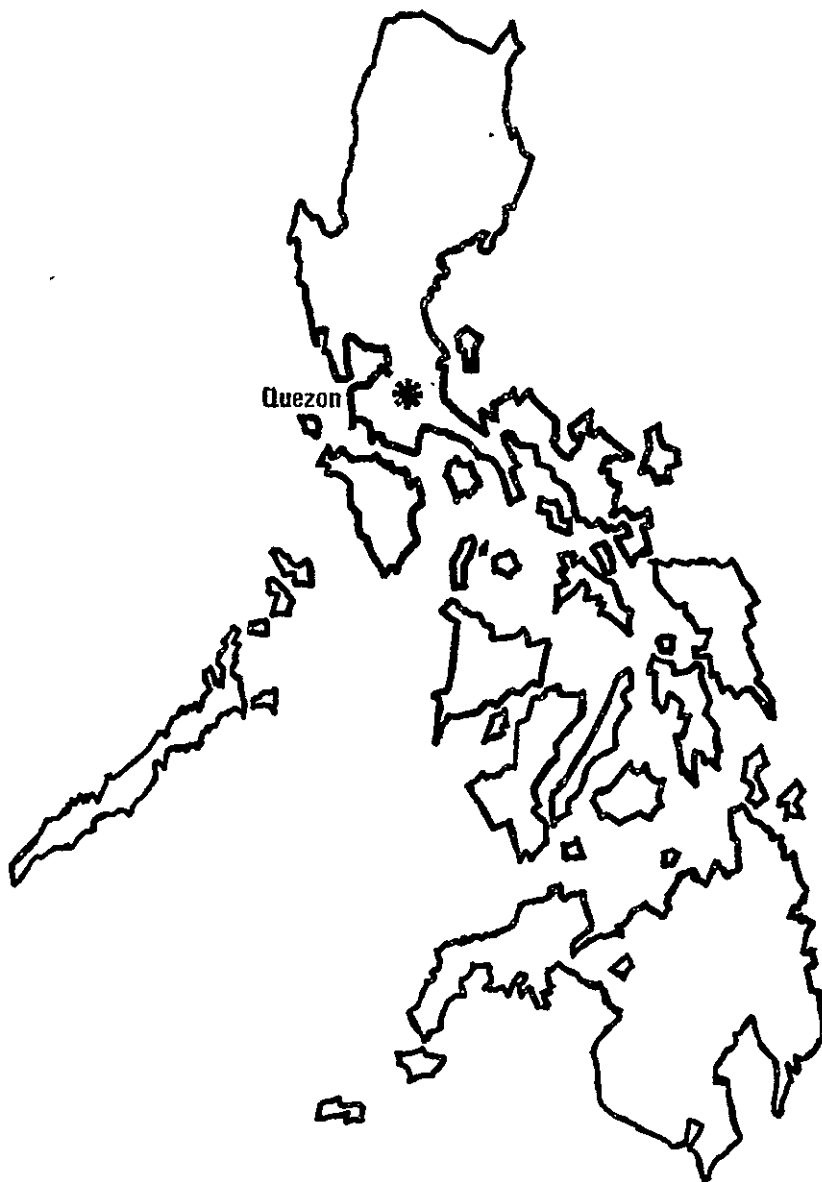


The Philippines

A Country Profile



August 1979

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



Philippines

- Railroad
- Road

0 50 100 150 Kilometers
0 50 100 150 Miles

THE PHILIPPINES: A COUNTRY PROFILE

prepared for

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

by

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

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

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

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

July 1979

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East Africa Regional Profile*
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Mali
Mauritania
Niger
Sahel Transportation Survey
Senegal
Somalia
Uganda
Upper Volta
Zaire

ASIA

Bangladesh
Burma
India
Indonesia
Malaysia
Nepal
Pakistan
Philippines

CARIBBEAN

CARICOM Regional Profile
Dominican Republic
Haiti

LATIN AMERICA

Bolivia
Chile
Ecuador
El Salvador
Guatemala
Honduras
Nicaragua
Peru

NEAR EAST

Turkey

SOUTH PACIFIC

Fiji
Tonga
Western Samoa

INDIAN OCEAN

Island Countries of the
Indian Ocean

TO:

COUNTRY PROFILE USER Dear _____

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

NAME/OFFICE: _____ PHONE: _____ Date: _____

TOPIC

COMMENTS

|

Geographic Codes

AID Standard	492.
FIPS (2)	PH
FIPS (3)	PHI
AID Region	EA/PIT
State Region	EA/PHL

Country Names

Legal	Republic of the Philippines
Local	Republica de Filipinas Republica ng Pilipinas
Short	Philippines
Abbreviated	Philip

Official Holidays

New Year's Day.....	January 1
Bataan Day.....	April 9
Labor Day.....	May 1
Independence Day.....	June 12
Philippine-American Friendship Day.....	July 4
National Heroes Day.....	November 30
Christmas.....	December 25
Rizal Day.....	December 30

Moveable religious holidays include Holy Thursday and Good Friday.

Currency

Monetary unit is the peso (P), divided into 100 centavos.
Coins: 1, 5, 10, 25, and 50 centavos and 1 peso
Notes: 5, 10, 20, 50, and 100 pesos
7.38 pesos = US \$1.00 (April 1979)

Time Zones

8 PM = noon GMT
EST + 13 hours

Host Mission and Staff in US

Address: 1617 Massachusetts Avenue, N.W.
Washington, D.C., 20036

Tel: 483-1414

Staff: Ambassador.....Eduardo Z. Romualdez
Minister (Deputy
Chief of Mission).....Mario C. Belisario
Minister Counselor.....Leonides T. Caday
Minister Counselor.....Jose U. Fernandez
Third Secretary.....Milagros R. Perez
Attache.....Dominador B. Endoso
Press Counselor.....Abelardo L. Valencia
Science Attache.....Dr. Perfecto K.
Guerrero
Defense, Army & Air
Force Attache.....Col. German Domingo
Naval Attache.....Capt. Ernesto M.
Arzaga

US Mission to Philippines and Staff

Address: 1201 Roxas Blvd.
APO San Francisco 96528

Tel: 598-011

Staff: AMB.....Richard W. Murphy
DCM.....James D. Rosenthal
ECO.....Edson W. Kempe
COM.....Dennis R. Papendick
POL.....Herbert S. Malin

LAB.....Leonard Sandman
CON.....Blaine C. Tueller
ADM.....Paul Sadler
RSO.....Martin C. Dougherty
AGR.....John E. Riesz
AID.....Anthony Schwarzwaldner
PAO.....Clifford E. Southard

Manila:

Address: 2330 Roxas Blvd.; P.O. Box 789
APO San Francisco 96528

Tel: 807251

Staff: U.S. Exec Dir.....Lester E. Edmond
U.S. Alt Exec Dir...Jon M. Gaaserud

Cebu:

Address: 3rd Fl., Philippine American Life Insurance Bldg.
Jones Ave.; APO San Francisco 96528

Tel: 7-95-10/24

Staff: PO.....Gilbert H. Sheinbaum
CON.....Kevin T. McConnell
BPAO.....Lane T. Cubstead

Treaties and Agreements

With US:

Agricultural commodities
Atomic energy
Claims
Consuls
Copyright
Customs
Mutual defense
Economic and technical cooperation
Education
Finance

General relations
Health
Informational media guarantees
Investment guarantees
Maritime matters
Meteorological research
Military cemeteries
Patents
Peace Corps
Postal matters
Publications
Relief supplies
Packages
Social security
Telecommunications
Trade and commerce
Visas

Other

Aviation arrangements with Australia, Burma, Republic of China,
UK, Greece, Indonesia, Japan, Korea, Mexico, Pakistan,
Spain, Sweden, Switzerland, Thailand

Friendship, commerce, navigation treaty with Japan

Multilateral

ADB, ASEAN, ASPAC, Colombo Plan, ESCAP, FAO G-77, IAEA, IBRD,
ICAO, IDA, IFC, IHO, ILO, IMCO, IM, IPU, ISO, ITU, UN, UNESCO, UPU,
WHO, WTO.

Sister Cities

Affiliations Listed by Sister Cities International, August 7, 1975.

<u>Philippine City</u>	<u>US. City</u>
Bagarra	Maui Co, Hawaii
Cavite City (Luzon-Central)	San Diego, California
	Guam
Cebu (Cebu)	Salinas, California
Iloilo (Panay)	Stockton, California
Legazpi (Luzon-South)	Hawaii Co, Hawaii
Laoag (Luzon-North)	Honolulu, Hawaii
Manila (Luzon-Central)	Sacramento, California
Marakina	Pendleton, California
Olangapo (Luzon-Central)	Bremerton, Washington
Palo (Leyte)	Palo Alto, California
Quezon City (Luzon-Central)	Salt Lake City, Utah
	Maui Co, Hawaii
San Juan	Santa Barbara, California
San Pablo, (Luzon-Central)	San Mateo, California
Sinair	Carson, California
Zahvales	Maui Co, Hawaii

Travel and Visa Information

Visa not required for transit/tourist staying up to 21 days; must have valid passport, onward/return tickets. Temporary visitor visa, valid for stay up to 59 days, no charge, 1 photo. Letter of no objection from Commanding Officer and letter of support from sponsor required of Embassy/Consulate for specific requirements.

Health

Smallpox certificates required. Yellow fever certificate required of travelers one year of age and over arriving from infected areas. Children under one year of age arriving from infected areas are subject to isolation or surveillance.

