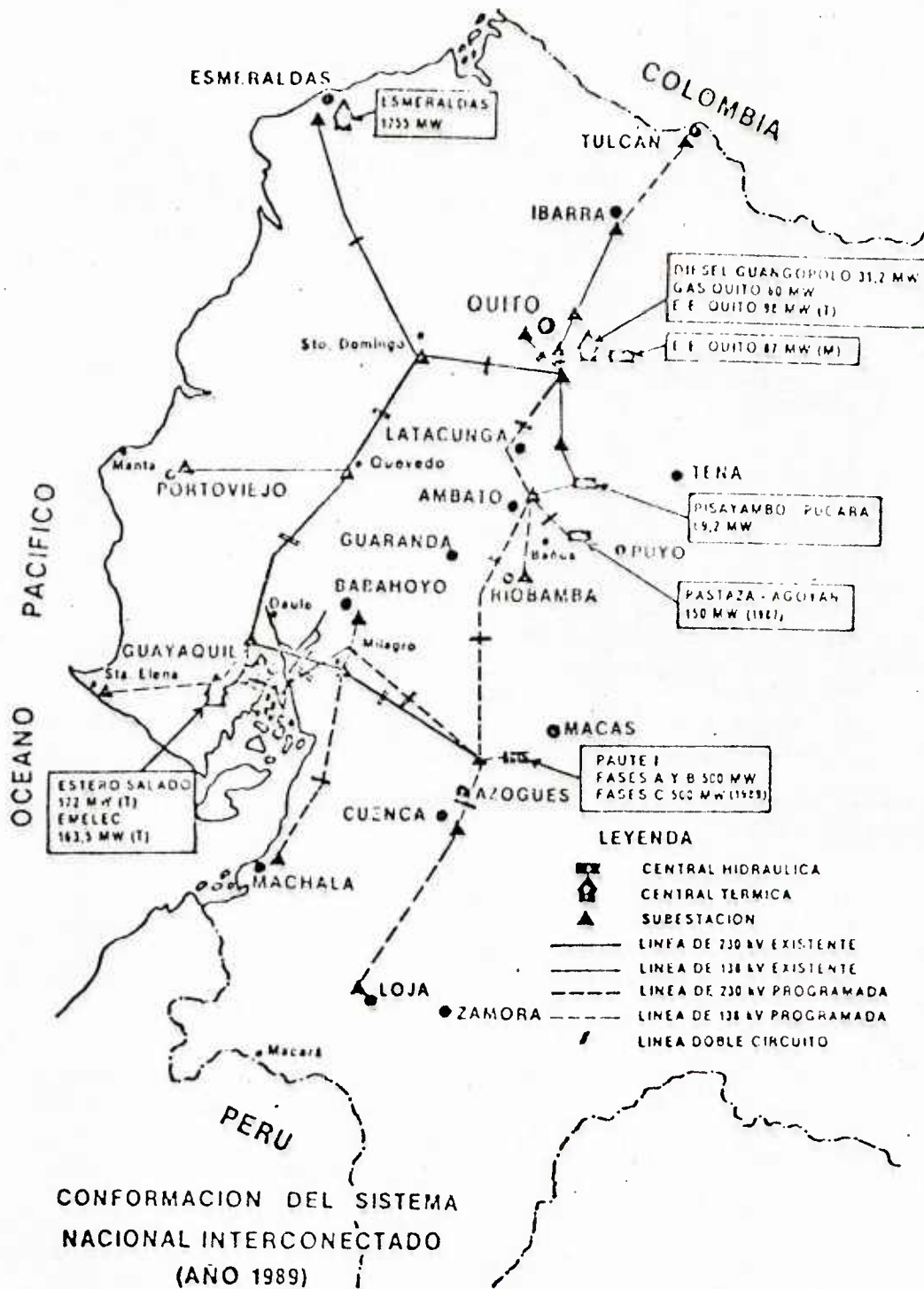
- (with a dot) CAPITAL DE REPUBLICA
- (empty) CAPITAL DE PROVINCIA
- (small) CAPITAL DE CANTON
- (square) CENTRAL HIDRAULICA
- ↑ (arrow) CENTRAL TERMICA
- (solid line) LINEA DE TRANSMISION 230 KV
- - - (dashed line) LINEA DE TRANSMISION 138 KV
- / — (double line) LINEA SIMPLE CIRCUITO
- / — (double line) LINEA DOBLE CIRCUITO
- ▲ (triangle) SUBESTACION
- - - (dashed line) LINEA DE TRANSMISION 138KV QUE INICIALMENTE OPERARA A 69 KV

INSTITUTO ECUATORIANO DE ELECTRIFICACION

QUITO - ECUADOR

SISTEMA NACIONAL DE TRANSMISION

A DICIEMBRE DE 1988



CHAPTER 12

PUBLIC COMMUNICATION AND CIVIL INFORMATION

A. BASIC DATA

PRINCIPAL DAILIES (1980)

El Universo	Independent	150,000
El Comercio	Independent	105,000
Ultimas Noticias	Independent	55,000
La Razon	Liberal	28,000
El Telegrato	Liberal	25,000
El Tiempo	Conservative	25,000

Number of Dailies: 37

Aggregate Circulation: 550,000

Circulation per 1,000: 78

Number of Nondailies: 101

Aggregate Circulation: 19,200

Circulation per 1,000: 3

Number of Periodicals: 284

Number of Telephones: 250,000

Telephones per 1,000: 33

Number of Radio Stations: 300

Number of Television Stations: 10

Number of Radio Recievers: 2.85 million

Radio Recievers per 1,000: 360

Number of Television Sets: 1,200,000

Television Sets per 1,000: 146

Total Annual Newsprint Consumption: 10,800 metric tons (1978)

Per Capita Newsprint Consumption: 2.2kg. (4.9lb.)

B. BACKGROUND AND GENERAL CHARACTERISTICS

The founding father of the Ecuadorian press is also one of the national heroes of the country: Francisco Javier Eugenio de Santa Cruz y Espejo. His publication Primicias de la Cultura de Quito, founded in 1792, provided the impetus to the movement for independence from Spain. Imprisoned twice, he died in jail where a plaque still honors him as "our first journalist".

Most of the periodicals that followed were short-lived political diatribes, such as Juan Montalvo's *El Cosmopolita*, in which Montalvo mounted his attacks on the authoritarian rule of Garcia Moreno, his archenemy. Montalvo is regarded as one of the greatest 19th-century literary figures in Latin America. Hailed as the voice of the Liberal opposition, *El Cosmopolita* was suppressed by Garcia, who forced Montalvo to seek refuge in Colombia. When Garcia met his death at the hands of an assassin in 1875, Montalvo took credit for the act, exclaiming, "My pen killed him." Returning to Ecuador, Montalvo edited a new periodical, *El Regenerador*, until the rise of a new dictator, Gen. Ignacio de Veintimilla, put an end to it. From Montalvo, Ecuadorian press is said to have acquired its permanent cast: a flair for journalistic polemics and a style to match it.

However, the first true newspaper in which editorial concerns and the reporting of news transcended political jousting was the daily *El Telegrafo*, founded in Guayaquil in 1884 and published uninterruptedly since. If *El Telegrafo* is the oldest, *El Comercio* is the largest and best selling. Founded in 1904 at Quito, it sells over 115,000 copies daily; its evening satellite, *Ultimas Noticias*, has a circulation of 65,000. *El Universo* of Guayaquil is the only other major daily founded before World War II. *La Razon* of Guayaquil and *El Tiempo* of Quito were both founded in 1965, while the more recent *Expreso* of Guayaquil was founded in 1973. In a different category is the official gazette, *Registro Oficial*, founded in 1830, which contains only announcements of laws and decrees.

All dailies in Quito and Guayaquil are morning papers except for *Ultimas Noticias* in Quito and *La Razon* in Guayaquil. All papers describe themselves as independent.

Beside the Guayaquil and Quito dailies, some 29 provincial dailies are published in nine other cities, such as Ambato, Loja and Portoviejo, giving the Ecuadorian daily press a total strength of 37 newspapers (out of the more than 200 newspapers, according to historian Carlos de la Torre Reyes, founded since the Battle of Pichincha). The total circulation of these dailies, according to UNESCO, is 550,000, or 78 per 1,000 inhabitants, placing Ecuador in the above-average category for Latin-America and in 72nd rank in the world. Of the total circulation, Quito and Guayaquil papers account for 405,000, or 74 percent. The 29 regional papers thus have an average

circulation of no more than 5,000. With such a small circulation, their impact on national life is minimal, and most discussions of Ecuadorian press ignore them altogether. UNESCO also reports 101 nondailies (of which 32 are published from once to three times a week) and 284 periodicals of all kinds but without citing circulation figures. Editores Nacionales is perhaps the nation's largest magazine publisher.

As noted, the Ecuadorian press is notably apolitical, and no major daily acknowledges political affiliations. This has led to the publication of regular newsletters or occasional newspapers by the nation's 13 political parties. Quito and Guayaquil newspapers, reflecting strong regional traditions, emphasize local interests although they provide substantial coverage of domestic and international news. The country has thus no national daily, but El Comercio comes close to being one. Its owners have been long involved in national affairs at the highest levels; Carlos Mantilla Ortega was Ecuadorian ambassador to the United States and his brother Jorge Mantilla Ortega was ambassador to the Court of St. James. In Guayaquil, El Telegrafo is considered the voice of the Costa, or the coastal plain.

C. ECONOMIC FRAMEWORK

The Ecuadorian press is still privately owned. Each newspaper is closely identified with and owned by a noted family: El Comercio (and its evening satellite, Ultimas Noticias) by the Mantilla family, El Telegrafo by the Castillo family and El Universo by the Perez family. Ownership has been fairly stable and there have been no changes in ownership for many decades.

While internewspaper competition is intense in both Quito and Guayaquil, both cities have a dominant newspaper; El Comercio claims 55 percent of daily circulation in Quito and El Universo 46.5 percent of daily circulation in Guayaquil. When Ultimas Noticias's 65,000 copies are added to El Comercio's total, the El Comercio company enjoys a virtual monopoly in Quito; the only other Quito daily, El Tiempo, offers only token competition with a circulation of 28,000. The situation is better in Guayaquil, where both El Telegrafo and Expreso have managed to trim El Universo's lead to less than formidable proportions. While El Telegrafo remains patrician in its format, most Ecuadorian dailies are contemporary in both typography and coverage of news. The more popular ones display

a certain liveliness and a sensitivity to reader interests commonly associated with U.S. and European dailies.

The impact of journalism on society and its professional maturity is evidenced by the number of journalistic organizations in the country: the National Union of Journalists, the National Confederation of Journalists, the Association of Democratic Journalists, the Guayaquil Association of Journalists and the Press Circles of Quito and Guayaquil. Strikes have been rare, not because of government restrictions on union activity but because disputes are often settled through mediation.

D. PRESS LAWS, CENSORSHIP AND STATE-PRESS RELATIONS

Every constitution since the early days of the republic has contained a clause guaranteeing freedom of expression. This in itself is not unusual; what is unusual is that by and large these guarantees have been respected. From time to time, however, governments have not hesitated to flaunt the big stick, citing the constitutional phrase "contrary to national interest" to threaten or penalize those papers which overstepped the accepted bounds of criticism. Nevertheless, the track record has been good. The University of Missouri Press Freedom Index in the late 1960s ranked Ecuador 25th in the world, while K. Q. Hill and P. A. Hurley in their 30-year survey of press freedom in Latin America have rated Ecuador good during two five-year intervals and average for the other four five-year periods. The IPI and IAPA annual reports devote very little space to Ecuador in their survey of threats to press freedom. In the judgement of most media watchers, Ecuador stands among the top 10 countries in Latin America with respect to press freedom.

