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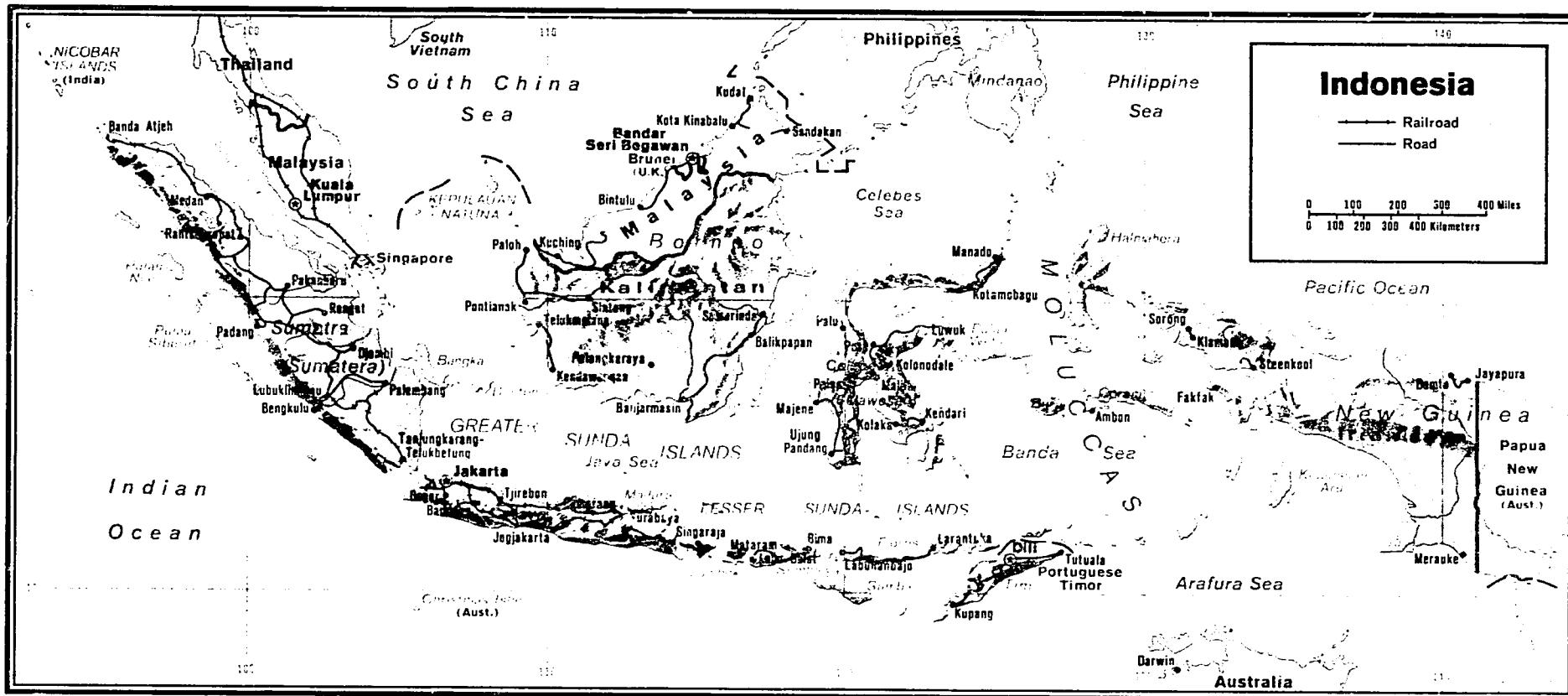
# **Indonesia**

## **À Country Profile**



**1983**

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



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INDONESIA: A COUNTRY PROFILE

prepared for

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

by

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

The profile of Indonesia is part of a series designed to provide baseline country data in support of the planning and relief operations of the Office of U.S. Foreign Disaster Assistance (OFDA). Content, scope, and sources have evolved over the course of the last several years; the relatively narrow focus is intentional. To avoid redundancy, some topics one might expect to find in a "country profile" are not covered here.

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

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

May 1983

OFDA COUNTRY PROFILES: MAY 1983

AFRICA

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Djibouti  
East Africa Regional Profile  
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Gambia-Senegal  
Mali  
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CARIBBEAN

CARICOM Regional Profile  
Dominican Republic  
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LATIN AMERICA

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Costa Rica  
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Turkey

SOUTH PACIFIC

Fiji  
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INDIAN OCEAN

Island Countries of  
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1. General Information1.1 Geographic Codes

AID	497
State region	EA
FIPS	ID

1.2 Country Names

Official	Republic of Indonesia
Local	Republik Indonesia
Short	Indonesia

1.3 Calendar and Holidays

New Year's Day	January 1
Mohammed's Birthday	*
Good Friday	*
Ascension Day	*
Independence Day	August 17
Id al - Fitr	*
Id al - Adha	*
Moslem New Year	*
Christmas Day	December 25

\* varies from year to year; contact Embassy for date.

1.4 Currency

Unit of currency is the rupiah (=100 Sen).  
Rp. 701 = US \$1 (March 1983)

1.5 Time Zones

3 time zones are covered by Indonesian Standard Time:  
(1) Western - Java, Sumatra, Madura, Bali;  
GMT + 7, EST + 12

- (2) Central - Kalimantan, Sulawesi, Nusa Tenggara;  
GMT + 8, EST + 13
- (3) Eastern - Irian Jaya, Maluku;  
GMT + 9, EST + 14

#### 1.6 US Mission and Staff (January 1983)

Embassy of the United States  
Medan Merdeka Selatan 5  
Jakarta  
Tel: 340001-9

Ambassador.....John H. Holdridge  
Deputy Chief of Mission.....John C. Monjo  
Economic Section.....Joseph A. Winder  
Commercial Section.....Franklin J. Kline  
Political Section.....W. Scott Butcher  
Labor Officer.....John L. Washburn  
Consul, Consular Section.....M. Patricia Wazer  
Administrative Section.....George E. Knight  
Regional Security Officer.....Douglas K. Roberts  
Agency for International Development..William P. Fuller IV  
Agricultural Section (USDA/FAS).....George J. Pope  
Public Affairs Officer (USIS).....William K. Payeff  
Office of the Defense Attache.....Col. John Kizirian USA

#### 1.7 Host Mission and Staff in US (February 1983)

Embassy of the Republic of Indonesia  
2020 Massachusetts Ave., NW  
Washington, DC 20036  
Tel: (202) 293-1745

Ambassador.....A. Hasan Habib  
Minister.....S. Wiryo  
Minister-Counselor.....Hardjcutomo Suprpto  
Counselor.....Roekmini Soedibjo  
Attache.....Jacobus Sunarto  
Minister-Counselor (Economic).....Rochsid Setyoko  
Minister-Counselor (Information).....Gedhe I Gusti Ngurah  
Minister-Counselor (Administration).....Lukmanul H. Kasmy  
Attache (Communications).....Fadjar Soemarko  
Attache (Defense).....Col. Eddy Tumengkol

1.8 Treaties and Agreements

Agricultural	Informational Media Guarantees
Atomic Energy	Investment Guaranties
Aviation	Mapping
Defense	Peace Corps
Economic Cooperation	Satellites
Finance	Surplus Property
Health	Telecommunications

1.9 International Organization Memberships

ADB (Asian Development Bank), ANRPC, ASEAN (Association of Southeast Asian Nations), CIPEC, ESCAP, FAO, G-77, IAEA (International Atomic Energy Agency), IBA, IBRD, ICAO, ICO, IDA, IFC, IHO, ILO, IMCO, IMF, IPU, ISO, ITC, ITU, NAM, OPEC, UN, UNESCO, UPU, WHO, WMO, WTO.

1.10 Travel and Visa Information

A passport and visa are required for entry. A tourist visa (valid for single entry up to 3 months from date of issuance) is available for stays up to 30 days at a cost of \$3.00. A business visa is available for stays up to 5 weeks (single entry, can be extended) at a cost of \$5.50. Two photos are needed for all visas. A landing fee is required (\$16.50) if stay is over 30 days, plus an immigration fee for processing extensions at a cost of \$4.00. Obtain visa before arrival and allow 48 hours. Apply to the Embassy, Washington, DC 20036; or Consulate General in New York 10021 or San Francisco 94104 or Honorary-Consul in Honolulu 96842 for specific requirements.

Smallpox certificate required for travelers arriving from, or via, Djibouti, Ethiopia, Somalia, Kenya, or any infected area. Yellow fever certificate required if arriving from infected area. Cholera vaccination is recommended and Indonesia is a malaria risk area.

1.11 Languages

Most languages belong to the Malayo-Polynesian family and have the same basic grammatical structure. The official language of Indonesia is Bahasa Indonesia, derived from trade Malay, the lingua franca for the entire East Indies during the colonial period. Many Indonesians are bi-

or trilingual. Major languages include: Javanese, spoken by 40-50% of the population, Sundanese (15%), Madurese, and Malay (each spoken by 5-10% of the population). Balinese, Minangkabau, Batak, Makasarese, and Buginese are regionally important. Several non-Malayo languages spoken in Eastern Indonesia (Halmahera, Timor, Alor, and Prion Jaya) are lumped together as Papuan, though not all are related.

English is the official second language; it is widely taught in schools and spoken by many leaders.

### 1.12 Religion

The people of Indonesia are predominantly Muslim (90% of the population), Christian (5%), or Hindu (3%). The Hindu minority is centered in Bali. Most Chinese Indonesians retain their belief in Buddhism, Taoism, and Confucianism.

### 1.13 Education

Ninety-four percent of all children between the ages of 6 and 13 attend school. Education beyond the primary level is not compulsory; only 29% of the population aged 13 to 19 attend secondary schools. The adult literacy rate is 64%.

### 1.14 National Government

Indonesia is an independent republic governed by a modified military regime. The highly centralized government is based on a broadly-phrased constitution adopted in 1945. The President, assisted by a 30-member cabinet, is elected by the People's Assembly (MPR), which meets at least once every 5 years. The MPR has 920 members, half of whom are concurrently members of the House of Representatives (DPR), the chief legislative group. Other MPR members include elected regional delegates, government appointed representatives of military and functional groups, and representatives of political parties in proportion to their elected strength in the DPR. Of the 460 members of the DPR, 360 are elected and 100 appointed (75 from the military).

The government-backed quasi-party, the Joint Secretariat of Functional Groups (Golkar), won 63.5% of the popular vote in the 1982 parliamentary elections. The main opposition, the Moslem United Development Party, received 28.4% of the vote. President Suharto was re-elected in the 1983 Presidential election for another five-year term.