Ethnic and Sociocultural Groups

With exception of small minorities of ethnic Chinese, Negritos (islands' earliest people), and Caucasians (mainly of Spanish and American origin), most Filipinos are of common racial stock (Malay-Indonesian). Inter-marriage between early Malay immigrants, the Proto-Malays (Indonesian) and Deutero-Malays (Southern Mongoloid), as well as between Filipinos and later arrivals (Chinese, Arabs, Spanish, Americans) has produced considerable ethnic mix but general cultural homogeneity.

Language, rather than race or religion, is major source of cultural differentiation. The eight major linguistic groups who make up Lowland Christians (90% of population) are Tagalogs (Central Luzon Plain); Cebuanos (leading Visayan group); Ilokanos (western coast of Luzon and central Luzon Plain), Ilongos (second to Cebuanos in Visayas); Bikolanos (Bikol Peninsula, Cataduanes, Burias, Ticao, and adjacent part of Masbate); Waray-Waray (third Visayan group, Samar, and eastern Leyte; Pampangans and Pangasinans (interspersed with Tagalogs and Ilokanos).

Relations between Lowland Christians and three minority groups - Moros (Muslim Filipinos), small pagan tribes of the interior, and ethnic Chinese - have been marked by conflict. The Moros, inhabiting southern Mindanao, Palawan, and the Sulu Archipelago, racially and linguistically like Lowland Christians and of at least 10 different language groups, converted to Islam before arrival of Spanish (1565) and have continuously rejected outside authority. Their resentment of encroachment of Christian settlers on their land and way of life erupted in open rebellion in 1975 separatist movement, the fighting ending in tenuous cease-fire. As Christian and Moro settlers and loggers have moved in recent years into the relatively inaccessible living areas of the interior pagan groups, known collectively as Igarots in Luzon and as Manabos in Mindanao, hostile encounters have occurred. The Chinese (about 600,000 ethnic and 100,000 alien Chinese in Philippines in 1970) have occupied an ambiguous position. Those marrying Filipinos and offspring of such marriages have been accepted; unassimilated Chinese have often met with discrimination.

Languages

A multiplicity of indigenous languages (more than 70 languages and dialects listed in 1960 census) of the Malayo-Polynesian language family are spoken. Each of major languages has several dialects,

which in some cases are mutually unintelligible. Most Filipinos are multilingual. Government policy has promoted use of two official languages: Pilipino (a form of Tagalog), the national language; understood by about 55% of the population; and English, language of government, commerce, mass communication, and education, understood by about 45% of the population. A third official language, Spanish, spoken by about 3.6% of the population, is popular among a small landed and commercial elite. The Moros generally use native vernaculars rather than English or Pilipino. Chinese is the language of a small minority.

Literacy

The national literacy rate is estimated at 83% but regional rates vary considerably. The Philippine National and Statistics Office reported literacy rates by region in 1970 as follows: Ilocos, 83.1%; Cagayan Valley 78.8%; Central Luzon, 90.3% Metro Manila area, 96.7%; Southern Tagalog, 92%; Bicol, 86.4%; Western Visayas, 82.1%; Central Visayas, 77.8%; Eastern Visayas, 77.7%; Western Mindanao, 65.4%; Northern Mindanao, 83.4%; Southern Mindanao, 81.8%; Central Mindanao, 66.6%.

Religions

The constitution guarantees freedom of religion and recognizes the principle of separation of church and state. 83 to 85% of the population is Roman Catholic. Members of indigenous Christian cults, including the Philippine Independent Church (Aglipayan) and the Iglesia ni Kristo (Tagalog for Church of Christ), constitute another 6%. Muslims make up 5% of population; numerous Protestants denominations, 3%; animists, 2-3%; Buddhists, less than 1%. Religion tends to be syncretic in that the major organized world religions have to some degree blended with earlier indigenous forms of worship.

National Government

A new constitution ratified in 1973 provides for change from presidential to parliamentary form of government: unicameral National Assembly with members elected by universal suffrage for 6-year terms will elect from its membership a prime minister as chief executive and a president as ceremonial head of state.

In September 1972, while the constitutional convention was still in session, President Marcos proclaimed martial law in response to a prevailing climate of violence in the country and a perceived threat to national security represented by communist insurgents. At the same time he announced his intention to implement a reform program in a "New Society".

Transitory provisions of Article XVIII of the new constitution gave the President executive powers as vested in both the 1935 and 1973 constitutions as well as broad emergency and legislative powers. An interim national assembly, also provided for, was not, however, elected until April 1978.

Although opposition parties were permitted to participate in the election of the first interim Batasang Pambansa (legislative assembly), the government party, the Kilusan Bagong Lipunan (New Society Movement - KBL) won an overwhelming majority of seats. The 200 member Assembly, convened in June 1978, confirmed Marcos as prime minister. Whether or not a step toward "political normality", the legislative body is seen by observers as a possible vehicle for criticism of New Society policies, effectively lacking during martial law period when even the press has imposed "self-censorship".

Periodic referenda on national issues (questions submitted to local councils (barangays) established by decree) have invariably resulted in votes of confidence for Marcos' government, which he characterizes as "constitutional authoritarianism". A presidentially appointed cabinet acts as advisory body.

A judicial system influenced by Spanish and US legal principles consists of a supreme court, a court of appeals, courts of first instance, municipal, city, and special courts. Courts function without juries; all judges are appointed. Under martial law, civilian and military courts often share jurisdiction.

Regional Organization

The country is divided for administrative purposes into 13 regions, 77 provinces, over 60 cities, about 1,600 municipalities, and more than 40,000 barangays (barrios until 1974).

Regions, each containing a number of provinces, have had primary function of coordinating regional development activities. Provinces, with appointed governors, vice-governors and boards, are largest administrative units. Administratively independent of provincial governments are chartered cities, headed by appointed mayors. Major government departments on both provincial and city levels are responsible to their respective national departments. Municipalities, each headed by a mayor in a central town called a poblacion, are under jurisdiction of provincial governments. The lowest subdivision, located in municipalities, municipal districts, and cities, is the barangay with main function of maintaining law and order.

Metropolitan Manila was administratively restructured in 1975, the new government comprising 4 cities and 13 municipalities with total of 1,830 barangays or about 5 million people. Imelda Marcos, the President's wife, was first governor.

Regions*

- Region I - Ilocos
- Region II - Cagayan Valley
- Region III - Central Luzon
- Region IV - Metro Manila
- Region V - Bicol
- Region VI - Western Visayas
- Region VII - Central Visayas
- Region VIII - Eastern Visayas
- Region IX - Western Mindanao
- Region X - Northern Mindanao
- Region XI - Southern Mindanao
- Region XII - Central Mindanao
- Region XIII - Southern Tagalog

* Philippine Government lists 12 regions, Southern Tagalog numbered IV-A.

Key Leaders
(As of January 1981)

President.....Marcos, Ferdinand E.
 Presidential Executive Assistant.....Tuvera, Juan C.
 Presidential Finance Adviser.....Dumlao, Cesar A.
 Presidential Assistant on Natl. Minorities..Elizalde, Manuel, Jr.
 Presidential Assistant.....Nituda, Victor G.
 Presidential Assistant.....
 Special Presidential Assistant.....Marcos, Ferdinand, Jr.
 Min. of Agrarian Reform.....Estrella, Conrado F.
 Min. of Agriculture.....Tanco, Arturo, Jr.
 Min. of the Budget.....Mapa, Placido, Jr.
 Min. of Education & Culture.....Corpuz, Onofre D.
 Min. of Energy.....Velasco, Geronimo Z.
 Min. of Finance.....Virata, Cesar
 Min. of Foreign Affairs.....Romulo, Carlos P.
 Min. of Health.....Garcia, Enrique
 Min. of Human Settlements & Ecology.....Marcos, Imelda R.
 Min. of Industry & Chairman, Board of
 Investment.....Ongpin, Roberto
 Min. of Justice.....Puno Ricardo
 Min. of Labor.....Ople, Blas
 Min. of Local Govt. & Community
 Development.....Rono, Jose A.
 Min. of National Defense.....Ponce-Enrile, Juan
 Min. of Natural Resources.....Leido, Jose J., Jr.
 Min. of Public Highways.....Hipolito, Jesus S.
 Min. of Public Information (Acting).....Cendaná, Gregorio
 Min. of Public Works.....Juinio, Alfredo L.
 Min. of Social Services & Development
 (Acting).....Montes, Sylvia
 Min. of Tourism.....Aspiras, Jose D.
 Min. of Trade.....Villafuerte, Luis
 Min. of Transportation & Communications....Dans, Jose P.
 Dir. Gen. Natl. Economic & Planning
 Authority.....Sicat, Gerardo
 Solicitor General.....Mendoza, Estelito P.

Host Disaster Plan

Office of Civil Defense, headed by Secretary of National Defense, coordinates activities and functions of various agencies of National Government and private institutions and organizations to implement policies of National Disaster Coordinating Council (NDCC) relative to disaster management.

Operating arm of OCD is Civil Defense Operations Center (CDOC), Camp Aguinaldo in Quezon City, and through 12 regional coordinating centers (Metro Manila separate and special region). Secretary of National Defense, Chairman of NDCC, is coordinator during disasters.

NDCC members: Secretaries of National Defense (Chairman), Public Works, Transportation and Communication, Social Services, Agriculture, Education, Finance, Trade, Local Government and Community Development, Health, Natural Resources, Public Information; Budget Commissioner, Presidential Executive Assistant, Presidential Assistant on General Government, Chief of Staff, Secretary General PNRC, Administrator of Civil Defense.

NDCC functions: operational plans; coordination of rescue and evacuation, relief and rehabilitation; resource allocation; transport control; progress monitoring; reporting.

US Plan

USG Agencies

State: Ambassador makes determination.

USAID: Coordination, liaison, assessment.

CINCPACREPPHIL: Operations control of US Forces; provides assistance as requested.

ICA: Release of US disaster relief information.