Such a tradition has not exempted the Ecuadorian press from the usual vicissitudes of its neighbors. In 1953, under the presidency of Jose Maria Velasco Ibarra, El Comercio and Ultimas Noticias and their affiliated radio station were closed down for 44 days for refusing to publish a government announcement that severe newspaper criticisms would not be tolerated. There were no apparent conflicts between 1956 and 1960 but they resumed when Velasco Ibarra returned to office in 1960. Under the military government that assumed power in 1963 the anti-Communist El Clarin was closed for a few days and its editor jailed because of a critical article in its pages. When

El Clarin resumed publication it carried an official communique requiring all radio stations, news publications and other information media to submit all programs or articles for prior approval to the civil and military chief. In 1965 the military government closed El Tiempo on the grounds that it had persistently maligned the government and fostered a climate of subversion and public disorder. In 1969, again under Velasco Ibarra, the editor of the magazine Vistazo was summoned for hours of questioning about certain articles that had offended the regime, but no other action was taken against the publication. From 1970 to 1972 the Communist weekly Manana was closed. In 1972 the government of Guillermo Rodriguez Lara revived Section 10 of Article 141 of the 1945 constitution guaranteeing freedom of opinion regardless of the means of expression. But the law went on to state that journalism would be regulated by law and that the primary objective of journalism is the defense of national interests. The Rodriguez regime, like many of its contemporaries, did not see any conflict between these two statements but assumed that what is good for the state is good for the press.

In 1973 President Rodriguez passed a decree requiring all newspapers to publish official notices. In the same year the government arrested a reporter for refusing to reveal his source, although the law specifically shields journalists against disclosure of sources under coercion. The reporter was released following protests by the publishers as well as journalists. In 1979 Nueva, a Quito monthly, was banned for reporting "facts which are against the reasonable exercise of freedom of expression and are injurious to the dignity of the state."

Ecuador's return to the democratic fold in 1980 under popularly elected President Jaime Roldos was accompanied by a reaffirmation of the constitutional guarantees of press freedom. Since then there has been only one minor breach of this freedom. It occurred toward the end of 1980 when the president of the magazine Kaskabel was placed under arrest for publishing an article the authorities described as insulting and slanderous. The minister of government was later asked to appear before Congress to explain his action. The minister said that the incident was a criminal matter and that it had nothing to do with the freedom of the press.

Since 1968 Ecuadorian journalists have been regulated by licensing procedures. The Law for the Professional Defense of

the Journalist lays down the conditions of licensing. Candidates must have completed a course supervised by the ministry of education as well as possess five-years' on-the-job experience. Journalists with 10 years' experience can be licensed by the National Union of Journalists without taking the course.

E. ATTITUDE TOWARD FOREIGN MEDIA

The relative freedom of the Ecuadorian press is best proved by the freedom enjoyed by foreign media in Ecuador. There have been few incidents where foreign reporters have been harassed, imprisoned or expelled. One of the last reported such incidents was in 1972 when two resident correspondents of Prensa Latina, the Cuban News Agency, were arrested on suspicion of being involved in terrorist activities. They were expelled, but Prensa Latina was allowed to continue operations.

Ecuador has refrained from going along with the rest of the Third World in supporting the 1978 UNESCO Declaration on the Media without, however, denying the primacy of national interests in defining the role of the media. Ecuador has also taken an active role in regional and international press organizations, such as IPI and IAPA.

F. NEWS AGENCIES

Ecuador has no national news agency. At least seven foreign news agencies are represented in either Quito or Guayaquil, including AP, UPI, Reuters, Deutsche Presse-Agentur and Tass.

G. ELECTRONIC NEWS MEDIA

In 1980 Ecuador had approximately 290 originating radio stations; of these 200 transmitted on medium wave and the remaining on shortwave and FM frequencies. One hundred of these stations belong to five major networks. The government operates one transmitter, the National Broadcasting Station of Ecuador, broadcasting on both medium and shortwave. Five networks are made up of a number of loosely affiliated but individually owned and operated (O&O) stations. The largest of these networks is Cadena Nacional Equatoriana, with 29 stations.

The others are Cadena Amarillo, Cadena Circuito, Cadena Radio Equatoriana and Cadena Catolica. But the best known and most powerful of the commercial stations is the Voice of the Andes ("La Voz de los Andes") owned and operated by the World Radio Missionary Fellowship, a group supported by evangelical Protestant sects in the United States. Its programs in 15 languages reach as far as Australia, Europe and Southeast Asia.

One television channel (Channel 10) in Guayaquil covers most of the country through a relay system. There are 10 stations: three in Quito, three in Guayaquil, three in Cuenca and one in Ambato. About 73 percent of the programs are imported, mostly from the United States. All stations are required to devote at least five minutes per day to literacy programs.

H. PUBLISHING COMPANIES

There are six major book publishers, but the total annual output is rather modest; it was 31 in 1974, (4.4 per 1 million inhabitants) including one title in English. Ecuador adheres to the Universal Copyright and Buenos Aires Conventions.

I. TELEPHONE SERVICE

Ecuador's telephone coverage (3 per 1,000 population) is low; half that of Colombia and Mexico, and the distribution skewed toward Quito and Guayaquil (80 percent) compared to the rest of the country. The technical capacity of the public telephone company, IETEL, has improved faster than its administration and accounting systems. Notwithstanding these deficiencies, it has generated cash surpluses in recent years--one of the few public sector enterprises to have done so. There is great unsatisfied demand for service, and congestion during peak hours is acute. During business hours it is difficult to communicate by phone between Quito and Guayaquil--or phone Ecuador from abroad. IETEL's investment plans include projects for urban telephones, rural telephones, telex service expansion, improvement of international communication by satellite, and better control of radio frequency allocation nationally. The objective of IETEL's expansion program should be to develop facilities with a maximum impact on economic growth through reducing marketing and transport losses, facilitating growth of tourism and other

services, and improving efficiency of public administration and business. By these criteria, rural telephones would have highest priority, followed by projects to improve urban and international services. Better administration and tariff adjustments would also help restrain demand and relieve congestion. International telephone and telegraph service is available in major cities. However, their capacity during business hours is often exceeded.

J. POSTAL SERVICE

Postal service is provided to over 550 locations in Ecuador. The problems of misadministration, lost and missrouted mail so prevalent in the early 1970s is being corrected. Empresa Nacional de Correos (National Postal Enterprise) has initiated training programs for its personnel and found numerous incompetent management personnel in the past 6 years. The postal service is still slow, however the mail does arrive as opposed to the mail service in the time frame 1970-75.

However there is still room for improvement that would help the functioning of the economy. Like many economic aspects of Ecuador, the service is subsidized and hiring favoritism is prevalent.

K. EDUCATION AND TRAINING

Schools of Journalism at the Universities of Guayaquil, Quito and Cuenca offer four-year courses in journalism.

Quito is the location of the best-known school of media studies in Latin America: Centro Internacional de Estudios Superiores de Periodismo para America Latina (CIESPAL), established in 1958 under the auspices of UNESCO. CIESPAL offers short-course training for journalists and broadcasters, conducts research and publishes Chasqui, a research journal.

L. THE PRESS

1. PRINCIPAL DAILIES

a. QUITO

El Comercio: Chile 1347, Apdo 57, Quito; f. 1906; morning; conservative; Proprs Compania Anonima El Comercio; Dir HUMBERTO VACAS GOMEZ; circ. 135,000 (weekdays), 165,000 (Sundays).

El Tiempo: Avda America y Villalengua, Apdo 3117, Quito; f. 1965; morning; independent; Proprs Editorial La Union CA; Pres. ANTONIO GRANDA CENTENO; Gen. Man. EDUARDO GRANDA GARCES; circ. 35,000.

Ultimas Noticias: Chile 1347, Apdo. 57, Quito; f. 1938; evening; independent; commercial; Proprs Compania Anonima El Comercio; Dir JAIME MANTILLA ANDERSON; Editor HU,BERTO VACAS GOMEZ; circ. 75,000 (weekdays), 90,000 (Saturdays).

b. GUAYAQUIL

Expreso: Guayaquil; morning; independent; Dir GALO MARTINEZ; circ. 30,000.

La Razon: Apdo 5832, Guayaquil; evening; independent; f. 1965; Dir JORGE PEREZ CONCHA; circ. 28,000

El Telegrafo: Avda 10 de Agosto 601 y Boyaca, Apdo 415, Guayaquil; f. 1884; morning; independent; commercial; Proprs El Telegrafo CA; Dir-Gen. Gen. EDUARDO AROSEMENA GOMEZ; Man. GUSTAVO SORIANO U.; circ. 33,000 (weekdays), 52,000 (Sundays).

El Universo: Escobedo y 9 de Octubre, Apdo 531, Guayaquil; f. 1921; morning; independent; Dir CARLOS PEREZ PERASSO; circ. 190,000 (weekdays), 210,000 (Sundays).

There are local daily newspapers of very low circulation in other towns.

2. PERIODICALS

a. QUITO

La Calle: Casilla 2010, Quito; f. 1956; politics; weekly; Dir CARLOS ENRIQUE CARRION; circ. 20,000.

Carta Economica del Ecuador: Toledo 1448 y Coruna, Apdo. 3358, Quito; f. 1969; weekly; economic, financial and business information; Pres. DR LINCOLN LARREA B.; circ. 8,000.

Comercio Ecuatoriano: Calle Guayaquil 1242, Apdo 202, Quito; commerce.

Ecuador Guia Turistica: Edif. Brauer, Meja 438, Of. 43, Quito; f. 1969; tourist information in Spanish and English; Propr Prensa Informativa Turistica; Dir JORGE VACA O.; circ. 30,000.

Integracion: Solano 836, Quito; economics of the Andean countries; quarterly.

Letras del Ecuador: Casa de la Cultura Ecuatoriana, Avda 6 de Diciembre Casilla 67, Quito; f. 1944; literature and art; non-political; monthly; Dir DR TEODORO VANEGAS ANDRADE.

El Libertador: Olmedo 931 y Garcia Moreno, Quito; f. 1926; Pres. DR BENJAMIN TERAN VAREA.

Mensajero: Benalcazar 562, Apdo 4100, Quito; f. 1884; monthly; regional, culture, economics and politics; Dir JOSE GONZALEZ POVATOS, circ. 5,000.

Nueva: Apdo 3224, Quito; monthly; left-wing; Dir MAGDALENA JARAMILLO DE ADOUM.

Solidaridad: Calle Oriente 725, Quito; f. 1982; publ. of Confederation of Catholic Office Staff and Students of Ecuador; Dir WILSON ALMEIDA MUNOZ; Man. JOHNY MERIZALDE; circ. 15,000.

This is Ecuador: La Nina 555 y Avda Amazonas, Quito; f. 1968; monthly; tourism; Dir GUSTAVO VALLEIO.

b. GUAYAQUIL

Boletin del Sindicato Medico: Guayaquil; f. 1911; monthly; scientific, literary; independent.

Ecuador Ilustrado: Guayaquil; f. 1924; monthly; literary; illustrated.

Estadio: Aguirre 724 y Boyaca, Apdo 1239, Guayaquil; fortnightly; sport; Dir XAVIER ALVARADO ROCA; circ. 70,000.

Hogar: Aguirre 724 y Boyaca, Apdo 1239, Guayaquil; monthly; Dir VICTOR HUGO SILVA; circ. 35,000

Vistazo: Aguirre 724 y Boyaca, Apdo 1239, Guayaquil; f. 1957; fortnightly; general; Dir XAVIER ALVARADO ROCA; circ. 60,000.

Weekly Analysis: Guayaquil; economic and political affairs.

M. RADIO AND TELEVISION

1. RADIO

There are nearly 300 commercial stations, ten cultural stations and ten religious stations. The following are some of the most important commercial stations:

Asociacion Ecuatoriana de Radiodifusion: Esmeraldas 865, Apro 2246, Quito; independent non-government association; Pres GERARDO BABORICH H., Tele 243-666

Instituto Ecuatoriano de Telecomunicaciones (IETEL): Casilla 3066, Quito; Gen Man. Ing. NELSON RUIZ CORAL.