1.15 Regional Organizations

Indonesia has a three level system of regional legislative councils which are elected by direct universal adult suffrage and a corresponding system of regional executive councils elected by, and from among legislative council members. There are 27 first level provinces (Portuguese East Timor, annexed in 1976, is 27th), with two levels of subdivisions: 281 regencies and municipalities on the intermediate level, and villages on the lowest level. In some areas, subdistricts are added between regency and village. Respective administrators are governors, regents, and mayors, appointed by the central government, and chiefs, chosen locally.

1.16 Major Government Figures (April 1983)

President.....	Suharto
Vice President.....	Wirahadikusumah, Umar, Gen.
Coordinating Minister for Social Welfare...	Alamsjah Ratu Prawiranegara
Min. of Agriculture.....	Affandi, Achmad
Min. of Communications.....	Roesmin Nurjadin
Min. of Defense and Security.....	Poniman. Gen.
Min. of Foreign Affairs.....	Mochtar Kusumaatmadja, Prof. Dr.
Min. of Health.....	Soewardjono Surjaningrat, Maj. Gen.
Min. of Industry.....	Hartarto
Min. of Information.....	Harmoko
Min. of Public Works.....	Suyono Sosrodarsono

## 2. Physical Geography

### 2.1 Land Forms

Indonesia, encompassing a total land area of 1,904,600 sq. km., lies along the equator between the southeastern tip of the Asian mainland and Australia. On its southern and western coasts, it is bordered by the Indian Ocean, on the north by the Straits of Malacca and the South China Sea, and on the northern shore of Irian Jaya by the Pacific Ocean.

Indonesia is comprised of more than 13,000 islands, at least 1,000 of which are inhabited. The five islands of Java, Sumatra, Sulawesi, Kalimantan, and Irian Jaya constitute nine-tenths of the total land area. The larger islands of eastern and western Indonesia, Sumatra, Kalimantan, Irian Jaya, and Java, lie on two large continental shelves. The resulting topography is large mountain ranges facing the deep sea along the outer edges of the shelves, and extensive lowland areas facing the shallow inner seas. The islands lying between the two shelves, Sulawesi, Nusa Tenggara, and the Maluku groups, rise steeply from deep seas on all sides and have very narrow coastal plains.

Indonesia is one of the most active volcanic regions in the world. A chain of 127 volcanic mountains, at least half of which are considered to be active, runs along the west coast of Sumatra, through the center of Java, and along Bali and the Lesser Sundas. (See also section 2.5, Seismicity and Volcanicity and section 3.2, Hazard Analysis.)

Only Java and northern Sumatra have extensive dry flatlands. Tidal swamps extend deep into the interior of Java, Sumatra, Kalimantan, and Irian Jaya, and are virtually useless for cultivation. Most of the lowlands in the archipelago consist of rolling hills or swamps, and are often heavily forested.

### 2.2 Climate

Most of Indonesia can be described as maritime equatorial, with consistently high temperatures and heavy rainfall in all seasons. Some parts of western Indonesia experience periods of exceptionally heavy rain during the monsoon season (June-July and September-October). However, the eastern half of Java, Bali, southern Sulawesi, and Nusa Tenggara, which lie closer to the Australian desert, experience a definite dry season during the same period. Monthly mean temperatures vary only slightly, averaging about 26°C year-round.

Average Annual Precipitation (cm)

	<u>Jan.</u>	<u>Apr.</u>	<u>Jul.</u>	<u>Oct.</u>	<u>Year</u>
Jakarta (Java)	30.0	14.7	6.4	11.2	179.8
Manokwari (Irian Jaya)	30.5	28.2	13.7	11.9	249.2
Mapanget (Sulawesi)	47.2	20.3	12.2	12.4	269.5
Penfui (East Timor)	38.6	6.6	0.5	1.8	141.5
Pontianak (W. Kalimantan)	27.4	27.7	16.5	36.6	317.8
Tabing (W. Kalimantan)	35.3	36.8	26.7	51.1	445.5
Tarakan (NE Kalimantan)	27.7	35.3	26.2	36.3	386.8

Source: Climates of the World, 1972.

### 2.3 Waterways

Indonesia has numerous waterways; however, most of these are more useful for irrigation than for transportation.

Java - largest rivers on the east coast are Solo and Brantas; on the west coast are Citarum and Cimanuk. All four are navigable by small boats during the rainy season.

Sumatra - only the eastern rivers are important and usable. Asahan is navigable in part by steamers; Rokan is navigable for 116 km. inland; Siah is navigable to the Port of Pekanbaru, 166 km. upstream; Kampar is navigable by ocean steamers for 30 km.; Inderagiri is navigable by ocean steamers; Batanghari (the largest Sumatran river) has maximum navigability of 830 km.; Musi is navigable by ocean-going vessels to Palembang for 90 km., but can go further by steam launches to 332 km. inland and by small craft to 548 km.

Kalimantan - rivers are important lines of settlement and transportation. Kapuas is navigable for 500-660 km. inland from Pontianak to Sintang depending on the season and tides. It is joined by cross branches to Kapuas Murung and Kahajan. Barito is navigable for two-thirds of its course by steamers. Mahakam is the only large river on the east coast.

Sulawesi - rivers are short and unimportant for transportation.

Nusa Tenggara - rivers are short and unnavigable.

Irian Jaya - has the largest river in Indonesia, the Mamberano.

## 2.4 Mountains

Indonesia has two long mountain chains which intersect in Sulawesi and Halmahera. The first one consists of two parallel ridges that run through Sumatra, Java, Bali, and Timor and curve through the southeastern islands to Ceram and Buru. The second mountain chain extends southwest through the Philippines into eastern Indonesia.

The principal mountain systems are grouped by island:

**Java:** a mountain range runs from east to west, flanked in the north by lowlands, and in the south by limestone ridges. The system is broken into five sections, the most extensive being the Priangan Mountains in western Java, including Cikurai (2,820 m.).

**Sumatra:** the Barisan mountains, with heights ranging from 1,500 to 3,650 m., rise abruptly along the west coast. There are ten active volcanoes in this range.

**Kalimantan:** the Upper Kapuas range divides western Indonesia from Malaysia. The Schwaner chain (highest peak is Mt. Raja, 2,250 m.) divides the watershed of Kapitas from that of southern Kalimantan. The Muller chain runs between Made Plateau and the Kapuas range.

**Sulawesi:** several large mountain ranges extend through the central areas of Sulawesi, with heights averaging over 3,000 m.

**Maluku:** most of these islands are mountainous.

**Nusa Tenggara:** Flores, Sumba, and Bali are all mountainous and volcanic.

**Irian Jaya:** Irian Jaya is split by an east-west mountain system, with peaks rising over 4,800 m.

## 2.5 Seismicity and Volcanicity

Indonesia is one of the most seismically active regions in the world, accounting for approximately 8% of the world's total epicenters. In addition, a chain of 127 volcanoes located throughout the islands has been active in recent geologic time. The cause of such active seismicity and volcanicity is the country's location along the Indo-Australian plate. The islands, primarily Java, Sumatra, the Lesser Sundas, and, in the northeast, the Halmahera Islands, form the Sunda Arc. As the plate moves northward toward the island arc, crustal subduction occurs in the Java Trench, causing hazardous shallow-zone earthquakes and volcanism. (See also section 3.2, Hazard Analysis.)

### 3. Disaster Vulnerability and Preparedness

#### 3.1. Disaster Types

Earthquakes, floods, volcanic eruptions, landslides, drought, tsunamis, strong winds, and epidemics.

#### 3.2 Hazard Analysis

##### Earthquakes

Of the average 350 earthquakes Indonesia experiences annually, ten are likely to be major earthquakes and one to three are likely to be destructive. The high risk regions are western Sumatra, southern Java, Flores, northern and central Sulawesi, the northern area of the South Sulawesi province, eastern Kalimantan, the Malukus, and northern Irian Jaya. Some of Indonesia's largest cities are located in these regions, including Bandung, Ujung Pandang, Melang, Padang, Jogjakarta, Banjarmasin, Bengkulu, and Balikpapan. Several major airfields and ports are situated in these cities. (See also section 2.5, Seismicity and Volcanicity.)

##### Volcanic Eruptions

Three zones of volcanoes run through Indonesia. The first extends along the entire length of Sumatra, passes Krakatau inland, and continues eastward through the islands of Java, Bali, Lombok, Flores, and the small islands of the Banda Sea. The second zone begins in northern Sulawesi and extends to the Sangihe Islands and beyond. The third zone extends through the Halmahera Islands, Ternate, and Makian. The most active, potentially destructive volcanoes are located on Java. The most destructive eruptions (which occur about once every three years) are accompanied by mudflows and nuees ardentes. Volcanic regions in Indonesia are often densely populated because volcanic material enhances soil fertility and improves farmlands. More than half of the country's population lives on Java alone, site of 17 of the most dangerous volcanoes in the country. (See also section 2.5, Seismicity and Volcanicity.)

##### Floods

The provinces of Aceh (Sumatra), North Sumatra, West Java, Central Java, and East Java are most vulnerable to annual flooding, primarily in areas of river valleys. Here thousands of hectares of ricefields are frequently at risk.

Landslides

Most landslides in Indonesia are the result of flooding or earthquakes. Therefore, both flood and earthquake-prone regions are at risk.

3.3 Disaster History

Indonesia experiences an average of 350 earthquakes per year, of which ten are considered major, and one to three destructive. Volcanic eruptions causing damage to the surrounding area occur approximately every three years. Based on its history of recorded disasters (a partial listing appears below) Indonesia ranks number two out of 117 disaster-prone countries in incidence of disasters of a magnitude that warranted U.S. assistance. In a ranking of total number of recorded disasters, Indonesia places fifth out of 145 countries, making it one of the most disaster vulnerable countries in the world.