13th Air Force, Clark Air Base (CAB): Assistance as requested.

COMUSNAVPHIL: Assistance as requested by CINCPACREPPHIL.

US Ambassador and Deputy Chief of Mission are kept informed, on continuing basis, of relief operations. Within USAID, disaster relief assistance coordinated by Mission Disaster Relief Officer (MDRO) under USAID Mission Director.

USAID Preparedness System

USAID/Philippines has Disaster Assistance Center (DAC) in Magsaysay Center, Roxas Blvd., Manila - linked to key disaster personnel by mobile battery operated network.

Condition 1: Indication of impending disaster - USAID Disaster Assistance on standby.

Condition 2 : 24 hours to potential disaster - mobile radio network readied; vehicles on standby; DAC activated.

Condition 3: Disaster commenced. Upon determination, requests are screened and those for military assets or assistance passed to CINCPACREPPHIL.

Note: The development of a potential disaster is monitored through CAB Weather Station and PAGASA (Philippine Atmospheric Geophysical and Astronomical Service Administration).

A joint survey of damages and assessments of needs may be conducted by Philippine and US Government officials. Survey reports to CDOC, US Mission, and AID/W.

Two phases: emergency - immediate needs; rehabilitative - long term needs and reconstruction.

During and following a disaster, USAID will deploy a Disaster Relief Officer (DRO) and supporting personnel, as required, to established operational bases, i.e., Imelda Relief Operations Center (IROC), Nichols Air Base (NAB), Clark Air Base (CAB) and other designated areas to provide on-site liaison with Philippine and US Military authorities and to assist in monitoring and coordinating USAID relief activities.

Contact List

Philippine Government Agencies

Malacanang

Hon. Gabriel Y. Itchon
Presidential Asst. on Monetary
& Financial Assistance
Office of the President

Telephone No.

47-10-81 Loc. 211

47-17-78

Philippine Air Force (PAF)

Nichols Air Base (Switchboard)
NAB Operations
Command Operations Center (Col. F. Pasion)
Dir. of Information (Col. Miguel Hinlo)
Imelda Relief Operations Center (IROC)

83-15-61 to 71
83-44-91
83-40-69
83-48-95
83-69-55;
83-57-50 (DSSD)

Department of Social Services and Development (DSSD)

Switchboard

49-37-21 up to 25
48-33-51

Sylvia Montes
Acting Secretary

49-73-17

Milagros Llanes
Asst. Director, Bureau of Assistance

Loc. 15
48-33-51; 48-62-10
40-09-04; 49-24-53

Regional DSSD Centers

Telephone No.

Ms. Araceli Quirido
Director, Region I
San Fernando, La Union

2505 - 2115
2833
3842 (Baguio City)

Ms. Leticia Moises
Director, Region III
San Fernando, Pampanga

2981

<u>Regional DSSD Centers (cont'd)</u>	<u>Telephone No.</u>
Ms. Corazon Alma de Leon Director, Region IV Sampaloc, Manila	27-35-28 27-29-45
Mr. Edwin Joseph Rodil Director, Region V Naga City	DSSD Radio (SSB) 2926
Ms. Gloria Mallari Officer in Charge, Region VI Iloilo City	DSSD (SSB) 77481
Ms. Lily Talagon Director, Region VII Cebu City	DSSD Radio (SSB) 74577
Ms. Rita Florence Roque Director, Region VIII Tacloban City	DSSD Radio (SSB) 2525
Mr. Pedro Faustino Director, Region IX Zamboanga City	DSSD Radio (SSB) 3287
Mr. Segundo Cortez Director, Region X Cagayan de Oro City	DSSD Radio (SSB) 3339
Ms. Agrinelda Miciat Director, Region XI Davao City	DSSD Radio (SSB) 71964
Mr. Usman Cusain Officer in Charge, Region XII Cotabato City	DSSD Radio (SSB) 2388
Office of Civil Defense/ Civil Defense Operation Center Switchboard	79-21-12; 79-21-46
Col. Victor R. Pagulayan, Jr. Administrator Civil Defense Operation Center	79-42-23 Loc. 211
Eng. Fortunato M. Dejoras Deputy Administrator	Loc. 212 79-42-66

Regional DSSD Centers (cont'd)

Telephone No.

Mr. Luis N. Grande, Jr. Executive Officer	Loc. 285 79-42-66
Col. Prudencio C. Ver Chief, Operations Center	Loc. 214-218 79-21-81
Major Paulino Macabangun Operations Officer	Loc. 294 79-21-81
Mr. Romeo Valera Chief, Communications, Warning & Operations Division	Loc. 228 79-41-91
Atty. Neresia T. Lontoc Administrative Officer II	Loc. 284 79-42-92
Miss Leticia C. Labro Chief, Plans Training Division	78-20-79

Regional NDCC Centers

Telephone No.

Lt. Cdr. Eduardo Quisido Director, Region I San Fernando, La Union	2384
Franklin O. Castillo Director Region II Tuguegarao, Cagayan	180-R
Armando Duque Director, Region III San Fernando, Pampanga	3701 (Military)
Herminigildo E. Ebarle Director, Region IV Batangas City	725-3748
Renato S. Arevalo Director, Region V Legaspi City	4566 or 4660
Jose Hernani Director, Region VI Iloilo City	76671

Regional NDCC Centers (cont'd)

Telephone No.

Angel Gaviola
Director, Region VII
Cebu City

71912

Rodrigo R. Roldan
Director, Region VIII
Tacloban City

2877

Cesar Espiritu
Director, Region IX
Zamboanga City

2361

Ernesto I. Rivera, Jr.
Director, Region X & XI
Cagayan de Oro City

77641

Jose G. Palomar
Director, Region XII
Cotabato City

Philippine National Red Cross (PNRC)

Telephone No.

Dr. Vicente Galvez
Secretary-General

59-34-73

Mr. Vicente P. Majarocan
Director
Disaster Preparedness & Relief Services

59-49-79

Mr. Eduardo Angco
Public Information Officer
Director, PRPD

50-25-07

United Nations Development Program (UNDP)

85-06-11 Switch-
board

Mr. B.R. Devarajan
Resident Representative

88-15-36

United Nations Development Program (UNDP) (cont'd)

Dep. John B. Melford [REDACTED] 86-10-15

U.S. Government Telephone No.

U.S. Embassy

59-80-11

Minister Donald R. Toussaint Loc. 276, 372

Col. James E. Steinmiller, USAF
Defense Attache Loc. 623, 624

Capt. James M. Webster USN
CINCPACREPPHIL, Liaison Officer
Comm. in Chief Pacific Com. Rep. in Phil. Loc. 395, 396

Capt. Curtis K. Maloy, USAF
Asst. Air Attache Loc. 623, 624
651, 622

Jusmag

Cdr. Carl Shipley 99- 45- 11 Loc. 796, 798
Maint. Officer Jusmag Switch-
board Loc. 841

Clark Air Force Base (CAB)

Call US Emb. 59-80-11 ask for: From PLDT,
Dial 46-08-90

Col. Paul Mathis 48126
Base Commander

Disaster Preparedness Control Center, CAB

Call US Emb. 59-80-11 ask for:

Capt. James P. McDorman [REDACTED] 33951
Base Disaster Prep. Officer

[REDACTED]

Disaster Preparedness Control Center, CAB (cont'd)

Sgt. Larry R. Parker [REDACTED] 33951

Military Civic Action Division, CAB 48219

Maj. Ralph Pollard 43191

Subic Naval Base Telephone No.

Call US Emb. 59-80-11 ask for:
From PLDT: Dial 460-88 & Ext.

Capt. J.D. Turber 884-9896/9898
Asst. Chief of Staff
Operations & Plans - J.D. Turber

Lt. Cdr. Mike Sherman 884-3451/9410
Public Affairs Officer
Operations Control Center

USAID Telephone No.

Call US Emb. 59-80-11 ask for:

Anthony M. Schwarzwald [REDACTED] 448, 451
Director 59-82-56 (Dir.
Line)

Dennis P. Barrett 451, 448
Deputy Director 59-82-56 (Dir.
Line)

Herbert W. Dodge [REDACTED] 416, 420
Asst. Director 87-27-54 59-23-04 (Dir.
Human Resources Development Line)

William F. Doody [REDACTED] 444, 445, 446
FFP Officer, MDRO 59-88-69 (Dir.
Line)

[REDACTED]

USAID (cont'd)

Telephone No.

John Garney
Executive Officer

Loc. 413, 494

Motor Pool

470, 476

GSO/Warehouse

479
83-79-44 (Dir.
Line)

U.S. Peace Corps

59-24-21 to 23

Mr. and Mrs. Abernathy

U.S. Emb. ext.
692

ICA

Telephone No.

Horace G. Dawson, Jr.
Director

Loc. 258, 205,
274

Richard R. Schoonover
Press Attache

Loc. 363, 318,
281

Voluntary Agencies

Telephone No.

Catholic Relief Services (CRS)

Terrence Kirch
Director

47-55-91

Lawrence A. Beach
Asst. Director

47-55-91

William Applegate
Program Assistant
Child Welfare Specialist

47-55-91

Hermie Catubig
Shipping Department

47-55-91

Cooperative for American Relief
Everywhere, Inc. (CARE)

Telephone No.

Jerry Lewis
Director

50-75-83,
57-14-16

Domingo Batalla
Administrator

50-75-83,
57-14-16

Salvation Army

Telephone No.