CRE, Cadena Radial Ecuatoriana: Edif. El Torreón 8, Avda Boyaca 642, Apdo 4144, Guayaquil; Dir R. GUERRERO.

Emisoras Gran Colombia: Cassilla 2246, Quito; tel. 211-670; f. 1943; Dir EDUARDO CEVALLOS C.

Radio Colon: Diguja 327, Quito; tel. 241-994; Dir ATAHUALPA RUTZ RIVA.

Radio Nacional del Ecuador: Chile 1267, Quito.

Radio Quito: Chile 1347, Quito; tel. 511-228; Dir ALFONSO LASSO BERMEJO.

Radio Tropicana: Edif. El Torreón 8, Avda Boyaca 642, Apdo 4144, Guayaquil; tel. 307-900; Dir R. GUERRERO.

La Voz de los Andes: Casilla 691, Quito; tel. 241-550; f. 1931; operated by World Missionary Fellowship; programmes in 15 languages including Spanish, English and Quechua; private, non-commercial, cultural, religious; Pres DR RONALD A. CEINE; Dir of Communications GUSTAVO SAENZ.

2. TELEVISION

Corporacion Ecuatoriana de Television: C. de Carmen, Casilla 1239, Guayaquil; tel. 305-336; telex 3409; Pres XAVIER ALVARADO ROCA.

Cadena Ecuatoriana de Television: Avda de las Americas frente al Aeropuerto, Guayaquil; tel. 391-555; telex 3530; commercial; Man. JORGE PEREZ.

Teleamazonas: Casilla 4844, Quito; tel. 249-600; telex 2244; commercial; Pres. A. GRANDA C.

Telecentro-Canal 10: Edif. Filanbanco--9 de Octubre y Pichiacha 6 Guayaquil; f. 1969; commercial; Pres. LOUIS R. HANNA M., Man. JORGE E. PEREZ P.

Telecuatro Guayaquil, SA: 9 de Octubre 1200, Guayaquil; tel. 308-194; telex 3198; Dir. JOSE ORUZ GUERRA.

The 1984 Book of Radio Frequencies list 275 radio stations, pages 358-363. Information provided, call signs, frequencies, transmitter strength, address, the station managers name and hours of operation.

IN-COUNTRY RESOURCE ANALYSIS • SUMMARY MATRIX

CHAPTER 13
PUBLIC
TRANSPORTATION

<i>Resource Category</i>	<i>Estimate of Availability Status</i>
GENERAL	Ecuador has 20,000 miles of roads, five railroad lines, 12 scheduled airlines, and 7 seaports.
ROADS	The total road network in Ecuador consists of approximately 20,000 miles of improved and unimproved roads. About 14,000 miles are truly usable with only 2050 miles paved.
RIVERS	There are numerous rivers in Ecuador, however only 931 miles are navigable as inland waterways.
RAILROADS	There are 696 miles of railroad track in Ecuador; however, since 1983 the majority of the track is unuseable due to El Nino.
SEA TRANSPORT	Guayaquil is the largest port in Ecuador, handling approximately 60 percent of all seaborne trade.
AIR TRANSPORT	There are three national airlines in Ecuador: TAME, ANE and EEA. The internal airlines are SAN, SAETA, TAME and ANDES.
PIPELINES	A 680 mile pipeline carries oil from Lago Agro to Esmeraldas and Guayaquil.

CHAPTER 13

PUBLIC TRANSPORTATION

A. GENERAL

Due to the extensive mountains and forests in Ecuador, transportation is very difficult. There are a total of 32,185 km (20,000 miles) of roads in the country, but most are narrow and subject to landslides. The Pan-American Highway is the exception running 1,392km (865 miles) through the country from north to south.

Five railroad lines make up a 696 mile track from Sao Lorenzo through Quito to Guayaquil and Cuenca. Slides caused by El Nino in 1983 cut the railway at the city of Chunchi (Azuay Province). There is talk of rebuilding the railroad, but to do so is very expensive due to the mountainous terrain.

There are approximately 173 usable airfields in the country, 17 with permanent-surface runways and 5 with runways of over 8000 feet. There are approximately twelve scheduled airlines operating in Ecuador with three being Ecuadorean.

Ecuador has 7 seaports, of which Guayaquil and Manta are the most important.

The river traffic, improved by dredging, covers the principal agricultural districts west of the Cordillera. The rivers Guayas, Daule and Vinces are navigable for 200 miles by river steamers during the rainy season.

B. ROADS

As of 1 January 1985 Ecuador had 20,000 miles of roads, of which 2,050 were paved (Fig. 13-1). Most roads in Ecuador are narrow and subject to landslides. The main road in Ecuador is the Pan-American Highway which runs north from Ambato to Quito and on to the Columbian border at Tulcan and south to Cuenca and Loja. Other primary paved highways are: Quito-Guayaquil; Quito-Riobamba; Quito-Ibarra; Guayaquil-Machala. In January

1984 the Government announced plans to construct 18 new roads throughout the country (Fig. 13-2 lists mileage between major cities in Ecuador).

The road network in Ecuador is highly vulnerable to flood damage owing to improper grading and poor drainage design. Many unpaved feeder roads in the Costa and the Oriente are impassable during the rainy season (canoes are commonly used for personal and commercial transport). This results in increased transportation costs and commodity shortages. Roads previously subject to flood damage include the 14km segment east of Guayaquil which provides access to the Machala highway in El Oro Province, Milagro to the east, and other important agrocenters in Babahoyo, Vinces and Ventanas to the north. Additionally, the only road northwest of Guayaquil to Manta and Portoviejo (Manabi) is frequently closed for repairs during the winter. Practically all the aforementioned roads, including primary and secondary streets in Guayaquil, were affected during the 1982-83 floods.

Bridges are also subject to flood damage during the rainy season because of poor design and maintenance. Abutments and pier supports are often improperly placed and subject to failure when river currents wash away the supporting soil. Following the 1982-83 floods, the Ecuadorian Government installed seven Bailey bridges between Guayaquil and Machala. These one lane bridges are expensive and generally unsuitable for heavy use. Moreover, many of the bridges were placed over precarious supports. Bridge repairs are often delayed because of poor coordination and duplicative efforts among municipalities, provinces, and the Ministry of Public Works.

The vulnerability of roads to earthquake varies throughout the Sierra. The primary transport route between Guayaquil and Quito is threatened by the vulnerability of a segment running west of Guayaquil to Santo Domingo de los Colorados. Although the major bridges and overpasses of the Pan American Highway are seismic-resistant, earthquake-triggered landslides could interrupt traffic.

Ministry of Transportation

Ministerio de Obras Públicas y Comunicaciones: Avda 6 de Diciembre y Wilson, Quito; tel. 242-666; telex 2353.

C. RIVERS

Numerous rivers rise in the mountains and flow either west to the Pacific coast or east to the Amazon River. The coastal region is drained primarily by the Guayas River system which is formed by the following rivers: the Guayas, Daule, Babahoyo, Vinces and Salado Estero. The Esmeraldas and Santiago rivers also flow into the ocean across the Esmeraldas Province. In El Oro Province, the Jubones River flows past Machala into the Gulf of Guayaquil. While all major rivers in the Costa are navigable, their headwaters in the Sierra are swift and their courses meandering.

Although the rivers of the Oriente carry a tremendous volume of water, the region's drainage is poor. The Napo is the most important river receiving the Coca and Aguarico rivers as well as other large tributaries as it takes its course toward Peru, where it joins the Amazon. The Putumayo, along the border with Colombia, also flows into the Amazon.

Some rivers, particularly the waterways of the Guayas Basin, such as Guayas and Daule, are used extensively. The length of navigable inland waterways is estimated at 1,500km (931 miles).

D. RAILROADS

The state-owned Empresa de los Ferrocarriles del Estado operates 1,121km (696 miles) of track divided into four divisional lines: Guayaquil-Quito, Quito-San Lorenzo, Sibambe-Cuenca and El Oro. There are divisional state railway managements for the following lines: Guayaquil-Quito, Sibambe-Cuenca and Quito-Lorenzo.

The address for the state owned railroad system is:
Empresa Nacional de Ferrocarriles del Estado: POB 159, Calle Bolivar 443, Quito; tel. 216-180; Gen. Man. Cesar Velasco Olayo.

E. SEA TRANSPORT

1. SEABORNE TRADE

About 60% of the seaborne trade is handled by the port of Guayaquil, which can accommodate five vessels at the same time. Other major ports are Puerto Bolivar, Manta, Salinas, Bahia de Caraquez, La Libertad, Esmeraldas and San Lorenzo, but

none of them have modern freight-handling facilities. In 1978, 15 ships with a gross registered tonnage of 201,000 constituted the national merchant marine. Of these, 96,000 GRT belonged to the oil tanker fleet. Ecuador also shares with Colombia an interest in the Gran-Colombian Merchant Fleet, with 35 vessels with a total gross tonnage of 250,000. In 1977 Ecuadorian ports handled 13,195,000 tons of cargo.

Some \$160m. is to be invested in the modernization of Ecuador's principal ports: Guayaquil, Esmeraldas, Manta and Puerto Bolivar.

2. SHIPPING FIRMS

Flota Bananera Ecuatoriana, SA: Edif. Gran Pasaje, 6 piso, Of. 602, Apdo 6883, Guayaquil; tel. 306-040; telex 3218; f. 1967; owned by Government of Ecuador and private stockholders; Gen. Man. Roberto Serrano; 5 vessels.

Flota Mercante Grancolombiana, SA: Calle 2 Aguirre 104; tel. 512-791; telex 3210; f. 1946 with Colombia and Venezuela; on Venezuela's withdrawal in 1953, Ecuador's 10% interest was increased to 20%; operates services from Colombia and Ecuador to European ports, US Gulf ports and New York, Mexican Atlantic ports and East Canada; offices in Quito, Cuenca, Bahia, Manta and Esmeraldas; Man. Naval Capt. J. Alberto Sanchez; fleet of 29 vessels (21 owned by it and 8 chartered).

Flota Petrolera Ecuatoriana - FLOPEC: Avda Colon y Amazonas, Edif. Espana 4, Casilla 535-A, Quito; tel. 552-100; telex 2211; f. 1973; 7 vessels; Gen. Man. Gotardo Valdivieso.

Transportes Navieros Ecuatorianos - Transnave: 9 de Octubre 422 y Chile, Edif. Citibank, Casilla 4706, Guayaquil; tel. 308-400; telex 04-3249; 5 vessels; transports general cargo within the European South Pacific Magellan Conference, Japan West Coast South America Conference and Atlantic and Gulf West Coast South American Conference; Gen. Man. Ing. Boris Toledo Barbero.

Various foreign lines operate between Ecuador and European ports.

F. AIR TRANSPORT

There are three national airlines: Transportes Aereos Nacionales Ecuatorianos (TAME), Empresa Ecuatoriana de Aviacion (EEA) and Aerolinas Nacionales del Ecuador (ANE), with a combined fleet of 37 aircraft. There are six other smaller airlines offering domestic and regional services. In 1977 these airlines flew 6.5 million km (4 million miles) and carried 159,000 passengers. Both Mariscal Sucre Airport at Quito and Simon Bolivar Airport at Guayaquil are international airports. Mariscal Sucre is 8km from the center of Quito while Simon Bolivar is 5km from the center of Guayaquil. Of the 173 airfields and airports in the country, all are usable, 17 have permanent-surface runways, and six have runways over 2,500 meters (8,000 feet). There are also three seaplane stations.

The internal airlines operating in Ecuador are SAN (Servicios Aereos Nacionales), SAETA (Sociedad Ecuatoriana de Transportes Aereos), TAME (Transportes Aereos Militares Ecuatorianos) and the freight airline ANDES (Aerolinas Nacionales del Ecuador SA) which also has international freight services.