Summary Disaster History

<u>Disaster</u>	<u>Location</u>	<u>Date</u>	<u>Number Killed</u>	<u>Number Victims</u>	<u>Dollar Damage ('000)</u>
Volcanic Eruption	Java, Mt. Kelud	1919	5,000		
Volcanic Eruption	Bali, Mt. Agung	1/03/63	1,584	78,000	
Drought/Famine	Lombok	1966	8,000	212,000	
Flood	Central Java	11/30/67	160		
Earthquake	Celebes, Madjene	2/23/69	664		
Drought	Central Java	1972		3,500,000	\$70,000
Earthquake	Irian Jaya	6/26/76	420	35,000	
Earthquake	Bali	7/14/76	573	450,000	\$195,000
Earthquake	Nusa Tenggara	8/19/77	185		\$1,200
Cholera Epidemic	East Java	12/77	80		
Volcanic Eruption	Mt. Sinila, C. Java	2/20/79	175	17,000	
Flood/Landslides	Flores Island	2/27/79	128	20,000	\$3,200
Earthquake	Lombok Island	5/30/79	34		\$4,150
Flood	West Java	5/79		4,500	
Tsunami	Lomblen Island	7/18/79	175		
Earthquake	West Java	11/02/79	26	43,000	\$16,000
Earthquake	Bali & Lombok	12/18/79	32		
Landslide/Heavy Rains	West Java	12/80	100		
Earthquake/Floods Landslides	Irian Jaya	1/19/81	2,000		
Flood/Rains/Landslides	Mt. Semeru	5/14/81	500		\$2,200

<u>Disaster</u>	<u>Location</u>	<u>Date</u>	<u>Number Killed</u>	<u>Number Victims</u>	<u>Dollar Damage ('000)</u>
Fire	Palembang	8/18/81		36,500	
Flood	Jogjakarta	11/06/81		6,000	
Flood/Rains	Jakarta	4/15/82	9	200,000	
Landslides	N. Sumatra	11/10/82	50+		
Volcanic Eruption	Mt. Galunggung	4/15/82	16	100,000	\$6,202
Earthquake	Sukabumi, Java	2/24/82		15,000	\$3,500
Flood	S. Kalimantan	3/82		25,000	

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

#### 3.4 Host Disaster Plan

In 1977, Indonesia's Ministry of Social Affairs drafted a national disaster plan. However, in 1979, President Suharto presented a new plan. Presidential Decision No. 28/1979 describes the role of the government in planning, directing, controlling, and coordinating all programs and activities concerning protection, safety and rehabilitation of "disaster zones" in any part of the country affected by a disaster. In the event of a major disaster, the National Coordination Board for Natural Disaster Relief (BAKORNAS), composed of representatives of various government departments including the Minister for People's Welfare, the Minister of Social Affairs, the Minister of Domestic Affairs, and the Minister of Public Works, is convened. The BAKORNAS has the task of formulating relief policies and coordinating relief efforts. At the provincial level, the SATKORLAK for Natural Disaster Relief, composed of the provincial governor, the territorial officer of the Armed Forces, the head of the Department of Social Affairs Regional Office, and other provincial officials, coordinates preventive and rehabilitative disaster relief efforts in the province. A SATKORLAK at the regency and municipal levels is also organized, led by the regency/major. The SATKORLAK in the regency has the responsibility to coordinate relief efforts conducted by the work units in the sub-districts and villages of the regency.

Since March 1981, the Government of Indonesia has organized a series of national and regional seminars to discuss disaster planning and preparedness. Although no specific national disaster plan has been formulated, these seminars have resulted in regional disaster training programs for representatives of provincial government offices.

### 3.5 Host Resources

When a major disaster strikes, the GOI is not likely to have sufficient emergency supplies of tents, blankets, and medicines immediately on hand. However, most supplies can be purchased from commercial establishments in Jakarta and in nearby Singapore.

The GOI maintains separate emergency food storage and distribution facilities throughout Indonesia. Emergency needs may also be met through existing public and private facilities from normally maintained food stockpiles.

The Indonesian Red Cross (PMI) has 20 warehouses (as of July 1981) located throughout Indonesia for storage of emergency supplies. The contents of each warehouse include various medicines, six field clinics, first aid bags, stretchers, rice and milkpowder, one field kitchen, cloth and sewing machines, six tents, lamps, communications equipment, four boats, a truck, and a jeep.

The GOI has access to a variety of air transport and land vehicles through the Armed Forces, police, Air Force, and other government departments. Also available are heavy equipment pieces for use in road and bridge building and other reconstruction projects. Mission Aviation Fellowship (headquarters in Jakarta) maintains 16 Cessna aircraft and three helicopters for emergency operations. Air support is extremely important in most emergency situations in Indonesia, because many areas of the country are accessible only by air or by foot.

### 3.6 US Plan

Work is currently in process on the development of a U.S. Mission Disaster Relief Plan for Indonesia (March 1983).

U.S. Mission Disaster Relief Officer: Art Wong

### 3.7 Voluntary Agencies

Voluntary and international organizations that could be of assistance in a disaster situation are:

CARE, Inc.  
Ellis Franklin, Country Director  
Jalan Kiyai Maja 65  
Kebayoran Baru, Jakarta  
Tel: 775415/7714662

CARE is engaged in community development, safe water systems development, health/sanitation education, and agricultural development projects.

Catholic Medical Mission Board, Inc.  
10 West 17th Street  
New York, NY 10011  
Tel: (212) 242-7757

CMMB provides medical supplies, equipment, and books to medical facilities throughout Indonesia.

Catholic Relief Services  
Patrick Johns, Program Director  
Jl. Let. S. Parman No. 78  
3rd Floor, Room 311/Slipi  
Tel: 593592/542727/542162

CRS provides grants for clothing, vehicles, and supplies, and finances numerous small community development, nutrition, and rural health care projects.

Church World Service  
Nancy J. Robinson, CWS Representative  
P.O. Box 2357  
Jl. Balikpapan 23  
Jakarta

CWS, working through the Council of Churches in Indonesia's Participation in Development, provides funds, clothing, food commodities, seeds, and medical supplies.

Mennonite Central Committee  
Dri Soesanto  
Jalan Kosambi 11/7  
Kalibaur - Clincing  
Tromol Pos 49/JKU  
North Jakarta

Participates in health and education programs in food production and agricultural projects.

Mission Aviation Fellowship  
Darmawan Bone, Operations Manager  
P.O. Box 12  
Tebet, South Jakarta

National Rural Electric Cooperative Association  
Peter T. McNeill  
NRECA Team Leader  
USAID/JAKARTA  
Jakarta  
Tel: 016221/761132

Assists the GOI in the organization and development of rural electrification systems in 600 villages.

The Salvation Army  
Colonel Herman Pattipeilohy, Territorial Commander  
Kotak Pos 641  
Bandung, Java  
Tel: (02) 257029

World Relief Corporation  
Mr. Randall Whetzel  
c/o IMBO  
Jalan Fachruddin  
Jakarta

World Relief Corporation provides emergency relief and disaster assistance.

World Vision Relief Organization, Inc.  
919 West Huntington Drive  
Monrovia, California 91016  
Tel: (213) 357-7979

Supports community development programs and provides emergency food, special disaster kits, and farm animals.

Indonesian Red Cross  
Jalan Abdul Muis 66  
Jakarta  
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Jalan Thamrin 14  
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Jakarta

3.8 Supply Requests

During a disaster situation, the following supplies and services are likely to be required from outside sources:

1. Health supplies: In an earthquake situation, trauma kits including splints, plastic bandages, burn treatment, and broad spectrum antibiotics.
2. Water-related equipment: In a major flood, pump-purifier systems and water containers.
3. Transportation: In a large-scale flood, small boats and motors.
4. Food: Rice, cassava, maize flour, wheat flour, sorghum.
5. Tents with poles and stakes.
6. Lightweight blankets.
7. Cooking stoves run by gasoline or kerosene.
8. Cooking and eating utensils.
9. Chemical toilets.

#### 4. Demography

##### 4.1 National Demographic Characteristics

Population (1981)	149.4 million
Average annual growth rate (1981)	2.1%
Average annual urban growth rate (1980)	3.5%
Age structure	
0-14	41.6%
15-64	54.9%
65 and over	3.5%
Density per sq. km of arable land	465

With a population of more than 149 million in 1981, Indonesia is the fifth most populous country in the world and has the largest population of all Southeast Asian countries. Population control policies have been actively encouraged only since 1970. In 1979, an estimated 27% of married women were reported to practice some form of birth control, compared to less than 1% in 1970.

##### 4.2 Ethnic and Sociocultural Groups

The predominant racial type in Indonesia is Deutero Malay, encompassing virtually the entire indigenous populations of Java, Madura, and Bali; the coastal peoples of Sumatra; and most of the coastal population of Kalimantan. The eastern third of Indonesia is principally Proto-Malay, mixed Proto-Malay, Melanesoid, and Australoid, except in Irian Jaya where the indigenous population is Papuan.

At least three hundred ethnic/tribal groups exist, but only ten have more than two million members. Javanese are the largest ethnic group (50 million in Java in the early 1970s). Ten million Sundanese and five million Madurese also live on Java. On Sumatra, Atjehnese, Minangkabon, and Batak each number at least two million, and coastal Malays number 1.5 million. Two million Makasarese and three million Buginese are the largest groups in southern Sulawesi, while the Minhasa are the largest group in the north. Balinese (over two million) and Sasek (1.5 million) are the major groups in the Lesser Sundas. Ethnic Chinese (3.5 million) constitute the largest non-Malay group; other minorities include Arabs, Indians, Eurasians, and Europeans.

##### 4.3 Regional Distribution

Indonesia's population is very unevenly distributed. The highest density exists on Java and Madura; in 1971, these two islands, which

constitute only 6.7% of Indonesia's total land area, contained 63.8% of the country's people. The capital city of Jakarta had a density of 7,756 people per sq. km. in 1971. In contrast, Irian Jaya, with one-fifth of the total land area, had a density of only two persons per sq. km. Despite these figures, Indonesia is predominantly rural; four out of five persons lived in rural areas in 1976. However, since World War II, considerable migration to the cities, especially Jakarta, has occurred. The GOI has sponsored resettlement programs (transmigration), moving families from Java to the less populated outer islands, but movement has been slow and offset to a large degree by reverse flow to Jakarta.

Population by Province, 1980

<u>Province</u>	<u>Population (in thousands)</u>	<u>Total Indonesian Population (%)</u>
<b>Java</b>		
Jakarta	6,506	4.4
West Java	27,490	18.7
Central Java	25,365	17.2
Jogjakarta	2,745	1.9
East Java	29,175	19.8
Subtotal	91,281	62.0
<b>Sumatra</b>		
Lampung	4,622	3.1
Bengkulu	768	0.5
South Sumatra	4,621	3.1
Riau	2,163	1.5
Jambi	1,440	1.0
West Sumatra	3,402	2.3
North Sumatra	8,357	5.7
Acèh	2,608	1.8
Subtotal	27,981	19.0
<b>Kalimantan</b>		
West Kalimantan	2,483	1.7
Central Kalimantan	950	0.6
South Kalimantan	2,069	1.4
East Kalimantan	1,219	0.8
Subtotal	6,721	4.5
<b>Sulawesi</b>		
Central Sulawesi	1,289	0.9
North Sulawesi	2,091	1.4
South Sulawesi	6,054	4.1
Southeast Sulawesi	943	0.6
Subtotal	10,377	7.0

<u>Province</u>	<u>Population (in thousands)</u>	<u>Total Indonesian Population (%)</u>
Other Islands		
Bali	2,470	1.7
West Nusa Tenggara	2,724	1.8
East Nusa Tenggara	2,722	1.8
Maluku	1,407	1.0
Irian Jaya	1,146	0.8
East Timor	553	0.4
Total Indonesia	147,383	100.0

Source: World Bank Indonesia: Development Prospects and Policy Options, April 6, 1981

#### 4.4 Urban Population

<u>City</u>	<u>Population (October 1980)</u>	<u>City</u>	<u>Population (October 1980)</u>
Jakarta	6,503,449	Ujung Pandang	709,038
Surabaya	2,027,913	Melang	511,780
Bandung	1,462,637	Padang	480,922
Medan	1,378,955	Surakarta	469,888
Semarang	1,026,671	Jogjakarta	398,727
Palembang	787,187	Banjarmasin	381,286

Source: U.S. Bureau of the Census, International Demographic Data Center, 1982.