Major Fred Blundell
Officer for Social Affairs

50-00-86 up to 88

SAWS

Dr. Donald van Urnam
Director

34-42-44
80-16-17

World Vision

William Kliewer
Director

88-51-72
88-64-19

Weather Information

Phil. Atmos. Geophysical and
Astronomical Serv. Adm. (PAGASA)

98-08-11, 98-05-84
99-12-06, 99-69-95
98-57-15, 98-56-65
97-77-48, 99-43-17

PAGASA Forecasting-Gabriel S. Monroy
PAGASA Forecasting (Earthquake)
Mr. Carlos Preclaro

98-06-61 Loc. 218
97-74-76

Clark AB Detachment 5
1st Weather Wing, call U.S. Embassy
and ask for

55609

CAB Forecasting

46249

Weather Information (cont'd)

Telephone No.

Subic Communications Office 53254, 53272, 53787
Call U.S. Embassy 59-80-11 ask for Subic

Camp John Hay, Baguio 66116
Call U.S. Embassy & ask for John Hay

Fire Departments

Telephone No.

Caloocan City 23-47-35
Makati 88-00-58
Manila 58-11-76/48-37-34
Manila International Airport (MIA) 83-15-11, Loc. 424
Pasay City 80-80-10/80-88-56
Quezon City 99-83-63/62-24-24

Transportation

Pacific Airways (OICC) (After 4 PM) 88-96-11/83-49-90

PHILAIR - call U.S. Emb. 59-80-11 83-98-91 (Dir.
Line)

TRANSCON

Manuel Bravo 60-47-01 Loc. 20,
Relief Operations Head 54

Mrs. Jenny Cabunillas
Relief Supervisor

Mr. Marcelino Mejilla Loc. 40, 75
Warehouse Supt., Manila

Virgilio Cabalsa 9-9156
Warehouse Supt. Cebu City

Relief Services

USG

CAB - weather station. Among other services provides equipment and operators for re-establishing utilities and roadways; potable water; develops procedures for providing quarters for displaced persons; provides facilities for producing food supplements (Nutribuns) and processes requests for food from commissary stocks).

U.S. Voluntary Agencies

CARE and CRS maintain food stocks and commodities in support of their nutrition programs.

CRS and CARE authorize, supervise nutribun baking from their foodstocks with USAID concurrence.

CRS, CWS, SAWS, and World Vision stock clothing; some agencies have medical supplies.

Host Resources

Examples of disaster relief tasks assigned GOP agencies:

Department of Agriculture - assists victims whose crops and livestock have been lost; procures seeds and fertilizers.

Civil Aeronautics Administration - coordinates search and rescue and use of private aircraft; communications.

Commission on Volcanology - advance warning; helps with resettlement.

PAGASA - advises on weather, earthquakes, tsunamis, flood.

Department of Education and Culture - provides school buildings as emergency relief centers and relief food from school stockpiles.

Department of Health - first aid emergency stations; medical supplies; maintains sanitary conditions in affected areas.

Department of National Defense - communications linkages; massive rescue and evacuation operations; transportation; temporary reconstruction of damaged public works facilities; assists in health, medical relief; distributes supplies.

PNRC - relief goods and first-aid; temporary shelters; coordinates with other agencies.

Department of Public Highways and
Department of Public Works - repairs and restores damaged infrastructure; transportation; DPE - potable water.

Department of Social Services and Development - relief goods; distributes donations.

National Housing Authority - assists with housing for displaced persons.

Disaster Rations

Rice and maize flour are staples; accompaniments - vegetables, leafy vegetables, fish, pork, coconut oil. Acceptable alternatives: wheat flour; accompaniments - mung beans, pulses, split peas, lentils. Pork not consumed in some areas in south.

NDCC Communications System

Means: wire, radio, radio-wire integrated systems, teletype,

telex, closed circuit TV.

Wire - automatic or direct dial, point-to-point telephone, trunk lines to major gov't. commercial and military communications centers.

Telex - through switching center to gov't. officer, cities, provinces and law enforcement agencies.

Teletype - through Butel Manila central terminal to city, provincial and municipal teletype and telegraph stations (over 1,000).

Through AFP teletype and tape relay station to major AFP installations, commands and field units.

Media Augments NDCC Through

COWS. - (Presidential Committee on Warning System)

EBS - Emergency Broadcast System - full use of all existing facilities as needed.

12 SSB radiophone units throughout islands in disaster prone and troubled areas.

A.M. radiophone system: 4 units - Daet, Sorsogon, Catbalogan, Tagum, Davao Del Norte.

Both SSB & AM: 3 units - Legazpi City, Tacloban City, Cagayan De Oro.

Central Station - Quezon City

Civil Aeronautics Administration communications facilities available for disaster operations.

Note - See below under Communications for more detailed data.

Disaster Types

Typhoons, floods, earthquakes, tsunamis, epidemics, locust & rat infestations, volcanic eruptions, drought. (See Physical Geography.)

Volags

Development assistance programs of US non-profit organizations in the Philippines:

<u>Volags</u>	<u>No. Intl/Local</u>	<u>Programs.</u>
AFL-CIO/AAFLI	4/10	C D, Coops & Loans, Ed, Med & PH,
Agricultural Cooperative Development	1 Intl	Coops & Loans
Agricultural Development Council, Inc.	1 Intl	Food Prod & Agri
Agricultural Missions Foundation, Ltd.		Food Prod & Agri
American Baptist Churches in the USA	14/435	C D, Food Prod & Agri, Med & PH, SW
American Foundation for the Overseas Blind, Inc.		Med & PH
American Leprosy Foundation	3/31	Med & PH
American Leprosy Missions, Inc.		Med & PH
American Missions to Greeks, Inc.	4 Local	SW
American National Red Cross		Equip & Mat Aid
American Women's Hospitals Service Manila	10 Local	Med & PH
Asia Foundation Mindanao	1/19	CD, Ed, Pop & Fam Serv, P & Bus Admin
Assemblies of God Tuding	4/1	SW

Bethany Fellowship, Inc. Mindoro Island	6 Local	Ed
CARE, Inc.	4/21	Food Prod & Agri Med & PH, P & Bus Admin
Carr Foundation		Communications
Catholic Medical Mission Board, Inc.		Med & PH
Catholic Relief Services Camarines Sur, Carmona, Culansisi, Davao, Infanta, Jolo, Malaconang Park, Manila, Minalin, Palay, Palay, Pampanga, Parugcan, Quezon, San Pedro, Sapang, Taboa	3/40	CD, C.H.P., Coops & Loans, Ed, Equip & Mat Aid, Food Prod & Agri, Med & PH
Brothers of the Christian Schools Bacolod City, Iligan City, Lipa City, Mandalagong, Manila	30 US	Ed
Christian Children's Fund Inc.		SW
Christian Nationals Commission, Inc.	13 Local	Communications, Ed Food Prod & Agri,
Christian Reformed World Relief Committee Bacolod City, Manila, Negros Is.	3/2	Food Prod & Agri, SW
Church World Service		CD, Food Prod & Agri, Pop & Fam Serv
Columban Fathers	250/92	Communications, Coops & Loans
Columban Sisters, US Region Labrador, Lingayen, Luzon Is., Manila, Mindanao, Molave, Olangapo, Ozamiz, Tanguib, Tudela	36/443	Ed, SW
Compassion		SW
Credit Union National Association		Coops & Loans

Damien-Dutton Society for Leprosy Aid		Med & PH
Darien Book Aid Plan		Ed
Direct Relief Foundation		Equip & Mat Aid
Divine Word Missionaries Cebu, Manila	234/758	Communications, Ed, Med & PH
Eastern Mennonite Board of Missions & Charities	2 US	Food Prod & Agri, Ind Dev
Episcopal Church of the US Domestic & Foreign Missionary Society Bagnen, Baguio, Balatoc, Balbalan, Balbarasang, Bauko, Besao, Catarman, Cotabato, Kalinga, Lubuagan, La Union, Magdalena, Manila, Mindanao, Malibcong Abra, Duldulao, Quezon, Sagada, Tadian	11/510	CD, Coops & Loans, Ed, Food Prod & Agri, Med & PH, SW
Evangelical Free Church of America Cebu City	19 US	SW
Ford Foundation Cagayan De Oro		Ed, Food Prod & Agri, P & Bus Admin
Foster Parents Plan, In.	79/90	CD, Coops & Loans, Ed, Med & PH, SW
Franciscans Province of the Assumption of the Blessed Virgin Mary	17/55	CD Coops & Loans, Ed, Food Prod & Agri, Med & PH, Pop & Fam Serv, SW
Franciscans Province of St. John the Baptist	19/4	CD Coops & Loans, Ed, Food Prod & Agri, Med & PH, Pop & Fam Serv,
Franciscans Province of Santa Barbara	10/33	Ed Med & PH
Franciscan Sisters, Sisters of St. Francis of Perpetual Adoration, Inc.	6/70	Ed, Med & PH, SW

Heifer Project International		Food Prod & Agri
Holy Spirit Missionary Sisters, American Province	161/186	Ed, Med & PH, SW
Bangued, Batac, Calapan, Cebu, Concepcion, Irosin, Laoag, Langangilang, Lubang, Malolos, Manabo, Manila, Pinamalayan, San Jose-Pandurucan, Tagbilaran, Tarlac		
Intermedia		Communications
International Christian Leprosy Mission, Inc. Manila	6 Intl	SW
International Educational Development, Inc. Cagayan, Manila, Quezon City	20/367	Communications, Ed, Food Prod & Agri
International Executive Service Corps	20 US	P & Bus Admin
International Institute of Rural Reconstruction, Inc. Nueva Ecija	68 Local	Coops & Loans, Ed, Food Prod & Agri, Pop & Fam Serv
La Salette Missions, Inc.	3/202	Communications
Province of the Immaculate Heart of Mary		Coops & Loans, Ed, Equip & Mat Aid, Food Prod & Agri
Lutheran Church	1/36	Med & PH
Missouri Synod, Board of Missions Abatan, Luzon, Mountain Province		
Lutheran Church - Missouri Synod, Department of World Relief		CD
Lutheran Medical Mission Association Abatan, Urdaneta		Med & PH
Lutheran World Relief, Inc. Abatan, Mountain Province		Med & PH