The flying time between Quito and Guayaquil is between 35 and 50 minutes depending on the type of aircraft. There are two flights a day except Sundays between Guayaquil and Quito, also regular flights to Cuenca, Manta, Machala, Esmeraldas and Loja, with twice-weekly flights to the Galapagos Islands from Guayaquil. Small aircraft may be chartered also.

There has been extensive discussions about the building of International Airports outside Quito and Guayaquil during the past few years. It now appears the possibility that a single international airport be built is out. For the year 2,000 each of the two major cities will move an average of 3.5 m domestic and 1.4 m international passengers. Any new airports in said cities will cost 5/300 bn, informed DAC, the Civil Aviation Bureau.

1. DOMESTIC AIRLINES

Aerolinas Nacionales del Ecuador, SA - ANDES: Apdo 3317, Aeropuerto Simon Bolivar, Guayaquil; telex 3228; f. 1961; regular cargo service Miami-Panama-Quito, Guayaquil; Chair. Dr. Armando Arce; fleet: 2 DC-6A, 2 CL-44, 1 DC-8-50F.

Empresa Ecuatoriana de Aviacion - EEA: Edif. Rocafuerte, Avda Jorge Washington 718, Apdo 505, Quito; nationalized 1974;

domestic services and international scheduled passenger services to Argentina, Brazil, Chile, Colombia, Mexico, Panama, Peru, USA and Venezuela; Pres. Col. Miguel Castillo Fernandez; fleet: 2 DC-10-30, 3 Boeing 707-320-B, 1 707-320-C, 3 Boeing 720-B.

Transportes Aereos Nacionales Ecuatorianos - TAME: POB 2665, 10 de Agosto 239, Quito; brs in Guayaquil and 10 other cities; f. 1962; domestic scheduled services for passengers and freight; charter services abroad; Gen. Man. Col. Bolivar Penafiel; fleet: 4 Electra Jet Prop., 2 Twin Otter, 2 HS748, 1 Boeing 727-200, 1 737-200.

The following airlines also offer national and regional services:

Aerotaxis Ecuatorianos, SA - ATESA; Cia Ecuatoriana de Transportes Aereos - CEDTA; Ecuastol Servicios Aereos, SA; Ecuavia Cia Ltda; Sociedad Ecuatoriana de Transportes Aereos - SAETA; Servicios Aereos Nacionales - SAN; Aeroturismo Cia Ltd - SAVAC.

2. AIRLINE OFFICES IN QUITO

Air France	523596
Braniff	522200
British Airways	540000/540902
British Caledonian	452030
Iberia	524622
JAL	546267/546227
KLM	540888
Lufthansa	541300
Pan Am	544557
Swissair	541222

G. PIPELINES

A 1,096km (680 miles) pipeline carries 250,000 barrels of petroleum a day across the Andes. Of the total pipeline length, 623km (386 miles) carry crude oil and 473km (293 miles) refined products.

H. TOURISTS

In 1977, 201,900 tourists visited the country. Of these, 47,438 were from the United States, 33,794 from Colombia,

10,253 from West Germany, 10,926 from Chile, 29,086 from Peru, 5,592 from Venezuela, 5,986 from France, 5,894 from Spain, 4,641 from the United Kingdom, 4,278 from Canada, 4,532 from Italy, 3,676 from Switzerland, 2,208 from Brazil and 2,578 from Japan. Tourist revenues during 1977 totaled \$36 million. The number of tourists visiting Ecuador rose to 217,008 in 1982.

NATIONAL TOURIST AGENCIES:

Asociacion Ecuatoriana de Agencias de Viajes y Turismo - ASECUT: Apdo 1210, Quito; Apdo 510, Guayaquil; tel. 529-253; Pres. Armando Espinel E.

Direccion Nacional de Turismo: Reina Victoria 514 y Roca, Quito; f. 1964; Exec. Dir Lic. Marco Mejia Gross.

I. TAXIS AND RENTAL AUTOS

Taxis in Quito have a standard unwritten tariff which usually doubles for journeys at night. For trips outside the city fares should be agreed in advance. Taxi drivers are notorious for overcharging and it is wise to check on all fares before commencing any journey.

Self-drive cars may be hired and a deposit of 3,000 sucres is usually required.

1. CAR-HIRE FIRMS IN QUITO

Turismo Automotor Ecuatoriano (Hertz licensee), Plaza Sebastian de Benalcazar, 241733.

International Rent-a-Car, Avenida 10 de Agosto 2604, 521700.

2. TIPPING

Taxis - no tip.

Porters - 2-5 sucres depending on the number of bags.

Hotels-restaurants - 10% service charge included in the bill.

J. ANNEXES

Annex 1A - 1C detail the means of transportation available to the people of Ecuador while Annex 2A - 2C are a compilation of accessibility of farm families in the three regions to different types of communications routes.

Fig. 13-1

ECUADOR

COLOMBIA

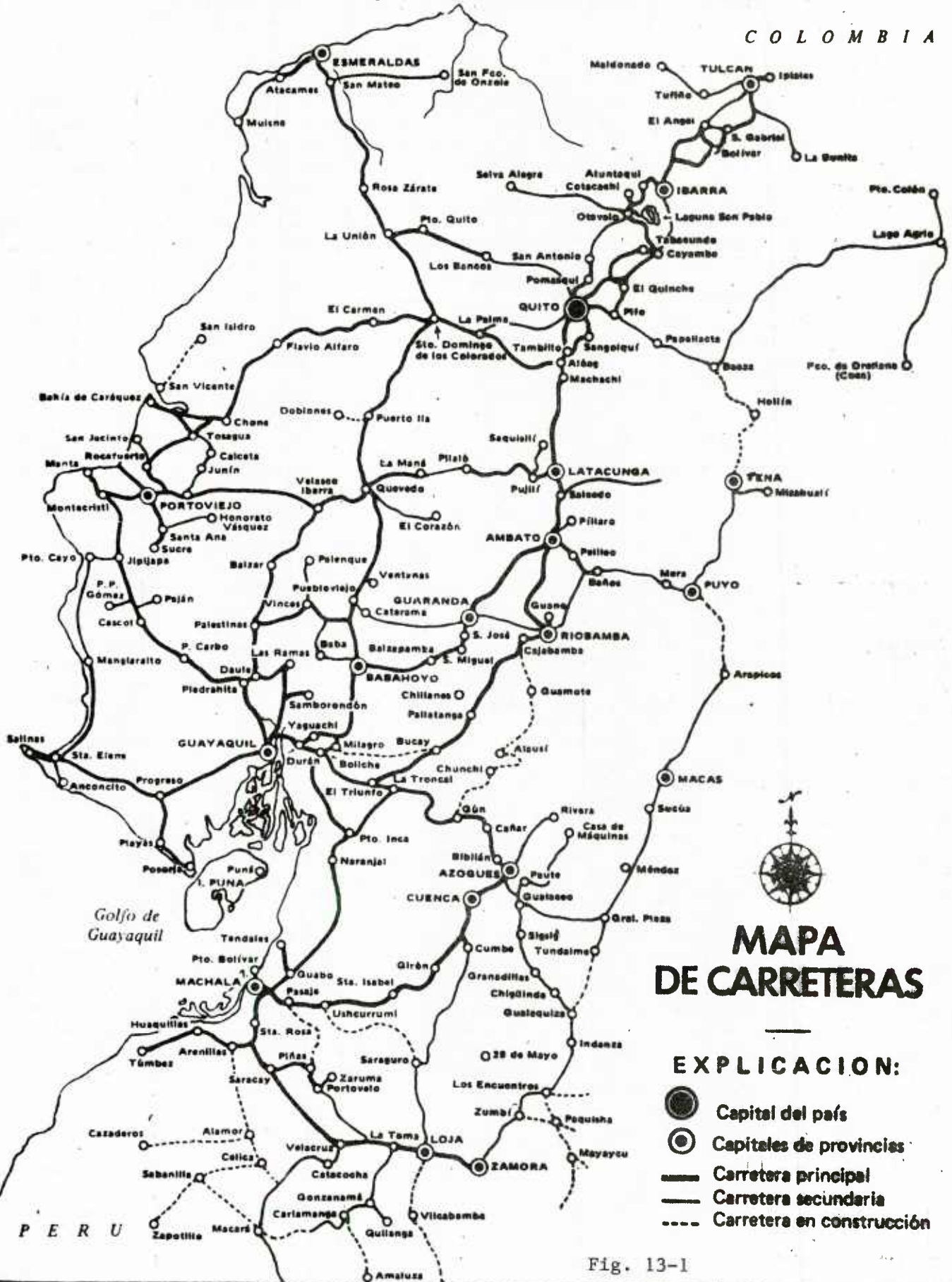


Fig. 13-1

CIUDADES	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1. Ambato	-	420	44	342	365	404	398	597	272	40	553	100	354	411	241	521	374	227	308	136	65	398	539	209	390
2. Bahía	420	-	464	559	289	400	316	586	482	382	770	322	523	148	457	429	111	207	304	346	485	613	457	213	605
3. Baños	44	464	-	386	409	448	442	641	316	84	597	144	578	455	285	565	418	271	352	180	109	442	583	253	434
4. Cuenca	342	559	386	-	286	739	243	255	608	382	211	442	192	435	583	356	460	424	643	472	277	740	384	552	732
5. Daule	365	289	409	286	-	427	43	313	509	315	497	350	250	165	484	156	178	138	331	373	255	641	184	240	633
6. Esmeraldas	404	400	448	739	427	-	470	740	456	357	950	297	679	474	431	583	437	290	96	320	462	556	611	187	548
7. GUAYAQUIL	398	316	442	243	43	470	-	270	544	358	454	393	207	196	519	113	205	181	374	416	232	676	141	283	668
8. Huaquillas*	597	586	641	255	313	740	270	-	870	637	275	697	83	466	845	393	485	451	648	734	532	1002	421	553	994
9. Ibarra	272	482	316	608	509	456	544	870	-	232	819	172	806	555	25	669	518	371	360	136	331	132	697	269	124
10. Latacunga	40	382	84	382	315	357	358	637	232	-	593	60	574	376	201	371	324	177	261	96	105	358	500	170	350
11. Loja	553	770	597	211	497	950	454	275	819	593	-	653	252	650	800	567	660	770	854	689	488	951	595	763	943
12. Machachi	100	322	144	442	350	297	393	697	172	60	653	-	634	396	147	506	359	212	201	36	165	298	524	110	290
13. Machaia	534	523	578	192	250	679	207	83	806	574	252	634	-	400	781	320	412	390	583	670	469	938	348	494	930
14. Manta	411	148	455	435	165	474	196	466	555	376	650	396	400	-	530	315	37	184	377	419	320	687	333	286	679
15. Otavalo	241	457	285	583	484	431	519	845	25	201	800	147	781	530	-	632	493	346	335	111	306	157	660	244	149
16. Playas	521	429	565	356	156	583	113	393	669	371	567	506	320	315	632	-	318	294	487	529	333	789	122	396	781
17. Portoviejo	374	111	418	460	178	437	205	485	518	324	660	359	412	37	493	318	-	147	340	382	433	650	346	249	642
18. Quevedo	227	207	271	424	138	290	181	451	371	177	770	212	390	184	346	294	147	-	193	235	236	503	324	102	495
19. Quinindé	308	304	352	643	331	96	374	648	360	261	854	201	583	377	335	487	340	193	-	224	366	492	541	91	484
20. QUITO	136	346	180	472	373	320	416	734	136	96	689	36	670	419	111	529	382	235	224	-	201	268	549	133	260
21. Riobamba	65	485	109	277	255	462	232	532	331	105	488	165	469	320	306	333	433	236	366	201	-	463	373	275	455
22. Rumichaca**	398	613	442	740	641	556	676	1002	132	358	951	298	938	687	157	789	650	503	492	268	463	-	829	401	8
23. Salinas	539	457	583	384	184	611	141	421	697	500	595	524	348	333	660	122	346	324	541	549	373	829	-	428	821
24. Sto. Domingo	209	213	253	552	240	187	283	553	269	170	763	110	494	286	244	396	249	102	91	133	275	401	428	-	393
25. Tulcán	390	605	434	732	633	548	668	994	124	350	943	290	930	679	149	781	642	495	484	260	455	8	821	393	-