## 5. Health, Nutrition, and Housing

### 5.1 Overall Health Status

The health status of Indonesia's population has improved considerably in recent years, evidenced in part by declining death and infant mortality rates. These improvements have been achieved primarily through government efforts to provide basic health services in both rural and urban areas by training volunteer health care workers at the village level. The GOI has avoided the development of an elite, urban-oriented health service.

Despite these improvements, serious problems persist. The number of physicians available to the population remains very low by developing country standards (six physicians per 100,000 inhabitants, although some rural areas may have a ratio as low as one per 100,000). Furthermore, while there are hospitals, health centers, or subhealth centers in nearly every area of the country, these facilities are severely underutilized, in part, because their service is often of low quality due to understaffing. Another problem relates to potable water: only 23% of Indonesians have access to safe water. Additionally, although infant mortality rates have significantly improved, the rate in some rural areas, particularly the eastern islands, remains high (as many as 130 infant deaths per 1,000 live births).

Waterborne diseases, principally typhoid, hepatitis, and bacillary dysentery, continue to be serious health hazards in rural and overcrowded urban areas, although incidences have declined recently. Enteroparasitic diseases are common, as are various eye and skin infections. Occurrences of trachoma are still a major problem.

Most tropical diseases are prevalent in Indonesia. Malaria, endemic throughout the country except in some highland areas and in the urban areas of Jakarta and Surabaya, has had a resurgence in recent years; the peak incidence of malaria is from May through July and is highest among infants and children. Tuberculosis, traditionally a leading cause of mortality, affected one to four percent of the population in the early 1970s; the highest incidence is in ages 20 to 50. Cholera is widespread with an average of 50,000 cases each year; the fatality rate has declined significantly, although there was a cholera outbreak in Jakarta in 1977. Plague is now limited to occasional outbreaks. An estimated 100,000 cases of leprosy are present throughout Indonesia. Yaws, still endemic in the interior lowlands of Irian Jaya, has reappeared in several other provinces. Schistosomiasis occurs only in Sulawesi (Lindu Valley). In 1976, 20 of 27 provinces (mainly urban areas) were affected by dengue hemorrhagic fever, primarily in children under 14 years old. Rabies is confined to a few islands.

Sixty percent of children's deaths (under age 5) are caused by diarrheal diseases. Acute respiratory infections, neonatal tetanus

(caused by traditional delivery practices), diphtheria, whooping cough, measles, and protein-calorie malnutrition are the other major causes of death in children.

Immunization programs for diphtheria, tetanus, and pertussis are carried out in health centers. Pregnant women receive immunization against tetanus neonatorum. Unsystematic programs also exist for measles and polio. However, environmental conditions and malnutrition limit the effectiveness of immunization programs.

### 5.2 Vital Statistics (1981)

Birth rate per 1,000 inhabitants	35
Death rate per 1,000 inhabitants	15
Infant mortality per 1,000 live births	91
Life expectancy at birth	50 years

Source: Far Eastern Economic Review, Asia 1982 Yearbook

### 5.3 Health Services and Facilities

Indonesia's health service structure is divided into central, provincial, district, sub-district, and village levels. Currently, the country has an estimated 1,200 hospitals with 100,000 beds, 5,000 health centers, and 10,400 subhealth centers and health posts.

#### Number of Hospitals and Beds by Province, 1975

<u>Provinces</u>	<u>Government</u>		<u>Private</u>		<u>Population per bed</u>
	<u>No. Hosp.</u>	<u>No. Beds</u>	<u>No. Hosp.</u>	<u>No. Beds</u>	
D.I. Aceh	22	700	1	-	3,221
North Sumatra	66	7,022	81	1,907	806
West Sumatra	17	1,198	20	221	2,118
Riau	13	559	11	175	2,436
Jambi	6	268	2	24	3,874
South Sumatra	29	2,138	5	344	1,566
Bengkulu	4	188	-	-	3,180
Lampung	6	538	10	215	4,394
D.K.I. Jakarta	33	4,122	112	2,961	679
West Java	54	6,094	24	1,370	3,050
Central Java	84	7,955	97	1,384	2,482
D.I. Jogjakarta	8	1,131	6	1,259	1,091
East Java	75	8,412	62	2,458	2,443
Bali	13	1,252	-	-	1,783
West Nusa Tenggara	11	487	1	48	4,435

<u>Provinces</u>	Government		Private		Population per bed
	No. Hosp.	No. Beds	No. Hosp.	No. Beds	
East Nusa Tenggara	13	634	11	611	1,995
West Kalimantan	24	1,050	4	157	1,854
Central Kalimantan	8	272	-	-	3,612
South Kalimantan	13	582	2	86	2,760
East Kalimantan	13	970	3	82	841
North Sulawesi	12	1,141	13	984	879
Central Sulawesi	8	445	1	11	2,245
South Sulawesi	46	2,607	25	993	1,555
Southeast Sulawesi	10	272	1	55	2,353
Maluku	6	422	5	440	3,456
Irian Jaya	19	819	7	54	1,135
East Timor	-	-	-	-	-
Total	613	51,278	504	15,839	

Source: Ministry of Health, as cited in World Bank, Indonesia, Health Sector Overview, February 20, 1979.

#### 5.4 Diet

The staple in Indonesia is rice, supplemented by corn, cassava, sweet potatoes, and wheat flour. Most protein is provided by fish. Higher income groups eat three meals per day: breakfast consists of rice, vegetables, bread, meat or fish, and tea; lunch and dinner is similar to breakfast plus eggs, if they are available. The lower income majority eats two meals per day, and a third when the family income permits: breakfast consists of cassava or rice and sweet potatoes; the main meal is rice with vegetables and a small amount of meat or fish. Fruit (bananas, mangoes, breadfruit, or papaya), and sometimes tea or soybean milk, completes the meal.

The average per capita food intake in the Indonesian diet is 2,064 calories daily (FAO minimum daily requirement is 2,157 calories) and 43.3g of protein (minimum daily requirement is 44g).

#### 5.5 Overview of Housing

Urbanization has progressed rapidly in Indonesia as thousands migrate from rural to urban areas each year. Between 1971 and 1980, the urban population grew at an average annual rate of four to five percent, well over twice the growth rate in rural areas. The cities of Jakarta and Surabaya alone account for one-third of the total urban population, and at least 40% of annual urban growth.

While the government is giving high priority to the provision of housing, expenditures are still inadequate; only 3% of the country's GDF is spent on housing investment. Ninety percent of all housing in Indonesia is privately constructed and financed. In 1976, there was a housing backlog of more than 440,000 units a year, with production of only 230,000 houses per year. With the urban population growing annually by at least 1.5 million people, the already severe housing shortage is worsening. The shortage has resulted in public health problems in the "Kampung" areas, the clustered, densely populated urban neighborhoods (often former villages that have grown together in the process of urbanization). These areas rely on open drainage channels to carry off rainwater, septic tank overflow, and household waste. The channels become blocked and often flood the Kampung, carrying waterborne diseases to the inhabitants.

#### 5.6 Housing Types

In urban areas, high and middle income groups live in houses and apartment dwellings made of brick and masonry. Laborers and low income workers live in bamboo and nipa palm bungalows. The urban poor live in makeshift shacks.

Rural housing consists mainly of simple shelters built from locally available materials, predominantly bamboo and nipa palm. Except for parts of Kalimantan and Sulawesi, where communal living in longhouse is common, most dwellings are small (usually one room), single family units grouped in compact villages. Homes and public buildings surround open villageyards. Home furnishings are few and simple. Kerosene, rice straw, coal, or wood provide fuel and light.

#### 5.7 Public Utilities and Services

Only 40% of the urban population and 18% of the rural population have access to a safe, reliable public water system. Approximately half the urban population obtains water from private (often polluted wells), rainwater, or springs collection, while others purchase water from vendors at high prices or obtain water from the heavily polluted rivers and water courses. Only four cities have sewerage systems, and these are limited and inadequate. One quarter of the urban population has no human waste disposal facilities, relying on the use of surface drains, ditches, rivers, or canals.

## 6. Economy

### 6.1 Overview of Economy

Indonesia's development over the last decade has been characterized by a high rate of economic growth associated with rapid increases in public expenditures, overall investment, and domestic savings. This growth has been facilitated by the substantial inflow of petroleum earnings into the government budget. 1981 was a mixed year, marked by an excellent rice crop, a decline in the inflation rate from 17% to 7%, and a 7.8% increase in real GDP on the one hand, and by a worsening balance of payments deficit (due to the prolonged worldwide recession and the international oil glut) on the other.

The general improvement in the Indonesian economy is further evidenced by the increase in per capita income from \$310 in 1977 to \$439 in 1981. However, more than half of the population, urban and rural, live in absolute poverty. While unemployment is relatively low at 4.1% (1980), underemployment may be as high as 20%. The agricultural sector, which employs three-fifths of the workforce, increased its employment by less than one percent between 1971 and 1980. Employment in the construction and social and personal services sectors provided the highest growth rates.

Indonesia's development strategies have been defined by a series of five-year economic plans. Repelita III (1979-1984) aims to help create an agriculture-based economy that is strong enough to support both large-scale industrialization projects (such as petroleum, transportation, communications, and housing) and small-scale traditional activities (subcontracting, local production of consumer goods, and export-oriented processing industries). This plan emphasizes greater efforts to achieve food self-sufficiency, expansion of non-oil exports, encouragement of foreign investment in manufacturing, expansion of the infrastructure, the creation of 6.4 million jobs, and more equal income distribution. While the five-year plans have produced significant achievements in Indonesia's development, Repelita I, II, and III have all been limited by the country's lack of skilled manpower and administrative capacity, and a low capacity in the construction sector.