Maryknoll Fathers	52 US	CD, Coops & Loans, Ed, Food Prod & Agri, Med & PH, Pop & Fam Serv.
Asuncion, Baganga, Caraga, Catell, Compostela, Davao Del Norte, Davao Oriental, Lambajon, Lupon, Mabini, Maco, Manay, Mati, Mawab, Monkayo, Nabunturan, Panabo, Sto. Tomas, Tagum		
Maryknoll Sisters of	70/14	Ed, Med & PH, SW
St. Dominic, Inc. Baguio, Cotabato, Davao, Lipa, Luzon, Manila, Mindanao Is.		
Medical Assistance Programs, Inc.		Med & PH
Medical Mission Sisters	1 Intl	Med & PH, SW
Society of Catholic Medical Missionaries, Inc. Bongao, Central Luzon, Jolo, Manila Sibutu, Simunul, Sulu		
Medical & Surgical Relief Committee, Inc.		Med & PH
Mennonite Economic Development Association, Ind. (MEDA)	Local Volunteer Committee	Ind Dev
Sisters of Mercy, Buffalo Motherhouse	7/24	Ed, Med & PH
Baroy, Bukidnon, Iligan City, Jimenez, Kamaque, Kolambugan, Lanao, Linamon, Manila, Mindanao, Tubod, Jimenez		
Mill Hill Missionaries, Inc.	65/230	Communications, Coops & Loans, Ed, Med & PH, SW
Antique, Bacalod City, Barbara, Bugasong, Caluya Is., Culasi, DAO, Manila, Pandan, San Jose, San Pedro, San Regmegio		
National Council of Catholic Women		Equip & Mat Aid
Baguio City, Marbel, South Cotabato		
National 4-H Foundation, International Programs	Local Staff	Ed

National Rural Electric Cooperative Association	10 US	Coops & Loans
New Eyes for the Needy, Inc.		Equip & Mat Aid
New Tribes Mission, Inc. Bataan, Bilansi Valley, Manila	64 Intl	Communications, Ed
Overseas Missionary Fellowship Manila, Mindoro	20 US	Communications, Ed
Passionist Missions, Inc. Cotabato, Lagao, Lake Sebu Mindanao	21/200	Communications, Coops & Loans, Ed, Food Prod & Agri, Med & PH, SW
Pathfinder Fund Davao, Dumaguete City, Legaspi, Manila, Nicanor Reyes, South Cotabato		Pop & Fam Serv
Planned Parenthood Foundation of America, Inc. La Union, Luzon Is., Manila, Nueva Ecija, Tarlac		Pop & Fam Serv
Population Council, Inc. Manila		Pop & Fam Serv
Population Services, Intl	3 US	Pop & Fam Serv
Reorganized Church of Jesus Christ of the Latter Day Saints	1 US	Food Prod & Agri, SW
Dr. Jose P. Rizal- General Douglass MacArthur Memorial Foundation Cavete, Dasmariñas, Lubas, Luzon, Mindanao, Pampanga, Pangasinan Province, Sapang Bato, Urbiztondo	1/53	Med & PH
Rockefeller Foundation		Ed, Food Prod & Agri, Pop & Fam Serv
Salesians of St. John Bosco, Province of St. Philip the Apostle	92/78	Ed Food Prod & Agri, SW

Salvation Army Cebu City, Ermita, Pampagsinan, Pasig, Quezon City, Rezal, Tondo, Urdenta	4/113	SW
Seventh Day Adventist World Service, Inc. Bandung Java, Bukidnon, Calbayog, Cebu, Gingoog, Iligan, Isabela, Mindanao, San Nicolas		Med & PH
Southern Baptist Convention	16/112	Ed, Med & PH
Stelios M. Stelson Foundation, Inc.		Equip & Mat Aid
Summer Institute of Linguistics, Inc.	177 Intl	Ed, Food Prod & Agri, Med & PH,
United Church Board for World Ministers Cagayan De Oro, Dasmariñas, Davao, Dumaguete, Manila, Midsayap	26 US	Communications, CD, Ed, Food Prod & Agri, Med & PH, Pop & Fam Serv, SW
United Methodist Church World Division of the Board of Global Ministers	26 US	Multi-area
United Presbyterian Church In the USA, The Program Agency Davao, Dumaguete, Leyte Is., Los Banos, Mindanao Is., Negros Is., Tacloban	15/1282	Ed, Med & PH, SW
Volunteers in Asia, Inc.	5 US	Ec & Dev Pl, Med & PH,
World Changers, Inc.	1 Local	SW
World Education	3 Local	CD, Ed
World Neighbors, Inc. Benguet, Calasiao, Cebu, Ilocos Norte, Laoag, Manila, Mexico, Munoz, Nueva Ecija, Pampanga, Pangasinan, Quezon, Rizal, San Luis, Tarlac, Zambales, Zamboanga	55 Local	CD, Pop & Fam Serv

World Rehabilitation Fund, Inc. Manila, San Pablo		Ed, Med & PH,
World University Service, Inc.		Communications, CD, SW
World Vision Relief Organization Baguio, Cebu, Davao, Manila, San Pablo	1/29	Ed, Equip & Mat Aid, Med & PH, SW
Young Women's Christian Association of USA Manila		CD

Key:

CD.....Community Development
C.H.P.....Construction, Housing & Planning
Coops & Loans.....Cooperatives, Credit Unions & Loans
Ec & Dev Pl.....Economic and Development Planning
Ed.....Education
Equip & Mat Aid.....Equipment and Material Aid
Food Prod & Agr.....Food Production and Agriculture
Ind Dev.....Industrial Development
Med & PH.....Medicine and Public Health
Nutr.....Nutrition
Pop and Fam Serv.....Population and Family Services
P and Bus Admin.....Public and Business Administration
SW.....Social Welfare
Y.....Youth

National Population

The population increased five-fold between 1903 census (7.6 million) and 1975 (42.3 million) with present population estimated to be 46,388,000. The present annual growth rate, estimated between 2.2% and 2.8%, is down from 3% during 1960's. 46% of population was under 15 years of age in 1970. Recognizing that high population growth rates affect national health status and impede development progress, the Philippine Government has adopted a national population policy with goal of reducing growth rate to 1.6% and keeping population level at 70 million by year 2000..

Regional Distribution

The average population density was 139.4 per sq km in 1975, but distribution was uneven. With 37,972.6 persons per sq km, Manila had highest concentration. Most densely populated provinces were urban provinces of Rizal, Cavite, Laguna, Cebu, and Batangas; rural provinces of Palawan, Kalinga-Apayao, Agusan del Sur, North Cotobato, Nueva Vizcaya, Occidental Mindoro, and Abra had low densities. Rizal was most populous province with 3.67 million. 54% of population lived in Luzon in 1977; 22.4% in Visayas; 23.6% in Mindanao. 32% of population classed as urban in 1970.

Two trends in internal migration have occurred: migration to cities, especially to Manila metropolitan area, from rural areas (3.9% estimated urban growth rate); migration from central cities to suburbs (Rizal province major receiving area) and from more populous areas to Mindanao for resettlement. Small scale internal migrations occur among laborers seeking employment.

Population and Growth Rate by Region and Province:
Censal Years 1960, 1970 and 1975

<u>Region</u>	<u>Population</u>		<u>1960</u>	<u>Growth Rate</u>	
	<u>1975^a</u>	<u>1970</u>		<u>1970-75</u>	<u>1960-70</u>
Philippines	41,831,045	36,684,486	27,087,685	2.66	3.01
I. Ilocos.....	3,254,117	2,990,561	2,427,581	1.70	2.06
Abra.....	149,311	145,508	115,193	0.52	2.31
Benguet.....	300,227	263,550	183,657	2.64	3.60
Ilocos Norte	371,258	343,427	287,333	1.57	1.76
Ilocos Sur..	416,925	385,139	338,058	1.60	1.28
La Union....	413,254	373,682	293,330	2.03	2.40
Mt. Province	93,840	93,112	85,866	0.16	0.80
Pangasinan..	1,509,302	1,386,143	1,124,144	1.72	2.07
II. Cagayan					
Valley....	1,930,686	1,691,459	1,202,066	2.68	3.40
Batanes....	11,830	11,398	10,309	0.75	0.99
Cagayan....	638,116	581,237	445,289	1.88	2.64
Ifugao.....	104,623	92,487	76,788	2.50	1.84
Isabela....	735,929	648,123	442,062	2.57	3.81
Kalinga-					
Apayao..	162,919	136,249	89,528	3.64	4.20
Nueva					
Vizcaya	211,328	221,965	138,090	4.55	4.75
Quirino....	65,941	-	-	-	-
III. Central					
Luzon...4,	170,961	3,615,496	2,525,379	3.07	3.57
Bataan...1,	478	216,210	145,323	3.88	3.96
Bulacan....	891,535	737,975	514,346	4.48	4.09
Nueva Ecija	940,074	851,294	608,362	2.00	3.34
Pampanga...1,	032,452	907,275	617,259	2.62	3.84
Tarlac.....	634,081	559,708	426,647	2.53	2.69
Zambales...4,	11,341	343,034	213,442	3.70	4.75
IV. Southern					
Tagalog..10,	055,330	8,423,703	5,543,715	3.60	4.18
Sub-region					
IV-A (Metro					
Manila)...4,	863,364	3,966,695	2,462,488	4.16	4.75
Manila.....	1,454,352	1,330,788	1,138,611	1.79	1.54
Caloocan					
City.....	393,251	274,453	145,523	7.46	6.55
Pasay City	186,920	206,283	132,673	(1.95)	4.51