Fig. 13-2

ANNEX 1-A

MEANS OF TRANSPORTATION

REGION : COAST (COSTA)

DISTANCES	MOTORIZED		ANIMAL		RIVER		HUMAN		RAILROAD		TOTAL
	No.	%	No.	%	No.	%	No.	%	No.	%	
0 - 1.5	156.043	83.5	13.212	7.1	14.150	7.6	1.122	0.6	2.432	1.2	186.959
1.5 - 4.5	41.716	81.2	6.829	13.2	1.899	3.7	615	1.2	343	0.7	51.402
4.5 - 9.5	14.780	70.8	4.893	23.6	489	2.3	469	2.2	230	1.1	20.861
9.5 -19.5	7.533	71.4	1.252	11.8	1.599	15.2	52	0.5	114	1.1	10.550
19.5 -39.5	1.751	40.4	1.013	23.4	1.251	28.8	321	7.4			4.336
39.5 -59.5	952	100.0									952
TOTAL	222.775	81.0	27.199	9.9	19.388	7.0	2.579	0.9	3.119	1.2	275.060

SOURCE AND PREPARATION: Regionalization Office of the MAG

ANNEX 2 - A

ACCESSIBILITY OF FARM FAMILY UNITS TO DIFFERENT TYPES OF COMMUNICATION ROUTES

REGION : COAST (COSTA)

DISTANCES	TOTAL NO. FARM UNITS	1 HIGHWAYS						RAIL- ROADS	%	T.P.	RIVER	%	T.I
		1st Class	%	T.P.	2nd Class	%	T.P.						
0 - 1.5	145.550	27.002	18.5	100.0	106.714	73.3	82.4	1.272	0.9	100.0	10.562	7.3	95.7
1.5 - 4.5	83.105	21.881	26.3	100.0	54.839	66.1	81.4	1.619	1.9	100.0	4.765	5.7	96.7
4.5 - 9.5	29.867	5,717	19.1	100.0	23.005	77.0	82.8	226	0.8	100.0	919	3.1	100
9.5 -19.5	11.248	1.816	16.1	100.0	7.621	67.8	77.6	109	1.0	100.0	1.702	15.1	96.2
19.5 - 39.5	4.338	476	11.0	100.0	2.612	60.2	85.7				1.250	28.8	100.0
39.5 - 59.5	952				952	100.0	96.6						
TOTAL	275.060	56.892	20.6	100.0	195,743	71.2	82.1	3.226	1.2	100.0	19.199	7.0	96.5

(1) Includes asphalt roads.

(2) Includes improved, gravel, and stone roads, passable year-round and seasonal roads.

T.P.: Time passable expressed as a % of days in the year.

SOURCE AND PREPARATION: Regionalization Office of the MAG

ANNEX 1-B
MEANS OF TRANSPORTATION

REGION: MOUNTAIN (SIERRA)

DISTANCES	MOTORIZED		ANIMAL		RIVER		HUMAN		RAILROAD		TOTAL
	No.	%	No.	%	No.	%	No.	%	No.	%	
0 - 1.5	229.298	86.4	23.951	9.0	7.733	2.9	3.766	1.4	714	0.3	265.462
1.5 - 4.5	37.822	59.0	18.856	29.4	4.395	6.9	2.661	4.1	408	0.6	64.142
4.5 - 9.5	18.494	48.6	17.268	45.3	325	0.9	1.493	3.9	510	1.3	38.090
9.5 -19.5	9.151	39.7	10.057	43.7	897	3.9	681	3.0	2.244	9.7	23.030
19.5 -39.5	3.026	41.4	3.777	51.7			498	6.9			7.301
39.5 -59.5	1.826	36.5	3.175	63.5							5.001
TOTAL	299.617	74.3	77.084	19.1	13.350	3.3	9.099	2.3	3.876	1.0	403.026

SOURCE AND PREPARATION: Regionalization Office of the MAG

ANNEX 2-B

ACCESSIBILITY OF FARM FAMILY UNITS TO DIFFERENT TYPES OF COMMUNICATION ROUTES

REGION : MOUNTAIN (SIERRA)													
DISTANCES	TOTAL NO. FARM UNITS	1 HIGHWAYS						RAIL- ROADS	%	T.P.	RIVER	%	T.P.
		1st Class	%	T.P.	2nd Class	%	T.P.						
0 - 1.5	202.577	22.989	11.3	100.0	179.109	88.4	94.8	305	0.2	100.0	174	0.1	100.0
1.5 - 4.5	111.416	8.169	7.3	100.0	102.635	92.2	94.2	612	0.5	100.0			
4.5 - 9.5	52.377	2.180	4.2	100.0	49.584	94.6	89.6	613	1.2	91.7			
9.5 - 19.5	24.364	1.268	5.2	100.0	20.750	85.2	83.7	2.346	9.6	100.0			
19.5 - 39.5	7.293	698	9.6	100.0	6.595	90.4	94.6						
39.5 - 59.5	4.999				4.999	100.0	100.0						
TOTAL	403.026	35.304	8.8	100.0	363.672	90.2	93.3	3.876	1.0	98.7	174	-	100.0

(1) Includes asphalt roads.

(2) Includes improved, gravel, and stone roads, passable year-round and seasonal roads.

T.P.: Time passable expressed as a % of days in the year.

SOURCE AND PREPARATION: Regionalization Office of the MAG

ANNEX 1-C

MEANS OF TRANSPORTATION

REGION : EAST (ORIENTE)

DISTANCES	MOTORIZED		ANIMAL		RIVER		HUMAN		RAILROAD		TOTAL
	No.	%	No.	%	No.	%	No.	%	No.	%	
0 - 1.5	14.233	90.0	354	2.2	1.222	7.8					15.809
1.5 - 4.5	2.235	58.2	465	12.1	1.025	26.7	117	3.0			3.842
4.5 - 9.5	1.198	58.5	503	24.6	346	16.9					2.047
9.5 -19.5	147	7.6	1.454	75.1	276	14.3	58	3.0			1.935
19.5 -39.5	58	4.4	989	75.2	93	7.1	175	13.3			1.315
39.5 -59.5			1.287	100.0							1.287
TOTAL	17.871	68.1	5.052	19.3	2.962	11.3	350	1.3			26.235

SOURCE AND PREPARATION: Regionalization Office of the MAG

ANNEX 2 - C

ACCESSIBILITY OF THE FARM FAMILY UNITS TO DIFFERENT TYPES OF COMMUNICATION ROUTES

REGION: EAST (ORIENTE)

DISTANCES	TOTAL NO. FAM. UNITS	HIGHWAYS						RAIL- ROADS	%	T.P.	RIVER	%	T.P.
		1st Class (1)	%	T.P.	2nd Class (2)	%	T.P.						
0 - 1.5	13.216				12.364	93.6	99.9				852	6.4	100.0
1.5 - 4.5	5.540				4.476	80.8	98.9				1.064	19.2	100.0
4.5 - 9.5	2.815				2.090	74.2	100.0				725	25.8	100.0
9.5 -19.5	2.007				1.732	86.3	100.0				275	13.7	100.0
19.5 -39.5	1.370				1.279	93.4	98.1				91	6.6	100.0
39.5 -59.5	1.287				1.287	100.0	100.0						
TOTAL	26.235				23.228	88.5	99.6				3.007	11.5	100.0

(1) Includes asphalt roads.

(2) Includes improved, gravel, and stone roads, passable year-round and seasonal roads.

T.P. Time passable expressed as a % of days in the year.

SOURCE AND PREPARATION: Regionalization Office of the MAG

CHAPTER 14

REFUGEES AND DISPLACED PERSONS

A. GENERAL

According to the U.S. Embassy personnel and Ecuadorian nationals there is currently, nor is there expected to be, a refugee problem in the country of Ecuador. The last refugees were from Cuba during the 1980 exodus. These persons have either been placed or integrated into the population.

IN-COUNTRY . SUMMARY MATRIX **RESOURCE ANALYSIS**

CHAPTER 15
CULTURAL
AFFAIRS

<i>Resource Category</i>	<i>Estimate of Availability Status</i>
GENERAL	Ecuador contains a multitude of old colonial residences and museums and monuments. Many museums carry the cultural artifacts developed by the Indian tribes prior to the Spanish conquest.
FOLK ART	Outstanding examples of local craftsmanship are weaving, leather goods, pottery and wood products.
FINE ART	Middle and upper-class Ecuadoreans value the arts and participate actively in those areas.

CHAPTER 15
CULTURAL AFFAIRS

A. GENERAL

There are a multitude of excellent artifacts, monuments and structures located in Ecuador. A majority of these are found in the larger cities of Quito, Guayaquil and Cuenca. A listing of the more reknown are found in Tables 15-1 through 15.5.

B. FOLK ART

Many folk art products are characteristic of Ecuador. Weaving, leather goods, pottery, and wood products are all outstanding examples of local craftsmanship - some of the techniques dating back centuries. The "Panama" hat originated in Ecuador and is still produced here in large quantities for local wear as well as for tourist sale and export. Gold and silver jewelry is finely crafted and is sold in many places. There is a wide assortment of hand-woven, hand-carved, and hand-painted articles made by expert local craftsmen and artists. Among them are rugs in modern, Incan, and pre-Incan designs, as well as ponchos, blankets, shawls, and scarves. Balsa-wood and orange-wood carvings are popular, as are clothing and luggage hand-crafted from leather.

One of the unique folk art items is the "bread figures" produced at the village of Calderon, about 15 kilometers north of Quito. Apparently originating in this little village, the technique dates back centuries to the early introduction of corn into the area.

C. FINE ART

In the 1930s, a literary and artistic Indo-American movement began to emphasize the plight of the country's poor and underprivileged peasants and workers. The movement was common to all countries of the west coast of South America, although one of its facets, indigenismo, was particularly popular in Ecuador. Similar social protest continues to be the predominant theme among the growing numbers of young writers, poets, and artists.

ECUADOR

Middle- and upper-class Ecuadoreans value literary, artistic, and intellectual pursuits. Many participate actively in these areas, even though they may have careers in unrelated fields.