Sectoral Growth of GDP (percentages)

	<u>Average Annual Growth Rates</u>				<u>GDP Shares</u> (current prices)	
	<u>1972</u>	<u>1975</u>	<u>1979</u>	<u>1980</u>	<u>1972</u>	<u>1980</u>
Agriculture, Fishing, Forestry	1.6	0	4.0	5.5	44.8	25.7
Mining	22.3	-3.6	-0.2	-1.2	8.0	26.7
Manufacturing	15.1	12.3	10.1	21.2	8.4	8.8
Electricity, Gas, & Water	4.0	10.8	21.1	13.0	0.5	0.5
Construction	29.8	14.1	6.4	11.5	3.5	5.7
Transport & Communi- cations	9.0	5.2	10.4	10.2	4.4	3.9
Others	13.0	10.7	5.5	12.3	30.4	28.7
GDP	9.4	5.0	5.3	9.6	100.0	100.0

Source: Biro Pusat Statistik as cited in the World Bank, Indonesia: Financial Resources and Human Development in the Eighties, 1982.

6.2 Petroleum

Since production began on a major scale in 1974, petroleum has become an increasingly important sector of Indonesia's economy. By 1981, petroleum was generating the largest proportion of GDP (26.7%), 71% of domestic budget revenues, and at least two-thirds of total export receipts. However, the industry has been affected by weak international demand. Still, cutbacks in production have not adversely affected the country's economy, since Indonesia is one of the few oil-exporting developing countries that has succeeded in developing its non-oil sectors. One of the greatest constraints to the oil industry is the chronic shortage of trained personnel.

6.3 Balance of Payments

Between 1973 and 1978, Indonesia's current account deficit averaged about 2.5% of GDP. In 1979, sharp increases in oil exports and a good rice harvest resulted in a current account surplus, which increased to \$2.5 billion by 1980. This strong external payment position deteriorated sharply in 1981 as prices for oil and other primary commodities declined while total imports rose nearly 25%. The current account balance declined \$5.0 billion, the equivalent of 5% of GDP.

Despite this deterioration, Indonesia's balance of payments position remains strong. The government has rapidly expanded various development programs (nearly a quarter of GDP is allocated to investment outlays, half of which are in the public sector), which have been adequately funded by domestic savings. While the external payments position is expected to remain negative in the near future, Indonesia's plans to reduce subsidies on domestic oil consumption and to promote non-oil exports, as well as its strong external reserves position and international borrowing capacity, make the country's future development projects feasible.

#### 6.4 Exports

Following nearly a decade of sharp increases, exports in 1980 declined due to cutbacks in petroleum production and lower prices for virtually all non-oil exports (particularly rubber, coffee, tea, palm oil, pepper, lumber, and plywood). The Indonesian government has initiated a series of measures to promote exports, including reduction or elimination of export taxes on a number of major non-oil exports, expansion of export credit facilities and lowered interest rates on export credits, and reduction of fees on the use of port and harbor facilities. Principal markets for Indonesian exports in 1980 were Japan, the United States, and Singapore.

#### Principal Exports (U.S. \$ millions)

	<u>1973</u>	<u>1975</u>	<u>1979</u>	<u>1980</u>	<u>1981*</u>
Timber	720	527	2,125	1,583	909
Rubber	483	381	1,101	1,077	842
Palm Oil	89	142	257	178	87
Coffee	79	112	715	588	389
Tea	31	50	91	97	89
Tobacco	46	40	60	69	56
Pepper	31	25	46	61	35
Tin	98	158	388	454	468
Copper	56	74	95	115	95
Aluminum	21	25	126	203	17
Nickel	-	-	-	-	216
Manufactures	77	144	700	757	744
Oil and LNG	1,105	5,410	11,323	16,661	17,593

\* Estimated figures

Source: World Bank, Indonesia: Financial Resources and Human Development in the Eighties, 1982.

### 6.5 Imports

Indonesia's main imports include rice, wheat, textiles, chemicals, iron and steel products, machinery, transport equipment, and consumer durables. 1980 imports totalled \$16.7 billion (26% of GDP) and could be broken down as follows: petroleum (33%), plant and capital equipment (28%), raw materials and food (19%), consumer goods (15%).

Principal sources of imports are Japan, the United States, and West Germany.

## 7. Agriculture

### 7.1 Overview of Agriculture

Due to the growing importance of petroleum, agriculture was no longer Indonesia's predominant economic sector in 1980, accounting for 28% of the GDP (compared with 32% in 1975) and 13% of exports. Despite the decline in the importance of the agricultural sector, it employs about 59% of the country's economically active population.

Major food crops in order of importance are rice, maize, cassava, sago, sweet potatoes, yams, peanuts, soybeans, and beans. A large variety of vegetables (beans, onions, peppers) and fruits (bananas, breadfruit, citrus fruits, papayas, pineapples, mangoes) are also grown, and are an important food and cash source for small farmers. There are more than forty export crops; the most important include rubber, palm oil, tobacco, coffee, tea, sugar cane, coconut, pepper, and cacao.

Rice is by far the most important crop, accounting for 50% of food production; its cultivation, processing, and sale occupies most of Indonesia's rural population. Fifty percent of all rice cultivation is centered on Java because of the island's fertile soil and available irrigation. Rice production has increased because of intensification and expansion of harvest areas, as well as greater use of fertilizers, plant protectants, and disease and pest-resistant high yield varieties.

Farming practices in Indonesia have improved significantly over the past two years. Corn is the major crop on Sulawesi, eastern Java, Madura, Lombok, and Timor. In Maluku and the swampy lowlands of Irian Jaya, sago is the principal crop. Sweet potatoes and taro are grown in the highlands of Irian Jaya. Corn and cassava are both dry field crops.

Animal husbandry is not a major farm activity. The primary role of livestock is as draft animals; meat and hides are byproducts. Cattle are raised for meat only in Sulawesi and Nusa Tenggara. Poultry and egg production are increasing around large cities.

Forestry is of growing importance in Indonesia, as timber ranks second (behind oil) as an export earner. Teakwood production is managed on Java and eastern Kalimantan is a prime area for commercial timber.

The fishing industry has great potential due to the vastness of the coastal waters. However, the industry harvests only one-quarter of the potential catch each year due to poor fishing techniques and a lack of proper management, making the sector one of the poorest in the Indonesian economy.

Of the total agricultural output, food crops account for 63%, perennial crops 26%, livestock 7%, and fisheries 4%.

### 7.2 Agricultural Land Use

The distribution of land ownership in Indonesia is highly skewed. Sixty to 70% of the land is owned by 10 to 20% of rural families. Over 50% of the rural population is landless. Most of the 70% of Indonesians living in rural areas work within an agrarian structure characterized by small non-viable holdings.

### 7.3 Crop Production

<u>Commodity</u>	<u>Principal Crops</u> ( '000 metric tons)		
	<u>1975</u>	<u>1978</u>	<u>1980</u>
Rice, Paddy	22,331	25,772	29,265
Corn	2,903	4,029	3,600
Cassava	12,456	12,902	12,400
Sweet potatoes	2,433	2,083	2,025
Sugar cane	11,500	11,360	11,900
Tobacco	83	82	81
Soybeans	590	616	600
Peanuts	576	446	450
Coffee	175	287	310
Tea	80	89	90
Rubber	950	1,050	1,075
Kapok	29	30	31
Palm oil	411	525	650
Copra	1,575	1,578	1,625
Palm kernels	84	99	120

Source: USDA, World Indices of Agriculture and Food Production, 1981.

### 7.4 Crop Dates

<u>Region and Crop</u>	<u>Harvest Period</u>	<u>Bulk of Harvest</u>
Sugar cane (Java)	April - December	June - October
Sugar (Java)	May - November	
Tobacco:		
Estates (Java)	October - December	
Estates (Sumatra)	May - July	
Farm Grown (Java)	May - December	August - November

Maize, sweet potatoes, cassava, soybeans, and groundnuts, all grown on Java, are harvested year round. Vegetables, fruits, pulses, palm kernels, coconuts, coffee, cacao, and rubber, which are grown throughout Indonesia, are also harvested year round.

Source: FAO, World Crop Harvest Calendar, 1958.

Rice: Planting and Harvesting Calendar by Region

<u>Region - Season</u>	<u>Planting</u>	<u>Harvesting</u>
Java		
Dry Upland	Nov. - Jan.	March - May
Main	Nov. - Feb.	April - June
Secondary	May - July	Sept. - Nov.
Kalimantan		
Dry Upland	Nov. - Jan.	March - June
Main	Nov. - Jan.	March - June
Secondary	June - July	Oct. - Nov.
Maluku		
Dry Upland	April - May	Sept. - Oct.
Main	Feb. - April	July - Aug.
Nusa Tenggara		
Dry Upland	Nov. - Jan.	March - May
Main	Nov. - Jan.	March - June
Secondary	April - June	Aug. - Nov.
North Sulawesi		
Main	Nov. - Jan.	March - May
South Sulawesi		
Dry Upland	Nov. - Jan.	April - June
Main	Nov. - Jan.	March - May
Secondary	April - June	Aug. Oct.
East Sulawesi		
Dry Upland	Oct. - Dec.	Feb. - April
Main	Oct. - Dec.	Feb. - May
Secondary	Feb. - March	June - July
West Sulawesi		
Dry Upland	Oct. - Dec.	Feb. - April
Main	Oct. - Dec.	Feb. - May
Secondary	Feb. - March	June - July

Source: AID/OFDA, Agroclimate Assessment Methods for Drought/Food Shortages in South and Southeast Asia, Proposed Early Warning Program, 1981.

### 7.5 Agricultural Exports

Total agricultural exports were expected to reach \$4.1 billion in 1981. Indonesia's principal exports are coffee, sugar, rubber, palm oil, tobacco, tea, and pepper. Coffee export volumes for the next few years are expected to be lower than 1979-1981 levels in spite of growth in production, due to a 28% quota reduction on Indonesia. Palm oil exports will also be lower due to increased domestic use to replace coconut oil.

#### Principal Agricultural Export Products (in current U.S. \$ million)

	<u>1977/78</u>	<u>1978/79</u>	<u>1979/80</u>	<u>1980/81</u>
Rubber	608	774	1,101	1,077
Palm Oil	202	221	257	178
Coffee	626	508	715	588
Tea	120	93	91	97
Tobacco	59	53	60	69
Pepper	62	66	46	61
Timber	943	1,130	2,125	1,583

Source: World Bank Staff Estimates as cited in World Bank, Indonesia, Financial Resources and Human Development in the Eighties, 1982.

### 7.6 Agricultural Imports

Despite increased production of staple foods in Indonesia, agricultural imports are expected to grow at an annual average rate of 6% in the future. Rice imports have declined as domestic output has improved. Imports of wheat, sugar, and soybeans will continue to increase.

## 8. Transportation and Logistics

### 8.1 Road Network

The public highway network in 1978 totalled 127,089 km. of which 54,176 km. were asphalted, 63,054 km. were unpaved, and 9,859 km. were unspecified. Roads were classified as national (11,572 km.), provincial (27,910 km.), or regency roads (87,606 km.).