Region	Population		1960	Growth Rate	
	1975 ^a	1970		1970-75	1960-70
Quezon City	960,341	754,452	397,990	4.94	6.60
Las Pinas..	83,703	45,732	16,093	12.85	11.01
Makati.....	331,613	264,918	114,540	4.59	8.75
Malabon....	174,091	141,514	76,438	4.23	6.35
Mandaluyong	180,904	149,407	71,619	3.90	7.63
Marikina...	165,266	113,400	40,455	7.82	10.86
Muntinglupa	91,909	65,057	21,893	7.16	11.51
Navotas....	96,926	83,245	49,262	3.09	5.39
Paranaque..	155,358	97,214	61,898	9.83	4.62
Pasig.....	210,839	156,492	62,130	6.14	9.68
Pateros....	32,765	25,468	13,173	5.17	6.82
San Juan...	121,419	104,559	56,861	3.04	6.28
Taguig.....	73,650	55,257	21,856	5.92	9.72
Valenzuela, Bulacan	150,057	98,456	41,473	8.79	9.03
Sub-region					
IV-B....	5,191,966	4,457,008	3,081,227	3.10	3.68
Aurora (Sub- Province)	b	b	b	b	b
Batangas...	1,028,121	926,308	681,414	2.11	3.05
Cavite.....	626,321	520,180	378,138	3.78	3.17
Laguna.....	799,971	699,736	472,064	2.71	3.93
Marinduque	162,578	144,109	114,586	2.44	2.27
Occidental					
Mindoro	183,989	144,032	84,316	5.02	5.38
Oriental					
Mindoro	387,174	328,364	228,998	3.35	3.59
Palawan....	300,513	236,635	162,669	4.90	3.74
Quezon.....	1,110,952	983,324	653,426	2.47	4.08
Romblon....	181,238	167,082	131,658	1.64	2.36
Rizal					
(Resid- ual)...	411,109	307,238	173,958	6.00	5.72
V. Bicol.....	3,178,615	2,966,881	2,362,707	1.39	2.25
Albay.....	730,004	673,981	514,980	1.61	2.66
Camarines					
Norte...	287,621	262,207	188,091	1.87	3.30
Camarines					
Sur.....	1,015,182	948,436	819,565	1.37	1.44
Catan-					
duanes..	172,153	162,302	156,329	1.19	0.37
Masbate....	530,158	492,908	335,971	1.47	3.82
Sorsogon...	443,497	427,047	347,771	0.76	2.03

Region	Population ^a		1960	Growth Rate	
	1975	1970		1970-75	1960-70
VI. Western					
Visayas...	4,135,911	3,618,326	3,078,305	2.71	1.59
Aklan.....	292,115	263,358	226,232	2.09	1.50
Antique....	307,157	289,172	238,405	1.21	1.91
Capiz.....	444,292	394,041	315,079	2.43	2.21
Guimaras					
(Sub-Pro- vince)	b	b	b	b	b
Iloilo.....	1,305,947	1,167,973	966,266	2.26	1.87
Negros					
Occi- dental..	1,786,400	1,503,782	1,332,323	3.50	1.19
VII. Central					
Visayas..	3,363,416	3,032,719	2,522,802	2.09	1.82
Bohol.....	753,456	683,297	592,194	1.97	1.41
Cebu.....	1,804,589	1,634,182	1,332,847	2.00	2.01
Negros					
Oriental	737,132	652,264	538,206	2.48	1.90
Siquijor (Sub- Province)	68,239	62,976	59,555	1.65	0.55
VIII. Eastern					
Visayas	2,585,797	2,381,409	2,040,966	1.66	1.52
Biliran (Sub- Province)	b	b	b	b	b
Leyte.....	1,199,068	1,110,626	963,364	1.54	1.40
Southern					
Leyte..	275,190	251,425	209,608	1.82	1.80
Eastern					
Samar..	286,088	271,000	237,747	1.09	1.29
Northern					
Samar..	349,633	306,114	261,424	2.69	1.56
Western					
Samar..	475,818	442,244	368,823	1.47	1.79
IX. Western					
Mindanao..	2,070,945	1,869,014	1,350,731	2.07	3.22
Sub-region IX-A					
Basilan...	151,623	143,829	b	1.06	b
Sulu.....	300,027	315,421	326,898	1.00	2.62
Tawi-tawi	137,506	110,196	b	4.53	b

Region	Population		1960	Growth Rate	
	1975	1970		1970-75	1960-70
Sub-region IX-B					
Zamboanga del Norte..	485,178	409,379	281,429	3.46	3.73
Zamboanga del Sur....	996,611	890,189	742,404	2.28	3.30
X. Northern					
Mindanao...	2,305,150	1,952,735	1,297,345	3.37	4.08
Agusan del Norte..	298,318	278,053	177,333	1.42	4.50
Agusan del Sur.....	214,757	174,682	93,677	4.22	6.29
Bukidnon..	529,003	414,762	194,368	4.99	7.70
Camiguin..	52,471	53,913	44,717	-0.54	1.85
Misamis Occidental	355,171	319,855	248,371	2.12	2.51
Misamis Occidental	558,127	472,756	343,898	3.38	3.16
Surigao del Norte..	297,303	238,714	194,981	4.49	2.00
XI. Southern					
Mindanao..	2,711,278	2,200,726	1,352,798	4.26	4.88
Surigao del Sur....	313,901	258,680	165,016	3.95	4.50
Davao del Norte..	585,860	442,543	262,889	5.77	5.23
Davao Oriental....	300,555	247,995	132,593	3.92	6.32
Davao del Sur.....	930,060	785,398	497,541	3.44	4.57
South Cotabato	580,902	466,110	294,759	4.50	4.59
XII. Central					
Mindanao	2,068,839	1,941,457	1,383,290	1.28	3.37
Lanao del Norte..	368,374	349,942	270,603	1.03	2.55
Lanao del Sur....	533,998	455,508	378,327	3.23	1.83
Maguindanao North	473,989	476,338	b	0.10	b
Cotabato	465,808	468,354	734,360	0.11	4.36
Sultan Kudarat	266,670	191,315	b	3.45	b

^aPreliminary results of May 1, 1975

^bIncluded in mother province

¹Excluding Valenzuela

Source: National Census and Statistics Office, Population Studies Division as cited in Philippine Yearbook 1977.

Land Area and Population Density, By Region and Province
Censal Years 1960, 1970 and 1975

<u>Land Area</u> <u>(Sq. Km.)</u>	<u>1960</u>		<u>1970</u>		<u>1975 a</u>		
	<u>Population</u>	<u>Den- si- ty</u>	<u>Population</u>	<u>Den- si- ty</u>	<u>Population</u>	<u>Den- si- ty</u>	
Philippines	^b						
300,000.0	27,087,685	90.3	36,684,486	122.3	41,831,045	139.4	
<u>I. Ilocos</u>							
21,568.5	2,427,581	112.6	2,990,561	138.7	3,254,117	150.9	
Abra	3,975.6	115,193	29.0	145,508	36.6	149,311	37.6
Benguet	2,655.4	183,657	69.2	263,550	99.3	300,227	113.1
Ilocos Norte	3,399.3	287,333	84.5	343,427	101.0	371,258	109.2
Ilocos Sur	2,579.6	338,058	131.1	385,139	149.3	416,925	161.6
La Union	1,493.1	293,330	196.5	373,682	250.3	413,254	276.8
Mt. Province	2,097.3	85,866	40.9	93,112	44.4	93,840	44.7
Pangasinan	5,368.2	1,124,144	209.4	1,386,143	258.2	1,509,302	281.2
<u>II. Cagayan Valley</u>							
36,403.1	1,202,066	33.0	1,691,459	46.5	1,930,686	53.0	
Batanes	209.3	10,309	49.3	11,398	54.5	11,830	56.5
Cagayan	9,002.7	445,289	49.5	581,237	64.6	638,116	70.9
Ifugao	2,517.8	76,788	30.5	92,487	36.7	104,623	41.6

<u>Land Area</u> <u>(Sq. Km.)</u>	<u>1960</u>		<u>1970</u>		<u>1975 a</u>		
	<u>Population</u>	<u>Den-</u> <u>si-</u> <u>ty</u>	<u>Population</u>	<u>Den-</u> <u>si-</u> <u>ty</u>	<u>Population</u>	<u>Den-</u> <u>si-</u> <u>ty</u>	
Isabela	10,664.6	442,062	41.5	648,123	60.8	735,929	69.0
Kalinga-Apayao	7,047.6	89,528	12.7	136,249	19.3	162,919	23.1
Nueva Vizcaya	3,903.9	113,824	29.2	172,198	44.1	211,328	54.1
Quirino	3,057.2	24,266	7.9	49,767	16.3	65,941	21.6
III. Central Luzon	18,277.8	2,566,852	140.4	3,713,952	203.2	4,321,018	236.4
Bataan	1,373.0	145,323	105.8	216,210	157.5	261,478	190.4
Bulacan	2,672.0	555,819	208.0	836,431	313.0	1,041,592	389.8
Nueva Ecija	5,284.3	608,362	115.1	851,294	161.1	940,074	177.9
Pampanga	2,180.7	617,259	283.1	907,275	416.0	1,032,452	473.4
Tarlac	3,053.4	426,647	139.7	559,708	183.3	634,081	207.7
Zambales	3,714.4	213,442	57.5	343,034	92.4	411,341	110.7
IV. Southern Tagalog	47,513.1	5,502,242	115.8	8,325,247	175.2	9,905,273	208.5
Sub-region IV-A	1,897.9	2,594,973	1,367.3	4,175,477	2,200.1	5,124,416	2,700.0
Manila	38.3	1,138,611	29,728.7	(1,330,788)	34,746.4	(1,454,352)	37,972.6
Rizal	1,859.6	1,456,362	783.2	2,844,689	1,529.7	3,670,064	1,973.6
Sub-region IV-B	45,615.2	2,907,269	63.7	4,149,770	91.0	4,780,857	104.8
Aurora (Sub-Province)	-	-	-	-	-	-	-
Batangas	3,165.8	681,414	215.2	926,308	292.6	1,028,121	324.8
Cavite	1,287.6	378,138	293.7	520,180	404.0	626,321	486.4
Laguna	1,759.7	472,064	268.3	699,736	397.6	799,971	454.6