TABLE 15-1
 IMPORTANT CHURCHES AND GOVERNMENT BUILDINGS

I. CHURCHES IN QUITO

<u>NAME</u>	<u>ADDRESS</u>	<u>TELEPHONE</u>
"La Merced" Tower Torre de la Merced	Mejia 721	210-743
"San Francisco" Church	Cuenca 477	211-124
"La Compania" Church La Compania de Jesus	Benalcazar 500	211-530
"Santo Domingo Church"	Flores 150	210-723
"San Agustin Church"	Chile 924	210-055
"San Diego Church" Convento de San Diego	Calicuchima 117	212-616
"La Catedral Church"	Venezuela	211-264
"Guapulo Church" Santuario de Guapulo	Guapulo	235-986
"El Tejar Church"	El Tejar 148	210-582
"La Basilica Church"	Venezuela y Galapagos	

II. IMPORTANT GOVERNMENT BUILDINGS

<u>NAME</u>	<u>ADDRESS</u>	<u>TELEPHONE</u>
Palacio de Gobierno y Plaza de la Independencia "Government Palace and Independence Square"	Garcia Moreno 1043 y Chile	216-300

ECUADOR

<u>NAME</u>	<u>ADDRESS</u>	<u>TELEPHONE</u>
Palacio Legislativo "Congress Palace"	Piedrahita entre 12 de Octubre y 6 de Diciembre	230-330
Palacio de Justicia "Palace of Justice"	Piedrahita entre 12 de Octubre y 6 de Diciembre	230-200
Tribunal Supremo Electoral "Electoral Supreme Court"	6 de Diciembre y Eloy Alfaro	Central Operation
PROCURADURIA GENERAL DE LA NACION "Attorney General of the Nation"	Av. Columbia 248	516-754
JUNTA NACIONAL DE LA VIVIENDA "National Housing Association"	10 de Agosto y Cordero	521-311
JUNTA MONETARIA "Monetary Board"	10 de Agosto y Briseno	514-833
SECRETARIA NAC. DE INFORMACION Y PRENSA "SENDIP" "National Secretary of Information and Press"	Chile 267	516-857
MINISTERIO DE GOBIERNO Y POLICIA "Ministry of State and Police"	Espejo y Benalcazar	216-080
MINISTERIO DE RELACIONES EXTERIORES "Ministry of Foreign Relations"	Av. 10 de Agosto y Carrion	230-100
MINISTERIO DE DEFENSA NACIONAL "Ministry of Nation Defense"	Plaza de la Recoleta	216-150
MINISTERIO DE EDUCACION Y CULTURA "Ministry of Education and Culture"	Mejia 348	216-232

<u>NAME</u>	<u>ADDRESS</u>	<u>TELEPHONE</u>
MINISTERIO DE FINANZAS Y CREDITO PUBLICO "Ministry of Finance and Public Credit"	Av. 1o de Agosto 1661	544-500
MINISTERIO DE OBRAS PUBLICAS Y COMUNICACIONES "Ministry of Public Work and Communications"	6 de Diciembre 1184	542-66
MINISTERIO DE RECURSOS NATURALES Y ENERGETICOS "Ministry of Natural and Energetical Resources"	Santa Prisca 223	239-100
MINISTERIO DE INDUSTRIAS, COMERCIO e INTEGRACION "Ministry of Industries, Commerce and Integration"	Juan Leon Mera y Roca	527-988
MINISTERIO DE SALUD PUBLICA "Ministry of Public Health"	Juan M. Larrea (entre Riofrio y Checa)	521-411
MINISTERIO DE AGRICULTURA Y GANADERIA "Ministry of Agriculture and Cattle"	Av. Eloy Alfaro y Amazonas	515-200
MINISTERIO DEL TRABAJO "Ministry of Work"	Ponce y Luis F. Borja	524-666
MINISTERIO DE BIENESTAR SOCIAL "Ministry of Social Welfare"	12 de Octubre 1636	232-464
MINISTRO DE DEFENSA NACIONAL	La Recoleta	216-150
ESTADO MAYOR DE LAS FF.AA.	Ambato 328	514-898
ESTADO MAYOR CONJUNTO DE LAS FF.AA.	Ambato 328	218-049

ECUADOR

<u>NAME</u>	<u>ADDRESS</u>	<u>TELEPHONE</u>
COMANDANCIA GENERAL DEL EJERCITO	Exposicion 208	510-902
DIRECCION DE INDUSTRIAS DEL EJERCITO "DINE"	6 de Diciembre y Colon	546-477
PRIMERA ZONA MILITAR	6 de Diciembre 6289	457-238
ACADEMIA DE GUERRA	Sangolqui	
BATALLON DE APOYO LOGISTICA No. 1	Ave. Vencedores de Pichincha	266-533
BATALLON DE INFANTERIA No. 37	Batallon Vencedores Ciudadela Atahualpa	
BATALLON DE INGENIEROS CHIMBORAZO Batallon No. 3	Av. Rodrigo de Cavez y 5 de Junio	
BATALLON DE INGENIEROS DE CONSTRUC. COTOPAXI	Rodrigo de Chavez 1167	266-662
BRIGADA DE FUERZAS ESPECIALES No. 1 PATRIA	Alonso de Angulo y Tnte. Rodriguez	610-100
BATALLON DE TRANSMISIONES No. 1 RUMINAHUI	Ave. Los Pinos s/n	539-690
BRIGADA DE INFANTERIA No. 13 Pichincha, Zona Militar	6 de Diciembre 6289	244-077
BRIGADA DE SALUD No. 10 Napo	Rodrigo de Chavez y 5 de Junio	268-538
ESCUADRON DE RECONOCIMIENTO MECANIZADO No. 13, AZUAY	Panamericana Sur Km.6	269-850
GRUPO DE ARTILLERIA "MARISCAL SUCRE"	Vencedores de Pichincha s/n	265-181

<u>NAME</u>	<u>ADDRESS</u>	<u>TELEPHONE</u>
GRUPO DE CABALLERIA MOTORIZADA No. 13 Yaguachi	Escuela de Equitacion de Sangolqui	313-053
GRUPO DE FUERZAS ESPECIALES No. 1 El Pintado, Cuartel Nuevo	El Pintado, Cuartel	266-155
COMANDANCIA GENERAL DE LA FAE	Exposicion 208	210-080
ACADEMIA DE GUERRA AEREA	Av. Colon 1011	546-959
RESIDENCIAS NAVALES	6 de Diciembre y Louvre	247-583

TABLE 15-2
MUSEUMS

I. QUITO

Museo Antropologico Antonio Santiana:

Universidad Central del Ecuador, Quito; f. 1925; sections of Anthropology, archaeology, ethnography; library of 2000 vols.

Museo Arqueologico y Galerias de Arte Guillermo Perez

Chiriboga del Banco Central del Ecuador:

Apdo 339, Banco Central, Avda 10 de Agosto; f. 1969; pre-historical archaeological exhibits; colonial and modern art (sculpture, paintings, etc.) library of 5,500 vols.

Museo de Arqueologia y Etnologia del Instituto Ecuatoriano de Antropologia y Geografia (Museum of Archaeology and Ethnology):
Casilla 2258; f. 1950; precious stones, ceramics, prehistoric sculptures.

Museo de Arte Colonial:

Apdo 25-55, Calla Cuenca Mejia; f. 1914; many examples of art from the Escuela Quitena of the colonial epoch--17th and 18th centuries, 19th-century art and some contemporary art

exhibitions (the latter in conjunction with the Casa de la Cultura Ecuatoriana).

Museo de Arte e Historia de la Ciudad (Civic Museum of Arts and History):

Calle Espejo 1147, Apdo 399; f. 1930; sculptures, paintings, documents.

Museo de Ciencias Naturales de la Escuela Militar 'Eloy Alfaro':

Avda Orellana, La Pradera 400; f. 1937; geological specimens and fauna from the Galapagos Islands; taxidermy and anatomy illustrated, especially of mammals and birds.

Museo Jacinto Jijon Caamano de Arqueologia e Historia (Jacinto Jijon y Caamano Archaeological and Colonial Art Museum):

Pontificia Universidad Catolica, Avda 12 de Octubre y Carrion, Apdo 2184.

Museo Petrografico de la Direccion General de Geologia y Minas:
pdo 23-A, Carrion 1016 y Paez; minerals found in the country.

II. GUAYAQUIL

Museo Antropologico y Pinacoteca del Banco Central del Ecuador:
f. 1974; archaeology of the Ecuadorian coast; gallery of contemporary Latin American art; research; small library.

Museo Municipal (Municipal Museum):

Avda 10 de Agosto, Calle Pedro Carbo; f. 1862; historical, ethnographical, palaeontological, geological exhibits; colonial period and modern paintings and numismatics.

TABLE 15-3 LIBRARIES AND ARCHIVES

I. QUITO

Archivo-Biblioteca de la Funcion Legislativa:

Palacio Legislativo, f. 1886; scientific and cultural; 20,000 vols.

Archivo Nacional de Historia (National Archives):

Avda 6 de Diciembre 332, Apdo 67; f. 1938; 2,500 vols; colonial documents of the 16th to 19th centuries.

Biblioteca Nacional del Ecuador (National Library):
García Moreno y Sucre, Apdo 163; f. 1792; 55,000 vols of which 7,000 date from the 16th to the 18th centuries; shares legal deposit with municipal libraries.

Biblioteca de la Casa de la Cultura Ecuatoriana (Library of Ecuadorian Culture):
Apdo 67, Avda Columbia; f. 1944; 12,000 vols and over 20,000 periodicals.

Biblioteca de la Universidad Central del Ecuador (Central University Library):
f. 1826; 170,000 vols.

Biblioteca Ecuatoriana 'Aurelio Espinosa Polit':

pdo 169; f. 1928; Ecuadorian library, archive, Ecuadorian art and history museum; 120,000 vols.

Biblioteca Municipal (Municipal Library):
Casa de Montalvo, Apdo 75; f. 1886; 12,500 vols, 300 MSS, 4 incunabula.

British Council Library:
Casilla 1197. Avda Amazonas 1615 y Orellana; tel. 236-144; f. 1982; 9,400 vols.

II. CUENCA

Biblioteca 'Juan Bautista Vazquez' de la Universidad de Cuenca (Cuenca University Library):
Apdo 168, Cuenca; f. 1882; 62,185 vols.

Biblioteca de Autores Nacionales 'Fray Vicente Solano':
Apdo 222; f. 1929; 39,569 vols.

Biblioteca Publica Municipal (Public Municipal Library):
Apdo 202; f. 1927; 50,000 vols.

Biblioteca Hispano-Americana (Hispanic-American Library):
Mariscal Sucre 338, Apdo 133; f. 1934; 54,700 vols.

Biblioteca Panamericana (Pan-American Library):
Apdo 57; f. 1912; 28,000 vols.

III. GUAYAQUIL

Biblioteca 'Angel Andres Garcia' de la Universidad 'Vincente Rocafuerte':
 Velez 2203, Apdo 330; f. 1847; 13,000 vols.

Biblioteca de Autores Nacionales 'Carlos a. Rolando' (Library of Ecuadorian Writers):
 Palacio Municipal; f. 1913; 12,000 vols, 15,000 pamphlets, 17,000 leaflets, 3,000 MSS relating to Ecuadorian authors and foreign works about Ecuador.

Biblioteca de la Casa de la Cultura Ecuatoriana:
 Nucleo de Guayas, 9 de Octubre y Pedro Moncayo, Apdo 3542; f. 1945; 16,748 vols.

Biblioteca General, Universidad de Guayaquil:
 Apdo 3834; tel. 39-24-30; f. 1901; 50,000 vols.

Biblioteca Historica y Archivo Colonial (Historical Library and Colonial Archives):
 Palacio de la Municipalidad, Apdo 75; f. 1930.

Biblioteca Municipal 'Pedro Carbo' (Public Library):
 Avda 10 de Agosto, Calle Pedro Carbo; f. 1862; 120,000 vols.