Java and Sumatra have the most developed road system. Java and Madura have 40,835 km. of roads, which have all been recently improved. Sumatra has 40,213 km. of roads, including the 1,800 km. Trans-Sumatran Highway which was due for completion in 1982. Kalimantan has 9,725 km. of roads, Sulawesi has 20,459 km., and other regions have 15,857 km. of roads.

Rehabilitation of high priority roads (primarily on Java) began in the late 1970s. The lack of adequate rural feeder roads is an obstacle to national cohesion and development. About one-fifth of the villages lack access to the main highways.

### 8.2 Railroads

Indonesia's 7,891 km. railway system is entirely government-owned. The roadbeds, track, and bridges are all in poor condition, and few, if any improvements or additions have been made since 1974. A 5,716 km. interconnecting system serves all of Java, and a short line in Madura runs from Pamekasan to the port of Kamal. The remaining 2,174 km. of track constitute four separate non-connecting systems on Sumatra. Freight transported by rail includes petroleum products, food grains, construction materials, and plantation products carried over medium to long distances. Low volume freight carried on short hauls are best carried via road transport. 422 locomotives are powered by steam, diesel, and electricity.

### 8.3 Ports

Inter-island and ocean shipping is of considerable importance in the archipelago of Indonesia. Of the 300 ports, 20 have the capacity to handle ships over 500 deadweight tons at quayside, and 10 ports can manage significant volumes of cargo. All harbors are under the authority of the Directorate General of Sea Communication, with the status of harbor state enterprises (except Irian Jaya). Indonesian ports are divided into regions with major regional ports appointed as coordinating bodies:

Region I	Belawan & Environs	Region VI	Ujung Padang
II	Dumai	VII	Menado/Bitung
III	Tanjung Priok	VIII	Ambon
IV	Surabaya	IX	Jayapura
V	Banjarmasin		

Port facilities are generally adequate for existing traffic, but infrastructure and service facilities are outmoded, and operations are inefficient. Siltation has also been a problem in some areas.

In addition to the major regional ports described in detail, approximately 70 smaller ports are located throughout the islands of Indonesia. Details on these additional ports can be found in Ports of the World, published by Lloyd's of London Press Ltd.

#### Major Regional Ports

##### Ambon (South Maluku)

Coordinates:	Lat. 1° 16' S; long. 116° 49' E.
Accommodation:	Port is accessible to all ships of any draft. Two red buoys mark a wreck in the shipping roads. Concrete wharf, "Jos Sudarso," 187 m long with 12 m alongside at L.W.S.T. Wooden jetty, "Wainitu" is 83 m long and in bad condition. The depth alongside is 5.50 m. Iron jetty, "Honipopu" is 17 m long with a depth of 9 m alongside. It is heavily damaged. Iron jetty for mooring sailing vessels is 10 m long with a depth of 2 m. It is also in bad condition.
Storage:	Six waterfront storages totalling 5,200 sq m. Two warehouses totalling 1,600 sq. m.
Cranes:	One 16-ton quay crane. Two 3-ton forklifts.
Water:	Fresh water available at 100 tons/24 hrs. delivered at concrete wharf.
Bunkers:	Bunker fuel obtainable.
Shiprepairs:	No facilities.
Towage:	Compulsory. Government pilot available.
Airport:	Patimura, approximately 1.5 hours drive; usually air passengers cross the bay in boat served by G.I.A. and Indonesian Air Force.

Banjarmasin (Kalimantan)

**Coordinates:** Lat. 3° 20' S; long 114° 35' E. On the South coast, 32 km from outer bar of Barito River.

**Approach:** Depth at bar 2 m L.W.S. A canal named "Terusan Bromo" between Martapura/Barito river for outgoing vessels is in operation. Length 431 m, width 100 m, depth 5 m.

**Accommodation:** The old harbor at Martapura river used for interinsular cargoes, provided with wooden wharf 348 m long, (depth 5m L.W.S.) and various small jetties with an average depth of 2 m L.W.S. The "Trisakti" Harbor, is used for import-export cargoes, and is situated on the Barito river. Provided with a concrete wharf 200 m long (depth 10 m L.W.S.) and 6,000 sq m transit shed. No mechanical cargo handling equipment - only wheelbarrows used.

**Provisions:** Fresh provisions obtainable in limited quantity at high prices.

**Water:** Fresh water obtainable only during E monsoon at 5 tons/hr., between 22:00 and 24:00 hours.

**Tanker Terminals:** Pertamina owns an oil wharf 20 m long provided with a fixed crane of maximum 25 tons capacity.

**Bunkers:** No coal. Bunkers on Oil Wharf subject to official approval.

**Shiprepairs:** Not available.

**Towage:** None.

**Pilotage:** Pilots available.

**Airport:** Ulin, about 25 km.

Belawan (Sumatra)

**Coordinates:** Lat. 3° 48'; long. 98° 43' E. On Sungai Belawan delta.

**Tides:** 3.4 m HWS, 1.9 m MSL, 0.4 m LWS.

**Accommodation:** Depth in river channel averages 9 m L.W.S.T.; quay 7.2 m L.W.S.T. Berthage, Mercantile wharf, old one, 1,188 m long, the new one being 625 m long. Various small iron and wooden jetties with 2 to 6 m depth. One oil jetty. Five mooring buoys available for four berths.

**Storage:** 20 transit sheds with a total area of 61,292 sq m; 19 warehouses with total area of 24,000 sq m; 36,069 sq m open storage.

**Cranes:** One 40-ton floating crane. Four mobile cranes from 15 to 25 tons capacity, and forklifts ranging from 2 to 15 tons.

**Water:** Water supply, 300 tons/day, delivered alongside wharves or by barge of 200 ton capacity.

**Shiprepairs:** Minor repairs only. Drydocks available for coasters only.

**Bunkers:** Obtainable from PN Pertamina.

**Towage:** One 350 h.p. and two 650 h.p. tugs available.

**Development:** Five berths 878 x 25 m for ocean going vessels.

**Pilotage:** Compulsory. The pilots on service are provided with five pilot-boats and usually join vessels at the pilot station two miles from harbor. Coast radio station "Belawan Radio" (call signal PKB).

**Airport:** Polonia Airport, approx. 28 km distant.

Dumai (Sumatra)

**Coordinates:** Lat. 1° 41' N; long. 101° 27' E.

**Accommodation:** Mercantile wharf, 78 m long. Least depth at wharf face, 11 m. Capable of receiving vessels of up to 23,000 d.w.t. in favorable weather conditions.

**Storage:** 12,000 sq m storage space available.

**Cranes:** Three mobile cranes, capacity 5 and 6 tons available for cargo handling.

**Water:** No drinking water available.

Tanker Oil Wharf, owned by Caltex Pacific Oil Co. Jakarta, Java. (Cables: "Calpacem"). 111 m long with 17.5 m depth at wharf face for loading crude oil.

Terminals:

Bunkers: Available.

Shiprepairs: None, but Caltex Pacific Oil Company can assist with minor emergency repairs.

Towage: Three 3,000 h.p. tugs available.

Pilotage: Harbor pilots available.

Airport: Caltex air traffic available.

Jayapura (West Irian)

Coordinates: Lat. 2° 32' S; long. 140° 33' E.  
Main harbor for West Irian.

Accommodation: Landing stages: (a) Concrete wharf, 132 m long, 8.84 m depth in good condition; used for mooring ships up to 20,000 g.r.t.; (b) Wooden wharf No. 1, 116 m long, 5.79 m depth, broken down; (c) Wooden wharf No. 2, 140 m long, 8.53 m depth, broken down; (d) 32 m long oil jetty can handle general cargo in emergencies. Waterfront storage available: transit sheds totalling 3,350 sq. m.; one warehouse of 1,800 sq. m. Cargo handling equipment: one forklift of 4 to 5 tons capacity.

Water: Available.

Tanker Concrete oil jetty, 32 m long, 4.88 m depth  
Terminals: generally used for handling oil products. Owing to damage, accessible only to ships up to 2,500 g.r.t.

Bunkers: Not available.

Shiprepairs: Not available.

Towage: Not available.

Pilotage: Available.

Airport: Jamani Airport.

Macassar (Sulawesi - Ujung Pandang Region)

: Lat. 5° 8' 8" S; long. 119° 24' 2" E.

Dredged channels 36.8 km long and 731.5 km wide at the narrowest leading to outer anchorage and main entrance of the harbor. The channel is lit with three buoys and can be passed safely on clear evenings. Minimum depth at outer buoy No. 1, 21 m; average channel depth 39 m; outer anchorage 18 m; entrance 16 m; depth in inner harbor from 9 m minimum to 20 m. Anchorage in inner harbor close to shore and well sheltered in SE monsoons. Coast radio station. Macassar Radio (call signal PKF): on Frequency 465 KHZ, after announcement on 500 Kc/s at 00:00, 04:00, 08:00, 11:00 and 14:00 hours G.M.T.

Accommodation: Sukarno Quay: 1,360 m long, 7 m deep. Hatta Quay: 550 m long, 8 m deep. Hasanudin Quay: 70 m long, 5 m deep. Naval jetty: 35 m long, 9 m deep. Oil Jetty: 70 m long.

Storage: 19 transit sheds of 53,845 sq. m. total. Four warehouses of 10,000 sq. m. total. Seven private warehouses totalling 16,000 sq. m.

Cranes: Cargo handling served by three caterpillar mobile cranes of 5 and 7 tons capacity.

Water: Fresh water supply 300 tons per day.

Bunkers: Fuel, light diesel and gas oil from P.T. Pertamina. Bunkering can only be done alongside Sukarno Quay and Oil Jetty.

Development: New bonded warehouse.

Shiprepairs: No drydocks; minor repairs can be carried out by workshops.

Towage: One tug for 5,000 d.w.t. and over. Four smaller tugs.

Pilotage: Government harbor pilots available.

Airport: "Mandai" Airport, approximately 20 kms.

Palembang (Sumatra)

**Coordinates:** Lat. 2° 59' S; long. 104° 45' E.

**Approach:** About 86.5 km from outer bar of Musi River. Depth on outer bar of river at L.W.S.T. 47.06 m (maximum draft about 7.62 m). Outward bound vessels must cross three bars: Sungai Lais, 5.21 m L.W.S.; Selat Djaran, 4.90 m L.W.S. and Pulau Pajung, 4.49 m.

**Accommodation:** Landing stages: one heavily damaged iron wharf, 250 m long with 6 m alongside; one concrete wharf, 100 m long. Average depth 6 m at wharf face. One 60 hp lighter tug and several private lighters available. The coal wharf at Kertapati is accessible for loading and discharging general cargoes under approval of authorities.

**Storage:** Five waterfront storages totalling 7,615 sq. m. One warehouse of 450 sq. m.

**Cranes:** Seven forklifts of 2 to 3 tons lifting capacities, three mobile cranes of 5 to 7.5 ton capacity, three shore cranes with 100, 40, and 25 ton capacities.