<u>Land Area</u> <u>(Sq. Km.)</u>	<u>1960</u>		<u>1970</u>		<u>1975 a</u>		
	<u>Population</u>	<u>Den-</u> <u>si-</u> <u>ty</u>	<u>Population</u>	<u>Den-</u> <u>si-</u> <u>ty</u>	<u>Population</u>	<u>Den-</u> <u>si-</u> <u>ty</u>	
Marinduque	959.2	114,586	119.5	144,109	150.2	162,578	169.5
Occidental Mindoro	5,879.8	84,316	14.3	144,032	24.5	183,989	31.3
Oriental Mindoro	4,364.7	228,998	52.5	328,364	75.2	387,174	88.7
Palawan	14,896.3	162,669	10.9	236,635	15.9	300,513	20.2
Quezon	11,946.2	653,426	54.7	983,324	82.3	1,110,952	93.0
Romblon	1,355.9	131,658	97.1	167,082	123.2	181,238	133.7
<u>V. Bicol</u>	<u>17,632.5</u>	<u>2,362,707</u>	<u>134.0</u>	<u>2,966,881</u>	<u>168.3</u>	<u>3,178,615</u>	<u>180.3</u>
Albay	2,552.6	514,980	201.7	673,981	264.0	730,004	286.0
Camarines Norte	2,112.5	188,091	89.0	262,207	124.1	287,621	136.2
Camarines Sur	5,266.8	819,565	155.6	948,436	180.1	1,015,182	192.8
Catanduanes	1,511.5	156,329	103.4	162,302	107.4	172,153	113.9
Masbate	4,047.7	335,971	83.0	492,908	121.8	530,158	131.0
Sorsogon	2,141.4	347,771	162.4	427,047	199.4	443,497	207.1
<u>VI. Western Visayas</u>	<u>20,223.2</u>	<u>3,078,305</u>	<u>152.2</u>	<u>3,618,326</u>	<u>178.9</u>	<u>4,135,911</u>	<u>204.5</u>
Aklan	1,817.9	226,232	124.4	263,358	144.9	292,115	160.7
Antique	2,522.0	238,405	94.5	289,172	114.7	307,157	121.8
Capiz	2,633.2	315,079	119.7	394,041	149.6	444,292	168.7
Guimaras (Sub-Province) ²	-	-	-	-	-	-	-
Iloilo	5,324.0	966,266	181.5	1,167,973	219.4	1,305,947	245.3
Negros Occidental	7,926.1	1,332,323	168.1	1,503,782	189.7	1,786,400	225.4

<u>Land Area</u> <u>(Sq. Km.)</u>	<u>1960</u>		<u>1970</u>		<u>1975 a</u>	
	<u>Population</u>	<u>Den-</u> <u>si-</u> <u>ty</u>	<u>Population</u>	<u>Den-</u> <u>si-</u> <u>ty</u>	<u>Population</u>	<u>Den-</u> <u>si-</u> <u>ty</u>
<u>VII. Central Visayas</u>						
14,951.5	2,522,802	168.7	3,032,719	202.8	3,363,416	225.0
Bohol						
4,117.3	592,194	143.8	638,297	166.0	753,456	183.0
Cebu						
5,088.4	1,332,847	261.9	1,634,182	321.2	1,804,589	354.6
Negros Oriental						
5,402.3	538,206	99.6	652,264	120.7	737,132	136.4
Siquijor						
343.5	59,555	173.4	62,976	183.3	68,239	198.7
<u>VIII. Eastern Visayas</u>						
21,431.7	2,040,966	95.2	2,381,409	111.1	2,585,797	120.7
Biliran (Sub-Province) ³						
-	-	-	-	-	-	-
Leyte						
6,268.3	963,364	153.7	1,110,626	177.2	1,199,068	191.3
Southern Leyte						
1,734.8	209,608	120.8	251,425	144.9	275,190	158.6
Eastern Samar						
4,339.6	237,747	54.8	271,000	62.4	286,088	65.9
Northern Samar						
3,498.6	261,424	74.7	306,114	87.5	349,633	100.5
Western Samar						
5,591.0	368,823	66.0	442,244	79.1	475,818	84.8
<u>IX. Western Mindanao</u>						
18,685.1	1,350,731	72.3	1,869,014	100.0	2,070,945	110.8
Sub-region IX-A						
4,015.0	326,898	81.4	569,446	141.8	589,156	219.2
Basilan ⁴						
1,327.2	-	-	143,829	108.4	151,623	114.2
Sulu						
1,600.4	248,304	155.2	315,421	197.1	300,027	187.5
Tawi-tawi						
1,087.4	78,594	72.3	110,196	101.3	137,506	126.5
Sub-region IX-B						
14,670.1	1,023,833	64.0	1,299,568	88.6	1,481,789	92.6
Zamboanga del Norte						
6,618.1	281,429	46.3	409,379	61.9	485,178	79.9
Zamboanga del Sur						
8,052.0	742,404	74.8	890,189	110.6	996,611	100.4

<u>Land Area</u> <u>(Sq. Km.)</u>	<u>1960</u>		<u>1970</u>		<u>1975 a</u>	
	<u>Population</u>	<u>Den-</u> <u>si-</u> <u>ty</u>	<u>Population</u>	<u>Den-</u> <u>si-</u> <u>ty</u>	<u>Population</u>	<u>Den-</u> <u>si-</u> <u>ty</u>
<u>X. Northern Mindanao</u>						
28,327.8	1,297,345	45.8	1,952,735	68.9	2,305,150	81.4
Agusan del Norte						
2,590.3	177,333	68.5	278,053	107.3	298,318	115.2
Agusan del Sur						
8,965.5	93,677	10.4	174,682	19.5	214,757	24.0
Bukidnon						
8,293.8	194,368	23.4	414,762	50.0	529,003	63.8
Camiguin						
229.8	44,717	194.6	53,913	234.6	52,471	228.3
Misamis Occidental						
1,939.3	248,371	128.1	319,855	165.0	355,171	183.1
Misamis Oriental						
3,570.1	343,898	96.3	472,756	132.4	558,127	156.3
Surigao del Norte						
2,739.0	194,981	71.2	238,714	87.2	297,303	108.5
<u>XI. Southern Mindanao</u>						
31,692.9	1,352,798	42.7	2,200,726	69.4	2,711,278	85.5
Surigao del Sur						
4,552.2	165,016	36.2	258,680	56.8	313,901	69.0
Davao del Norte						
8,129.8	262,889	32.2	442,543	54.4	585,860	70.9
Davao Oriental						
5,164.5	132,593	25.7	247,995	48.0	300,555	58.2
Davao del Sur						
6,377.6	497,541	78.0	785,398	123.1	930,060	149.0
South Cotabato						
7,468.8	294,759	39.5	466,110	62.4	580,902	77.8
<u>XII. Central Mindanao</u>						
23,293.1	1,383,290	59.4	1,941,457	83.3	2,068,839	88.8
Lango del Norte						
3,092.0	270,603	87.5	349,942	113.2	368,374	119.1
Lanao del Sur						
3,872.9	378,327	97.7	455,508	117.6	533,998	137.9
Maguindanao						
5,474.1	-	-	476,338	87.0	473,989	86.6
North Cotabato						
6,565.9	734,360	111.8	468,354	71.3	465,808	70.9
Sultan Kudarat						
4,288.2	-	-	191,315	44.6	226,670	52.9

^aPreliminary results as of May 1, 1975.

^bTotal is not equal to the sum of individual figures due to rounding.

¹Data included in Quezon.

²Data included in Iloilo.

³Data included in Leyte.

⁴Data included in Zamboanga del Sur.

⁵Data included in North Cotabato.

Source: National Census and Statistics Office, Population Census Division as cited in Philippine Yearbook 1977.

Health, Nutrition and Housing

Major Health Problems

Communicable diseases remain a major health problem although declining as cause of mortality (77% in 1923 to about 42% in 1972). Concomitant increase in deaths from degenerative diseases is occurring. In early 1970's pneumonia, tuberculosis, gastroenteritis, and bronchitis were among 10 leading causes of death, which also included heart and vascular disease, undiagnosed disease among infants, and malignancies. Morbidity and mortality patterns correlate highly with environmental and nutritional conditions. High infant mortality rate (74-80 per thousand, 100 per thousand in rural areas) is indicative of health care status: communicable diseases as leading cause of infant death reflect poverty, high fertility, lack of health education, malnutrition, and poor environmental sanitation.

Regional variations in morbidity are noted: Malaria is found mainly in Cagayan Valley, Southwestern Mindanao, Palawan, and Isabela; schistosomiasis is prevalent in Mindanao and Eastern Visayas; filariasis is most often seen in the provinces of Laguna, Northern Samar, and Agusan del Sur; leprosy is a health problem in Western Mindanao. Despite its greater access to health facilities, metropolitan Manila has higher national average incidences of tuberculosis, gastroenteritis, pneumonia, influenza, and bronchitis.