TABLE 15-4
 MONUMENTS IN QUITO

I. MONUMENTS

MONUMENTO ANTONIO J. SUCRE	Plaza de Santo Domingo Guayaquil y Sucre
MONUMENTO SIMON BOLIVAR	Parque de la Alameda Elizalde y Guayaquil
MONUMENTO GONZALEZ SUAREZ	Espejo y Guayaquil
MONUMENTO GENERAL ARTIGAS	Colon y 12 de Octubre
MONUMENTO HERMANO MIGUEL	Plazoleta "El Tejar" calle Chile

MONUMENTS

MONUMENTO CAMILO PONCE	Av. los Shyris y de las Naciones Unidas
MONUMENTO LA LIBERTAD	Plaza de la Independencia Garcia Moreno y Chile
MONUMENTO A LA VIRGEN DE QUITO	El Panecillo
MONUMENTO A LOS INDIOS AMERICANOS	Plaza Indoamerica Av. America
MONUMENTO A LOS HEROES DEL 24 DE MAYO	Av. 24 de Mayo
MONUMENTO AL LABRADOR	Av. 10 de Agosto y la y
MONUMENTO AL TENIENTE HUGO ORTIZ	Av. Mariana de Jesus y America
MONUMENTO AL Dr. PEDRO PABLO BORJA	9 de Octubre y Ramirez Davalos
MONUMENTO A EUGENIO ESPEJO	Rio de Janeiro y Zambrano
MONUMENTO ABRAHAM LINCOLN	Orellana y 12 de Octubre
MONUMENTO WINSTON CHURCHILL	Final Norte de la Av. Gonzalez Suarez
MONUMENTO A LA BATALLA DE PICHINCHA	Av. Abdon Calderon y la Libertad
MONUMENTO A JUAN MONTALVO	10 de Agosto, entrada al El Ejido
MONUMENTO A LA LUCHA ETERNA	12 de Octubre y Pazmino
MONUMENTO A SEBASTIAN DE BENALCAZAR	Benalcazar y Olmedo
MONUMENTO A CRISTOBAL COLON	Parque Italia, Mosquera Narvaez y Av. America

MONUMENTS

MONUMENTO A HUMBERTO ALBORNOZ S.	Carvajal y Ruiz de Castilla
MONUMENTO A CAPITAN COSME RENELLA	America y Villalengua
MONUMENTO A JORGE NEROLERY	Av. America
MONUMENTO A Crnel. RAFAEL PAVON	Av. America
MONUMENTO A MEYER BALDO	Av. America
MONUMENTO A JORGE CHAVEZ	Av. America
MONUMENTO A CAMILO DAZA ALVAREZ	Av. America
MONUMENTO A GRAL. RIGOBERTO GODOY	Av. America
MONUMENTO A SANTOS DUMONT	Diguja y Brasil
MONUMENTO A PEDRO TRAVERSARI INFANTE	Entrada al Aeropuerto
MONUMENTO A ELOY ALFARO	Parque de El Ejido
MONUMENTO A ANDRES DE SANTA CRUZ	Av. Naciones Unidas
MONUMENTO A HIDE YONOGUETTI	Av. Naciones Unidas
MONUMENTO AL UNIVERSO	Naciones Unidas y Av. 6 de Diciembre
MONUMENTO A ISABEL LA CATOLICA	Av. 12 de Octubre y Madrid
MONUMENTO A ALEJANDRO CÁRDENAS	Av. Patria
MONUMENTO A VICTOR MANUEL PENAHERRERA	Av. Patria, a continuacion
MONUMENTO A JULIO ANDRADE	Av. Patria, a continuacion
MONUMENTO A LUIS FELIPE BORJA	Av. Patria, a continuacion
MONUMENTO A ANGEL POLIVIO CHAVEZ	Av. Patria, a continuacion

MONUMENTS

MONUMENTO A JACINTO JIJON Y CAAMANO	Patria, El Ejido
MONUMENTO A MARIA ANGELICA HIDROBO	Av. Patria, parque El Ejido
MONUMENTO A DR. VELASCO IBARRA	Av. Amazonas y Jorge Washington
MONUMENTO A GABRIEL GARCIA MORENO	Amazonas y Jorge Washington
MONUMENTO A VICENTE ROCAFUERTE	Av. Amazonas y Jorge Washington
MONUMENTO A ELOY ALFARO	Av. Amazonas y Jorge Washignton
MONUMENTO A GABRIELA MISTRAL	Diego de Almagro y Cordero
MONUMENTO A Gral. JULIO ANDRADE	Parque Julio Andrade, Avenida 10 de Agosto

TABLE 15-5
THEATERS IN QUITO

I. THEATERS

TEATRO NACIONAL SUCRE	Flores y Manabi	216-668
TEATRO PROMETEO	6 de Diciembre 332	520-075
TEATRO QUITUMBE	Palacio de los Deportes	543-791
ESCUELA DE ARTE Y DANZA	Orellana y 6 de Diciembre	237-271
TEATRO NACIONAL SUCRE	Flores y Manabi	216-668
TEATRO ALAMEDA	Arenas y J. Larrea	232-841

ECUADOR

TEATRO ALHAMBRA	Guayaquil 1613	214-261
TEATRO AMERICA	Av. America 648	231-201
TEATRO ATAHUALPA	Venezuela y Bolivar	212-557
TEATRO BOLIVAR	Espejo 847	210-960
TEATRO CAPITOL	Av. Colombia 338	231-121
TEATRO CENTRAL	Esmeraldas 579	211-080
TEATRO COLON	10 de Agosto 2436	231-081
TEATRO CUMANDA	Maldonado 3035	210-657
TEATRO GRANADA	Chile y Cuenca	210-220
TEATRO HOLLYWOOD	Guayaquil 828	211-308
TEATRO INAQUITO	Av. de los Estadios Inaquito	452-660
TEATRO MARISCAL	Av. Colon 1231	233-753
TEATRO MEXICO	Tomebamba 463	266-140
TEATRO PICHINCHA	Benalcazar 765	211-321
TEATRO QUITO	Vargas, Colegio La Salle	219-989
TEATRO SAN GABRIEL	Av. America y Mariana de Jesus	
TEATRO BENALCAZAR	6 de Diciembre y Portugal	249-556
TEATRO VARIEDADES	Flores 930	211-060

IN-COUNTRY RESOURCE ANALYSIS . SUMMARY MATRIX

CHAPTER 16
RELIGIOUS
AFFAIRS

<i>Resource Category</i>	<i>Estimate of Availability Status</i>
GENERAL THE ROMAN CATHOLIC CHURCH THE PROTESTANT CHURCH	<p>Ecuador recognizes no official state religions, however, the Roman Catholic Church is very powerful and influential as it is throughout Central and South America.</p> <p>The Catholic Church, influenced by Vatican II, has adopted a bolder stand and social issues. Some members have advocated tax and land reforms, and in some cases, family planning.</p> <p>The leading protestant denomination is Methodism while the Lutherans, Baptists, English Fellowship Church, Church of Christ and Episcopalians make up the majority of the remaining protestant religions.</p>

CHAPTER 16
RELIGIOUS AFFAIRS

A. GENERAL

The government of Ecuador recognizes no official state religion and grants freedom of religion to all groups who want to worship there. However, the Roman Catholic Church is very powerful and influential in the country, as it is throughout Latin America. The Church in Ecuador is probably one of the strongest in South America. The highland region of the nation continues to be the stronghold of the Catholic faith, as it has been for all the years since the Conquest. In the Costa region, however, Church membership is nominal at best for the majority of the population and there is widespread anticlerical sentiment there. About 90 percent of the country's population are Catholic at least in name.

Various Protestant groups have been moving in to Ecuador in large numbers, as the influence of the Catholic Church wanes in the last part of the twentieth century, but still are not large and strong enough to have much impact on daily life in the country.

B. THE ROMAN CATHOLIC CHURCH

From the beginning of the colonial period, the Church was involved in just about every aspect of Ecuadorian life. Education was under its control and schools of arts and crafts were established. New techniques of agriculture were taught to the Indians by the parish priests. The sick and the needy were taken over by the Church and their needs were ministered to. The Church traditionally has helped to protect the Indians from the cruelty and autocratic control of the white colonists and officials. Quito became famous for its convents and the religious art which grew out of the religious impulse. As the years went on, the Church, especially in the highlands, became a wealthy landowner and when Ecuador became independent, the relationship between the Church and the state became very close.

In the mid-1800s, the Church became the central issue dividing the newly emerging Conservative and Liberal political parties. The administration of the Conservative Gabriel Garcia Moreno (1861-1875) dedicated the nation to the Sacred Heart of Jesus and signed a concordat with the Vatican that increased further the power of the church. For decades, priests would hold political office and the state accepted the Roman Catholic Church as the official religion, excluding all others.

The Liberals, based in the Guayaquil region, strongly opposed the power of the Church and with the coming to power of Eloy Alfaro in 1885, the Liberals began to restrict the Church's influence. By 1908 the Church and state had been effectively separated. A public education system had been established and other faiths were allowed to enter the country. The power of the Church is still curtailed today, although in the Sierra region it still wields great influence, especially in Quito and Cuenca. The local priest in the highlands is a figure of great prestige and authority in his parish and religious observations are still very strong and popular. Since the 1960s, however, the Church has become more liberal and more socially active, striving now to help end exploitation of the poor and social injustices. Systematic opposition by the Church against Protestants no longer take place.

Influenced by Vatican II, the Church has begun to adopt a bolder stand on social issues. The more progressive members of the hierarchy have advocated tax and land reforms and, in some cases, family planning and rejection of the capitalist order. However, the church does not present a united front on these issues and its authority is, to that extent, vitiated.

As an example of the newly emerging social consciousness of the Catholic Church in Ecuador, Pope John Paul II recently called on the Ecuadoran government for better living conditions for the country's poor. At the conclusion of visit to Ecuador in February 1985, the Pope addressed "an urgent call on those who govern, on those who are responsible for society, as well as on all Catholics" to "search for a better social balance, and show more solidarity toward the neediest and suffering" people of Ecuador. He went on to say "let no one be in peace as long as there is in Ecuador a child without school, a homeless family, an unemployed worker, a sick or an old person without proper care."

C. THE PROTESTANT CHURCH

There are a number of Protestant denominations, with the Methodists the leading one in size and influence. There are also Evangelical Lutherans, Baptists, an English Fellowship Church, Church of Christ, Episcopalian, and other scattered groups. The Gospel Missionary Union has a large ministry in the highland provinces.

One of the key elements of the Protestant faith in the country is the presence of the HCJB (Heralding Christ Jesus' Blessings) broadcasting station in Quito. The "Voice of the Andes" is the third largest radio station in the world, behind only the Voice of America and Radio Moscow. It broadcasts on almost 1,000,000 watts in 14 languages some seventy hours of programs per day. The station covers about 90 percent of the world's surface with its programs. (See the chapter on Public Communications for more details of its operations.) HCJB is supported by offerings and missionary workers from a number of Protestant groups throughout the world.

D. OTHER RELIGIOUS GROUPS IN ECUADOR

The Church of Jesus Christ of Latter Day Saints (Mormans), the Seventh Day Adventists, and Jehovah's Witnesses are also active in the country and there is a congregation of the Jewish faith in Quito. Some members of the Muslim religion are located in the Costa region, especially in Guayaquil.

1. The following are some churches in Quito which provide services in English (unless otherwise noted).

Association Israelita

Avenida 18 de Septiembre 954 (P. O. Box 2873). Tel: 233-765; Friday 7:00 p.m. - traditional Hebrew services
Saturday 9:00 a.m. - traditional Hebrew services

Church of Christ

Eloy Alfaro 2574. Tel: 458-181
Sunday 5:30 p.m. - worship service
(This is a group of families; no church building)

Church of Jesus Christ of Latter Day Saints

Diego de Almagro and Colon. Tel: 529-602
Sunday services in Spanish from 9:00 a.m. to 12:00 noon
and from 2:30 to 5:30 p.m.

Dominican Sisters' Chapel (Catholic)

Madrid 1431 and 12 de Octubre (P. O. Box 2234). Tel:
234-012

Sunday 9:00 a.m. - Holy Mass; Confessions may be heard
before or after Mass.

(Pastor: The Rev. John Halligan, S.J., 210-413)

Evangelical Lutheran Church - St. Nicholas Episcopal Church
(Combined congregations)

Isabel la Catolica 1431 (P.O. Box 3285. Tel: 234-391.

Sunday 9:00 a.m. - morning worship

10:30 a.m. - Sunday School - Adult Discussion Class

English Fellowship Church

Avenida Brasil 268 and America (P.O. Box 691). Tel:
241-550.

Sunday 8:30 a.m. and 11:00 a.m. - morning worhsip

5:30 p.m. and 7:00 p.m. - evening worship

(Sunday School between the two morning services)

First Baptist Church

El Telegrafo 281. Tel: 249-482.

Sunday School 10:00 a.m.; Services 11:00 a.m., 2:00 p.m.
and 6:00 p.m.

Youth meeting - Sunday 3:30 to 5:00 p.m.