**Water:** Fresh water available.

**Tanker Terminals:** Eight berths; lengths 140.2 m to 175.2 m, drafts 6.70 m to 9.75 m. Night berthing possible. Water and bunkers available.

**Bunkers:** Available from Pertamina.

**Shiprepairs:** Only minor repairs.

**Pilotage:** Compulsory. Anchorage at Musi River Outerbar. VHF channel 12.

**Airport:** Talangbetutu Airport, 12 km.

Surabaya (Java)

**Coordinates:** The port is called Tanjung Perak and is about 4.8 km from Surabaya City. Lat 7° 13' S; long. 112° 44' E.

**Approach:** Radio Station call sign PKD, operating on 430, 500, 8,730 and 8,745 Kc/s. Depth at entrance 8.31 m N bar H.W. 7.77 m, L.W. 6.40 m; S Bar H.W. 5.18 m L.W. 3.96 m, unreliable for steamers over 2,000 g.r.t. Channel soft mud bottom.

Accommodation:	Anchorage in the roads in about 11 to 16 m where cargo can be discharged into lighters for which special dispensation is required. Fourteen lighters available. Twelve lighters having average capacity of 80 to 100 tons and two with capacity of 100 to 200 tons. Wharf accommodation to 25 to 30 large ships, with depth alongside quays varying from 5.49 to 9.14 m L.W.S.T. One concrete wharf 5,450 m long with 2.50 to 8 m depth alongside.
Cranes:	One floating crane lifting 50 tons, whilst Navy floating cranes from 25 to 75 tons are available on special application. Six quay-cranes of 3 to 5 tons capacity; three 3-ton mobile cranes; three forklifts.
Water:	Fresh water is scarce and vessels of over 200 g.r.t. can only be served by waterbarge.
Tanker Terminals:	Two berths at Semampir Jetty operated by PN Pertamina 170.7 m in length. Draft 9.45 m and 10.97 m.
Bunkers:	Pertamina supplies light marine diesel fuel, highspeed diesel and fuel oil. Pipeline at nearly all wharves. Coal bunkering facilities.
Development:	800 m of quay wall with eight interisland berths for 500-2,000 g.r.t. vessels.
Shiprepairs:	Repairs at Dockyard and Naval yard.
Towage:	Two 800 hp tugs, two 1,500 hp tugs, and two 1,740 hp tugs available.
Pilotage:	ETA 24 hrs., in advance. VHF Channels 12 and 14.
Airport:	International airport "Waru".

Tanjung Priok (Java)

Coordinates:	Lat. 6° 6' S; long. 106° 52' E. The Port of Jakarta, 13 km E from center of Jakarta, connected by rail, canal and road.
Accommodation:	Harbor protected by breakwater and unaffected by tide. Berthing places:

- 1) Pelabuhan Nusantara: Provided with a 676 m long concrete wharf on one side, with 4 m depth at wharf face. Especially for coasters.
- 2) First Inner Harbor: With concrete wharf on two sides, with total length of 1,830 m. Average depth 7 m at wharf face. Used for interisland shipping routes.
- 3) Second Inner Harbor: With concrete wharf on two sides. Total length of 2,200 m, average depth 8 m at wharf face. Used for ocean going vessels.
- 4) Third Inner Harbor: With concrete wharf on one side and 1,025 m long. Average depth at wharf face 9 m. Northern part occupied by a passenger terminal named "Sumuderra Pura". Used for berthing of ocean going vessels.
- 5) Gasoline Pier: Two piers, each 25 m long, with a depth of 10 m. One situated on the NE end of 2nd Inner Harbor and the other one in the New Oil Harbor, just in front of the oil installations area. Ships must always berth heading north, and must turn in the harbor to come alongside quay stern first. Dangerous cargo must be discharged into lighters outside harbor area. Also five tugs, seven lighters, four mooring boats, four water barges, and 47 cargo barges.

Coast Radio station, "Tanjung Prick Radio", call signal PKZ (a) On Frequency of 8754, 4Kc/s at 02:00, 04:00 and 10:00 g.m.t; (b) Class of emission, A.1.

**Storage:** 50 transit sheds with a total area of 197,000 sq m of which 29 sheds of 128,000 sq m are appointed for foreign trade and the other 21 sheds of 69,000 sq m for domestic trade.

**Cranes:** 35 quay cranes, 107 forklift trucks, 17 mobile cranes and four floating cranes with lifting capacity of 30, 50, 100 and 200 tons respectively.

**Tanker Terminals:** One berth, 198.1 m in length. Draft 8.84 m. Night berthing possible. Water and bunkers available.

**Bunkers:** Supplied by P.T. Pertamina, by lighters, as well as by pipeline.

**Development:** Extension plan: (a) lengthening of gasoline pier in new oil harbor; (b) building of new wharf on east side of Third Inner Harbor, especially for Armed Forces.

Shiprepairs: Available. Radio, radar and electrical repairs by Radio Indonesia.

Towage: Ten tug boats available from 135 to 1,500 h.p.

Pilotage: Compulsory. Government harbor pilots available.

Airport: Kemajoran International Airport, about 14 km via Jakarta by-pass and 12 km via Antjol. Halim Perdanah Kusumah International Airport, about 25 km via Jakarta by-pass.

#### 8.4 Airports

Indonesia's main international airports are Kemayoren (Jakarta), Bali (Denpasar), Polonia (Medan), Juanda (Surabaya), and Halim (Jakarta). The other major airports, which are smaller and geared to domestic use, are:

<u>Airfields</u>	<u>Location</u>	<u>Aircraft Capacity</u>
Sepinggan	Balikpapan, Kalimantan	BE18
Sjamsuddin Noor New	Banjarmasin, Kalimantan Batam, Sumatra	DC3 BH47
Paalmerah	Jambi, Sumatra	DC3
Sentani	Jayapura, Irian Jaya	DC3
Penfui	Kupang, Timor	AV74
Sam Ratulangi	Menado, Sulawesi	YS11
Talangbetutu	Palembang, Sumatra	FK27
Pangkalpinang	Pangkalpinang, Bangka	FK27
Penkanbaru	Pekanbaru, Sumatra	FK27
Supadio	Pontienak, Kalimantan	BE18
Japura	Rengat, Sumatra	FK27
Kijang	Tanjungpinang, Sumatra	DC3
Tarakan	Tarakan, Kalimantan	DC3

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

## Denpasar, BALI/Bali International (Ngurah Rai)

Runway Characteristics

<u>Location</u> <u>Coordinates</u>	<u>Eleva- tion M/ Temp °C</u>	<u>NR/Type</u>	<u>Slope</u> <u>%</u>	<u>Aircraft</u> <u>Length M</u>	<u>CL</u>	<u>Aircraft/ Strength</u> <u>(1,000 kg)</u>	<u>Fuel/ Octane</u>
8° 45' S 115° 10' E	3 31.2	09/27 PA-1	0.03	DC10-30 3040 2700	 A A	B707-320 AUW 153 B747-238 AUW 308 AUW 63/1 81/2 123/4	100, JA1

Remarks: Alternate Aerodromes - JAKARTA/Kalim, JAKARTA/Kemoyoran, SINGAPORE/Intl., SURABAYA/Juanda

Aids: ILS (27-I), RDME, RVOR, LPA (27-I), LVA (09 + 27), LR, LTX, LB, LO, MD, MC, MT, MTD, MS, MFD, MTX, MO, H88, L4, 5, 9. Stopway 09 & 27 - 100. No telex.

## Jakarta, JAVA/Halim Perdanakusuma International

Runway Characteristics

<u>Location</u> <u>Coordinates</u>	<u>Eleva- tion M/ Temp °C</u>	<u>NR/Type</u>	<u>Slope</u> <u>%</u>	<u>Aircraft</u> <u>Length M</u>	<u>CL</u>	<u>Aircraft/ Strength</u> <u>(1,000 kg)</u>	<u>Fuel/ Octane</u>
6° 16' S 106° 53' E	26 31	06/24 PA-1	0.07	DC10-30 3560 3000	 A A	DC10 AUW 252 B747 AUW 350 LCN110h120	JA2

Remarks: Alternate Aerodromes - DENPASAR/Bali Intl., JAKARTA/Kemoyoran, KUALA LUMPUR/Intl., SURABAYA/Juanda.

Aids: ILS (24-I), RL, LPA (24-I), LSA (06), LVA (06+), LR, LTX, LB, LO, MD, MC, MT, MTD, MS, MFD, MTX, MO, H98, L6, 7, 9. Clearway 06 & 24-300. No telex.

Jakarta, JAVA/Kemayoran

Runway Characteristics

<u>Location</u> <u>Coordinates</u>	<u>Eleva-</u> <u>tion M/</u> <u>Temp °C</u>	<u>NR/Type</u>	<u>Slope</u> <u>%</u>	<u>Aircraft</u> <u>Length M</u>	<u>CL</u>	<u>Aircraft/</u> <u>Strength</u> <u>(1,000 kg)</u>	<u>Fuel/</u> <u>Octane</u>
6° 8' S 106° 50' E	6 33.3	08/26 PA-1 17-35	0	B707-320B 1900 B707-320B 2475 1900 2475	A A B A	B707-320B A UW 127 A UW 36/1 50/2 A UW 72/1 90/2 127/4	100, JAL

Remarks: Alternate Aerodromes - DENPASAR/Bali Intl., JAKARTA/Halim, KUALA LUMPUR/Intl., SINGAPORE/Intl., SURABAYA/Juanda.

Aids: ILS (17-I), RL, LSA (17), LVA (17,35), LR, LTX, LB, LO, MD, MC, MT, MTD, MS, MFD, MTX, MO, H81, L6, 7, 9. No telex. Available as alternate only. New Aerodrome: Jakarta/Cengkang Intl. (3600 AUW450, P, - /85).

Medan/SUMATRA/Polonia

Runway Characteristics

<u>Location</u> <u>Coordinates</u>	<u>Eleva-</u> <u>tion M/</u> <u>Temp °C</u>	<u>NR/Type</u>	<u>Slope</u> <u>%</u>	<u>Aircraft</u> <u>Length M</u>	<u>CL</u>	<u>Aircraft/</u> <u>Strength</u> <u>(1,000 kg)</u>	<u>Fuel/</u> <u>Octane</u>
3° 34' N 98° 41' E	27 32.5	05/23 INSTR	0	DC8 2450	A	DC 8 A UW 95 A UW 50	100

Remarks: Alternate Aerodromes - KUALA LUMPUR/Intl., PENANG/Penang, SINGAPORE/Intl.

Aids: RVOR, LSA (05 23), LVA (05 23), LR, LTX, LB, LO, MD, MC, MT, MFD, MTX, MO, H80, L6, 7, 9. Stopway 05-100. No telex. Pilots of non-scheduled flights must show flight approval upon arrival.