2. OTHER CHURCHES

Iglesia de Jesucristo de los Santos de los Ultimos Dias

Mormones

Av. Orellana y 12 de Octubre. Tel: 570-446

Eglesia del Evangelio Cuadrangular

Olmedo 832. Tel: 516-003

Iglesia del Pacto Evangelico del Ecuador

Isla Isabela 221. Tel: 247-079

Iglesia Episcopal Chimbacalle

Guayllabamba 214. Tel: 262-866

Iglesia Episcopal del Ecuador

Ulloa 213. Tel: 262-528

Alonso de Gama y Juan Canelos Iglesia Evangelica

General Guerra 470. Tel: 532-780

Iglesia Evangelica Cordero de Dios
 Godin 325. Tel: 542-875

Iglesia Evangelica de la Santisima Trinidad
 Rodrigo de Ocampo y Balboa. Tel: 266-807

Iglesia Evangelica del Divino Redentor
 Manuel Larrea 700. Tel: 525-694.

Iglesia Evangelica del Pacto de la Floresta
 Madrid 509. Tel: 552-797

Iglesia y Convento "El Carmelo"
 Robles y 9 de Octubre. Tel: 230-502

Iglesia Evangelica del Calvario
 Urb. Santiago 2da. Transversal, Casa 190. Tel: 610-096

Iglesia Evangelica "El Salvador"
 Las Casas 340. Tel: 237-727

Iglesia Evangelica "Inaquito"
 Villalengua s/n. Tel: 247-235

Iglesia Evangelica Pentecostal Unida del Ecuador
 Francisco Jimenez 310. Tel: 613-346

Iglesia Evangelica Unida
 Rumipamba 915. Tel: 456-714

Iglesia del Carmen Alto
 Cuenca y Rocafuerte

Iglesia del Carmen Bajo
 Olmedo y Venezuela

Iglesia Chaupicruz
 Av. de la Prensa

Eglesia El Carmelo
 Amazonas y El Inca

Iglesia El Belen
 Sodiro (Alameda)

Iglesia Santa Clara de San Milan
Santa Clara

Iglesia Santa Teresita
9 de Octubre y Robles

Iglesia de la Floresta
Madrid y Ladron de Guevara

Iglesia de la Paz
Coruna y 6 de Diciembre (El Batan). Tel: 233-677

Iglesia Nuestra Senora del Perpetuo Socorro
Rio de Janeiro y Estados Unidos

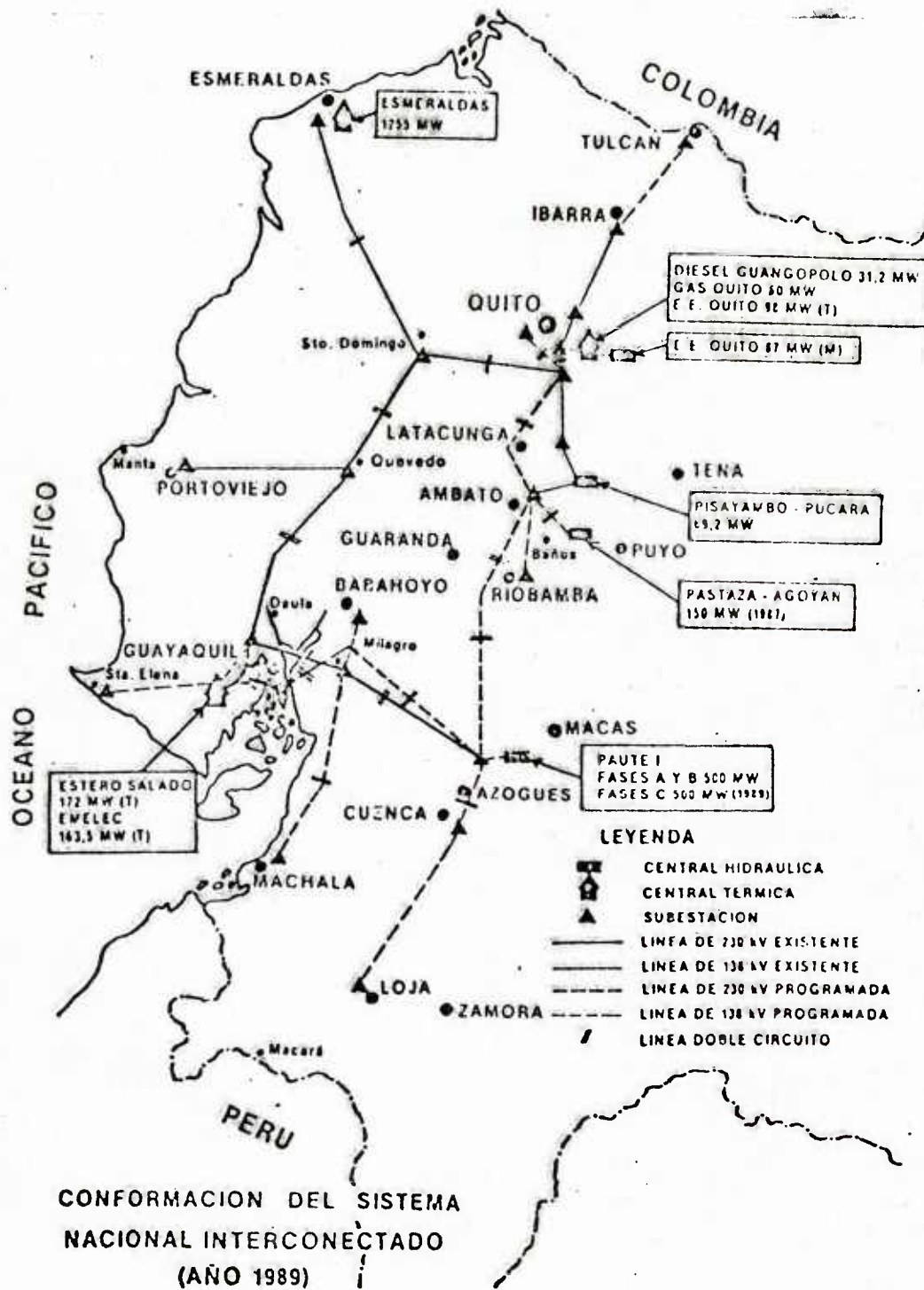
Iglesia de Santa Barbara
Manabi y Garcia Moreno

ECUADOR: COMMODITY EXPORTS 1970-1983

(Million 1975 US\$, F.O.B.)

Item	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	Preliminary		
												1981	1982	1983
Total Exports Million US\$	403.5	434.6	674.2	1,344.1	1,126.7	1,012.8	1,195.1	1,044.0	1,060.6	1,096.6	1,062.2	1,062.5	992.4	1,034.2
Crude Petroleum Million US\$	4.7	5.9	297.2	842.9	702.0	616.8	725.7	596.7	530.4	530.4	468.8	537.5	505.5	702.0
Million Barrels	0.4	0.5	25.1	71.2	59.3	52.1	61.3	50.4	44.8	44.8	39.6	45.4	42.7	59.3
Fuel Oil Million US\$.0	0.3	2.5	3.9	6.1	0.9	1.1	0.7	6.4	6.0	6.4	4.7	4.3	3.3
Million Barrels	.0	0.4	3.1	4.8	7.6	1.1	1.4	0.9	7.9	7.4	7.9	5.8	5.3	4.1
Bananas Million US\$	126.9	137.4	140.2	139.5	138.1	138.7	122.2	128.3	138.8	141.1	137.1	130.0	128.4	92.6
Thousand M.T.	1,246.3	1,350.0	1,377.0	1,370.0	1,357.0	1,362.0	1,200.0	1,260.0	1,363.0	1,386.0	1,347.0	1,277.0	1,261.3	910.0
Coffee Million US\$	56.1	49.2	65.4	80.9	63.9	65.5	92.7	58.9	105.6	88.2	63.0	60.1	44.2	80.9
Thousand M.T.	52.3	45.9	61.0	75.4	59.6	61.1	86.4	54.9	96.5	82.2	58.7	56.0	41.2	75.4
Raw Cocoa Million US\$	40.1	53.6	51.3	36.0	76.1	42.2	24.0	20.5	17.9	15.6	15.0	29.9	46.6	6.1
Thousand M.T.	36.5	48.8	46.7	32.8	69.3	38.4	21.9	18.6	16.3	14.2	13.7	27.2	42.5	5.6
Processed Cocoa Million US\$	6.4	10.3	14.2	12.4	21.3	29.8	53.1	77.5	102.4	113.9	115.2	90.1	89.6	51.0
Thousand M.T.	3.4	5.5	7.6	6.6	11.4	15.9	28.3	41.4	54.7	60.8	61.5	48.1	47.9	27.3
Sugar Million US\$	29.2	46.9	49.7	40.3	26.2	23.6	21.1	29.0	16.8	16.8	35.5	24.9	0.0	0.0
Thousand M.T.	55.4	89.0	94.5	76.6	49.8	44.9	40.1	55.0	31.9	32.0	67.4	47.3	0.0	0.0
Shrimp & Fish Million US\$	11.1	19.0	11.7	45.6	14.9	24.8	20.7	22.0	21.0	30.2	33.3	27.2	25.8	28.2
Thousand M.T.	10.6	18.1	11.2	43.4	14.2	23.6	19.7	21.0	20.0	28.8	31.7	25.9	24.5	26.8
Industrial Exports N.E.I. Million US\$	15.8	18.9	23.0	37.7	47.2	45.9	56.9	72.3	75.2	94.0	140.6	142.0	161.2	54.2
Chemicals	2.9	3.5	3.6	6.0	4.4	3.0	1.9	3.6	3.5	2.4	2.3	4.2	4.6	3.7
Food	6.5	10.1	8.2	17.0	16.7	11.8	17.9	28.1	29.0	34.6	68.4	63.1	111.2	37.4
Instant Coffee	.0	0.0	1.0	1.1	1.2	1.0	1.4	3.3	3.7	8.8	8.6	13.6	12.2	13.6
Processed Fish	3.0	6.7	3.6	8.7	9.2	6.9	12.0	17.9	19.6	19.5	47.2	35.7	91.2	19.1
Other Foods	3.5	3.4	3.6	7.2	6.3	3.9	4.5	6.9	5.7	6.3	12.6	13.8	7.8	4.8
Other Industrial	6.4	5.3	11.2	14.7	26.2	31.1	37.1	40.6	42.7	57.0	70.0	74.7	45.5	13.1
Animal Feed	0.2	.0	0.1	1.2	5.1	5.4	5.3	15.9	15.9	19.5	23.4	26.8	.0	0.4
Pyrethrum	2.3	1.3	1.0	1.1	0.8	1.0	0.5	0.8	0.5	0.6	0.8	0.8	0.6	0.3
Plywood	0.5	0.4	0.8	0.0	0.9	0.7	1.5	3.7	4.1	5.9	10.2	14.0	15.8	2.9
Metals	0.1	0.3	1.0	0.9	0.9	1.2	2.0	1.2	1.2	4.1	7.6	4.4	3.5	1.4
Home Appliances	0.0	0.3	1.1	0.8	4.0	2.5	3.1	2.9	4.0	7.7	11.0	9.0	10.7	0.1
Hats	2.7	1.5	3.4	4.0	5.6	6.8	6.1	5.8	5.8	7.0	6.2	5.1	3.5	2.3
Textile Products	0.1	0.4	0.9	3.5	3.4	8.5	2.5	1.9	1.7	3.6	3.0	3.0	2.4	0.6
Leather Goods	.0	.0	.0	1.3	1.9	0.2	0.2	0.2	0.1	0.1	1.0	1.2	0.8	0.7
Other	0.6	1.1	2.9	2.0	3.7	4.8	15.8	8.1	9.5	8.6	6.8	10.5	8.1	4.4
Other Exports	22.2	20.6	24.2	29.9	27.6	17.3	25.0	25.2	18.2	25.3	18.7	22.4	19.0	14.8
Balancing Item 1/	91.0	72.5	-5.3	75.0	3.0	7.2	52.6	13.0	28.0	35.1	28.5	-6.1	-32.2	1.0

1/ This item includes exports unaccounted for in Customs statistics. It is equal to the difference between the Balance of Payments, f.o.b. Exports and the total reported in Customs statistics.



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