Surabaya, JAVA/Juanda

Runway Characteristics

<u>Location</u> <u>Coordinates</u>	<u>Eleva-</u> <u>tion M/</u> <u>Temp °C</u>	<u>NR/Type</u>	<u>Slope</u> <u>%</u>	<u>Aircraft</u> <u>Length M</u>	<u>CL</u>	<u>Aircraft/</u> <u>Strength</u> <u>(1,000 kg)</u>	<u>Fuel/</u> <u>Octane</u>
7° 22' S 112° 46' E	3 33.4	10/28 INSTR	0	B707-320 2100 3000	A A	B707-320 AUW 95 AUW 136/4	

Remarks: Alternate Aerodromes - DENPASAR/Bali Intl., JAKARTA/Halim, JAKARTA/Kemayoran.

Aids: RVOR, LSA (10 28), LVA (10 28), LC, LTX, LB, LO, MD, MC, MT, MFD, MTX, MO. (VA10, P, - /80-81).

KeyAbbreviations

INSTR	Instrument Approach Runway
N-INSTR	Non-Instrument Runway
PA I	Precision Approach Runway Category I
PA II	Precision Approach Runway Category II
REG-NS	Intl Non-Scheduled Air Transport, Regular Use
REG-S	International Scheduled Air Transport, Regular Use

Radio Aids

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

Lighting Aids

LPA	Precision Approach Lighting System
LSA	Simple Approach Lighting System
LVA	Visual Approach Slope Indicator System
LAV	Abbreviated Approach Slope Indicator System
LR	Runway Edge, Threshold & Runway End Lighting
LC	Runway Center Line Lighting
LTD	Runway Touchdown Zone Lighting
LTX	Taxiway Lighting
LB	Aerodrome or Identification Beacon
LO	Obstruction Lighting

Marking Aids

MD	Runway Designation Markings
MC	Runway Center Line Markings
MT	Runway Threshold Markings
MTD	Runway Touchdown Markings
MS	Runway Sidestripe Markings
MFD	Fixed Distance Markings
MTX	Taxiway Center Line & Holding Position Markings
MO	Obstruction Markings

Runway Surface and Length

H	Hard Surface (numbers = ft. in hundreds)
S	Non-Hard Surface (numbers = ft. in hundreds)

Additional Lighting

L1	Portable Runway Lights (electrical)
L2	Boundary Lights
L3	Runway Flood Lights
L4	Low Intensity Runway Lights
L5	Low Intensity Approach Lights
L6	High Intensity Runway Lights
L7	High Intensity Approach Lights
L8	Sequenced Flashing Lights
L9	Visual Approach Slope Indicator (VASI)

8.5 Personal Entry Requirements

Passport and visa required. For further information and health requirements, see Section 1.10, Travel and Visa Information.

8.6 Aircraft Entry Requirements

All private and non-scheduled commercial flights overflying or landing for commercial or non-commercial reasons must obtain prior permission from the Director General of air communications Jalan Hayam Wurku No. 2, Jakarta Pusat, Republic of Indonesia (telegraphic address: CIVILAIR JAKARTA/TELEX: 44623 CIVAIR IA). All requests must be submitted so as to reach the Director General at least 14 days (7 days for non-scheduled flights overflying or landing for non-commercial purposes) prior to departure.

All requirements must include (a) name, address and nationality of operator, (b) aircraft type and registration marks, (c) dates and times of arrival and departure from Indonesia and airports concerned, (d) place(s) of loading or unloading of passengers and cargo, (e) number of

passengers and type and amount of cargo, (f) purpose of flight, (g) information on charter price, name and address and business of charterer, if applicable.

All requests must be handled through a civil representative in Jakarta. Upon request, the American Embassy can furnish names of Jakarta firms that may be willing to assist in obtaining flight authorizations, on an ad hoc basis, for operators that do not have regular representatives.

### 8.7 Special Notices

(1) No aviation fuel will be made available to non-Indonesian registered, non-scheduled aircraft entering Indonesia unless special authority is requested and secured. Requests should be submitted several weeks in advance to: Aviation Service Manager. PERTAMINA, Jalan Medan Merdeka Utara, 13, Jakarta, Indonesia.

(2) 24 hour prior notice to the airport of arrival is required and must include flight plan information.

#### Aeronautical Information Source

AIP INDONESIA

#### International Notam Office

JAKARTA-WIIIIYN

### 8.8 Airlines

#### Domestic

P.T. Garuda Indonesian Airways: operates domestic, regional and international services to Australia, Hong Kong, India, Japan, Malaysia, Saudi Arabia, Singapore, Thailand, France, Federal Republic of Germany, Italy, Netherlands; fleet: 4 B747, 33 F28, 24 DC-9, 6 DC-10 (1980).

P.T. Merpati Nusantara Airlines: government-controlled; domestic and regional services, service to USA via Japan; 3 Vanguard 953, 6 Viscount 828, 4 F27, 2 HS 748, 19 Twin Otter, 4 C-212.

P.T. Bouraq Indonesian Airlines (BIA): private company; domestic services linking Jakarta with points in Kalimantan, Sulawesi and Taqau (Malaysia); 11 HS 748, 3 DC-3.

P.T. Bali International Air Services: subsidiary of BIA; charter services; 1 HS 748, 5 Trislander, 4 BN Islander, 2 Cessna 404.

Mandala Airlines: domestic passenger services; 2 Viscount 800, 1 HS 748, Convair CV-600.

P.T. Sempati Air Transport: passenger and cargo services from Jakarta to Denpasar, Japan, Malaysia, Thailand and Singapore; 5 Fokker F27, 1 DC-3/C-47B.

Seulawah Air Services Ltd.: domestic services; 1 Viscount 800, 2 Fokker F27, 2 BN Trislanders.

P.T. AOA Zamlud Aviation Corporation: domestic services; 6 DC-3.

### Foreign

The following airlines also serve Jakarta: Aeroflot, Air France, Air India, Alitalia, British Airways, Cathay Pacific Airways, Ceskoslovenske Aerolinie, Egypt-Air, Japan Air Lines (JAL), KLM, Lufthansa, MAS, Pan American, PIA, Qantas Airways, Scandinavian Airlines System (SAS), Swissair, Thai Airways International, and UTA.

### 8.9 Air Distances

From Jakarta (Halim) Intl. to:

	<u>Statute Miles</u>
Guam.....	2,934
Jogjakarta.....	264
Kota Kinabalu.....	1,058
Kuala Lumpur.....	748
Kuching.....	588
Labuan.....	987
London.....	7,297
Los Angeles.....	8,964
Manila.....	1,733
Medan.....	885
Melbourne.....	3,217
New York.....	10,057
Padang (Tabing).....	585
Palembang.....	279
Pangkalpinang.....	290
Perth.....	1,864
Pontianak.....	261
Rangoon.....	1,762

From Jakarta (Halim) Intl. to:

	<u>Statute Miles</u>
Rome.....	6,724
Sampit.....	492
San Francisco.....	8,666
Semarang.....	245
Singapore.....	567
Surabaya (Perak).....	405
Tanjungpandan.....	252
Tanjungkarang.....	137
Tanjungpinang.....	524
Tokyo.....	3,592

## 9. Power and Communications

### 9.1 Electric Power

Electric power supply in Indonesia is characterized by a heavy reliance on oil, whether it be in oil fired steam stations, small power stations based on diesel engines, or diesel fired gas turbines. Total generating capacity in 1979 was 4,874 MW, only 15% of which was hydro-power. Electric power is mainly supplied by PLN (52%), the state electric company responsible for all generation, transmission, and distribution in the country. PLN also supplies industrial plant installations and small municipal franchises, and operates power plants in 13 areas throughout the country. However, the supply of electricity is highly fragmented; 70% of PLN's power supply is located on Java (where 62% of the country's total population resides), 14% on Sumatra, and 15% divided equally between Kalimantan, Sulawesi, and the other islands.

Indonesia's per capita consumption of electricity is relatively low, at 76 kWh in 1980. Only 2% of rural households and 6% of total households have access to any electricity. Most of these are supplied through the rural electrification programs organized by provincial/district governments, PLN, and the Rural Electrification Cooperative. Batteries are an alternate electricity source in rural areas. Kerosene is the principal fuel used for lighting, and fuelwood, kerosene, and small quantities of LPG are used for cooking. The industrial sector relies almost solely on petroleum products for its power needs.

Indonesia has abundant indigenous energy resources other than oil and natural gas. These include coal, geothermal resources (estimated potential of 10,000 MW, over half of which is on Java), hydropower (estimated potential of 31,000 MW, less than 10% of which is on Java), and a large biomass potential (nearly two-thirds of total land area is covered with forests). The government is attempting to diversify its primary energy source base away from petroleum products. In 1984, the first of 18 coal-fired plants, to supply 12,000 MW by 2006, will be completed at Surabaya, for the electrification of Java.

### 9.2 Radio Network

Radio Republik Indonesia (RRI), a government department under the Ministry of Information, operates 138 transmitters with studios in 45 towns throughout Indonesia. The city of Jakarta has 18 radio transmitters which broadcast two national programs for 124 hours each week. There are also several regional radio stations which produce their own programs. Additionally, an air force radio station is located in Jakarta, and there

are at least 500 small commercial stations throughout the country. Indonesia's external broadcasting service, Voice of Indonesia, operates five shortwave transmitters. In 1980 there were an estimated 20 million radio receivers in the country.

### 9.3 Television

Televisi Republic Indonesia (TVRI) is the state-owned television service, which operates five main and seven relay transmitters. Television service covers Java, north and south Sumatra, and south Sulawesi. TVRI is on the air for five to six hours daily. In 1980 there were an estimated 1,600,000 televisions in the country.

### 9.4 Telecommunications

Both domestic and international telecommunications are operated by a state-owned corporation. In 1979 there were an estimated 460,100 telephones in use in Indonesia - about 0.3 per 100 inhabitants. Domestic (interisland and local) service remains poor; communications are made through microwave systems, high frequency radiotelephone systems, or open wire lines.

International telephone service is considered good, with an average waiting period of 30 minutes and acceptable voice quality. Through the Djatiluhur earth satellite station there are direct international links to Australia, Japan, Malaysia, Singapore, Hong Kong, other major Asian cities, and the major countries of Western Europe.

Telegraph lines serve the entire country, and telex services are available in at least seventeen exchanges (1971). International exchange switchboard services are available in Jakarta, Medan, Bandung, and Djajapura. Direct telegraphic communication by high frequency radiotelephone circuits connect with Kuala Lumpur, Singapore, Hong Kong, Manila, Karachi, Bombay, Sydney, Shanghai, Moscow, Amsterdam, and Berne.

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