Beriberi is a common disease directly related to poor nutrition. 63,359 cases of cholera El Tor (the only quarantinable disease found in Philippines) were reported to WHO between 1961 and 1970; the major outbreak of 60's was believed under control in mid-1970's.

Vital Statistics

(Most recent estimates in parentheses)

Births per 1,000 population, 1968-72	40 (37)
Deaths per 1,000 population, 1970	12 (10.4)
Annual rate of growth, 1970-75, percent	2.6
Life expectancy at birth, 1970	58 (61)
Infant deaths per 1,000 live births, 1970	80 (74-80)

Health Facilities and Services

Availability of existing health services is as much as 4 times higher in metropolitan Manila than in Cagayan Valley, Bicol, Eastern Visayas, and Mindanao region. An estimated one-third of population, mostly urban, has access to private health care; about half of remaining two-thirds are served by rural health units and barangay health stations: one third of population receives little or no health care.

The health delivery system in Ministry of Health is administered on central, regional (12 offices, each with training center and laboratory), provincial (76 offices) levels and on local level by (a) 60 city health offices in chartered cities; (b) 1,700 main health centers (MHC) in municipalities (each serving 20,000 to 50,000 people); (c) 236 community hospitals and health centers with about 10,000 beds in municipalities lacking access to city hospitals; (d) about 100 hospitals with total of 20,000 beds (70% in Manila). A rural health unit (RHU) comprises one MHC (staffed with 1 doctor, 1 nurse, 2 or 3 midwives, 1 sanitary inspector), and possibly several barangay health stations (3,000 in country) and another health center.

A nationwide ratio of 880 people per hospital bed is recent estimate.

Existing Health Facilities: By Region, June 1978

	<u>Health Centers</u>	<u>Barangay Health Stations</u>	<u>Govern- ment</u>	<u>Hospitals Private</u>	<u>Total</u>
Region 1	183	412	30	63	93
2	115	217	33	24	57
3	180	510	28	105	133
4	272	-	29	109	138
5	118	93	24	47	71
6	130	103	32	33	65
7	133	244	22	27	49
8	125	214	44	21	65
9	69	105	-	23	23
10	112	159	24	40	64
11	77	44	15	62	77
12	84	120	13	21	34
13	230	662	49	145	194
Total	1,828 ²	2,883	343 ³	720	1,063

¹Region 4A - Metro Manila

²Includes 1,700 Main Health Centers

³Includes 236 community hospitals and health centers

Source: PMS, through collection of data from Provincial Health Plans as cited in World Bank Report No. 2453-PH.

Public and Private Hospitals - Number and Bed Capacity, Region and Province: FY 1973-74

<u>Region and Province</u>	<u>Total</u>		<u>Public</u>		<u>Private</u>	
	<u>Number</u>	<u>Bed Capacity</u>	<u>Number</u>	<u>Bed Capacity</u>	<u>Number</u>	<u>Capacity</u>
Philippines	894	65,185	325	39,626	569	25,559
Hospitals under/ licensed by Dept. of Health	846	51,109	277	25,550	569	25,559
Hospitals under other government agencies including leprosaria	48	14,076	48	14,076	-	-
i. Ilocos	72	3,408	25	1,900	47	1,508
Abra	5	164	2	100	3	64
Benguet	14	869	3	450	11	419
Ilocos Norte	11	420	4	250	7	170
Ilocos Sur	9	280	4	200	5	80
La Union	10	500	5	275	5	225
Mt. Province	5	225	2	150	3	75
Pangasinan	18	950	475	13	475	-
ii. Cagayan Valley	49	1,678	30	1,325	19	353
Batanes	2	100	2	100	-	-
Cagayan	11	434	7	375	4	59
Ifugao	7	186	3	125	4	61
Isabela	14	413	7	275	7	138
Kalinga-Apayao	9	245	6	200	3	45
Nueva-Vizcaya	3	200	2	150	1	50
Quirino	3	100	3	100	-	-

<u>Region and Province</u>	<u>Number</u>	<u>Bed Capacity</u>	<u>Number</u>	<u>Bed Capacity</u>	<u>Number</u>	<u>Capacity</u>
III. Central Luzon	109	3,213	25	1,375	84	1,838
Bataan	4	163	2	125	2	38
Bulacan	32	906	6	300	26	606
Nueva Ecija	14	527	5	325	9	202
Pampanga	32	877	7	375	25	502
Tarlac	13	319	2	125	11	194
Zambales	14	421	3	125	11	296
IV. Southern						
Tagalog Sub-region	251	24,964	51	12,475	200	12,489
IV-A	135	21,285	11	10,450	124	10,835
Rizal	135 ^a	21,285	11	10,450	124	10,835
Sub-region IV-B	116	3,679	40	2,025	76	1,654
Aurora (Sub-Province)	b	b	b	b	b	b
Batangas	33	1,000	5	350	28	650
Cavite	14	394	2	175	12	219
Laguna	22	722	6	375	16	347
Marinduque	3	130	2	100	1	30
Occidental Mindoro	4	131	3	125	1	6
Oriental Mindoro	7	177	2	125	5	52
Palawan	8	241	6	225	2	16
Quezon	21	734	10	400	11	334
Romblon	4	150	4	150	-	-
V. Bicol	57	2,260	22	1,100	35	1,160
Albay	21	783	7	275	14	508
Camarines Norte	7	276	1	100	6	176
Camarines Sur	10	579	2	225	8	354
Catanduanes	5	200	5	200	-	-
Masbate	7	180	3	125	4	55
Sorsogon	7	242	4	175	3	67
VI. Western Visayas	60	3,868	30	1,600	30	2,268
Aklan	5	260	3	150	2	110
Antique	6	240	5	200	1	40
Capiz	8	431	4	175	4	256
Guimaras (Sub-Province)	c	c	c	c	c	c
Iloilo	17	1,305	11	600	6	705

<u>Region and Province</u>	<u>Number</u>	<u>Bed Capacity</u>	<u>Number</u>	<u>Bed Capacity</u>	<u>Number</u>	<u>Capacity</u>
Negros Occidental	24	1,632	7	475	17	1,157
VII. Central Visayas	49	3,025	20	1,225	29	1,800
Bohol	10	472	5	350	5	122
Cebu	29	1,953	10	575	19	1,378
Negros Oriental	9	550	4	250	5	300
Siquijor (Sub-Province)	1	50	1	50	-	-
VIII. Eastern Visayas	43	1,922	28	1,425	15	497
Biliran (Sub-Province)	d	d	d	d	d	d
Leyte	16	974	10	625	6	349
Southern Leyte	10	225	4	150	6	75
Eastern Samar	5	200	5	200	-	-
Northern Samar	5	225	5	225	-	-
Western Samar	7	298	4	225	3	73
IX. Western Mindanao	30	1,025	8	625	22	400
Sub-region IX-A	6	182	2	125	4	57
Basilan	e	e	e	e	e	e
Sulu	6	182	2	125	4	57
Tawi-tawi	f	f	f	f	f	f
Sub-region IX-B	24	843	6	500	18	343
Zamboanga del Norte	5	150	3	125	2	25
Zamboanga del Sur	19	693	3	375	16	318
X. Northern Mindanao	56	2,251	19	1,100	37	1,151
Agusan del Norte	13	497	3	150	10	347
Agusan del Sur	3	85	2	75	1	10
Bukidnon	5	218	1	75	4	143
Camiguin	1	75	1	75	-	-
Misamis Occidental	15	499	4	200	11	299
Misamis Oriental	11	507	2	225	9	282
Surigao del Norte	8	370	6	300	2	70

<u>Region and Province</u>	<u>Number</u>	<u>Bed Capacity</u>	<u>Number</u>	<u>Bed Capacity</u>	<u>Number</u>	<u>Capacity</u>
XI. Southern						
Mindanao	42	2,433	9	975	33	1,458
Surigao del Sur	5	240	1	75	4	165
Davao del Norte	5	257	1	75	4	182
Davao Oriental	2	115	1	75	1	40
Davao del Sur	17	1,258	3	450	14	808
South Cotabato	13	563	3	300	10	263
XII. Central						
Mindanao	28	1,062	10	425	18	637
Lanao del Norte	11	433	3	125	8	308
Lanao del Sur	3	108	2	100	1	8
Maguindanao	2	75	2	75	-	-
North Cotabato	11	396	2	75	9	321
Sultan Kudarat	1	50	1	50	-	-

^a Includes data for Metro Manila

^b Included in Quezon

^c Included in Iloilo

^d Included in Leyte

^e Included in Zamboanga del Sur

^f Included in Sulu

Source: Department of Health as cited in Philippine Yearbook 1977.

Health Personnel

A total of 48,500 health workers in the country in 1977 included 13,100 doctors, 8,200 nurses, 7,000 midwives and 2,700 sanitary inspectors. About 30% of both doctors and nurses are in public service. Health personnel situation suffers from highly uneven distribution (1 doctor per 600 population in Manila; 1 per 9,000 population in rural areas in mid-1970's) as well as extensive migration of Filipino medical workers abroad.

Traditional beliefs concerning illness and health practices persist, especially in more remote areas, and cultural norms frequently limit utilization of health services. Increasing attention is being given to training of health paraprofessionals not only to increase number of rural health workers, but also to provide important personal contact, seen as possible means of bridging cultural gap.

Health Personnel By Categories: By Region, 1973; Total 1977

	I	II	III	IV	V	VI	VII
Physicians	(881)	(411)	(1,410)	(5,701)	(627)	(1,045)	(1,092)
Public	335	156	310	1,510	226	272	262
Private	546	255	1,100	4,191	401	773	830
Nurses	857	310	819	2,080	382	1,247	1,142
Midwives	637	291	991	1,780	364	754	541
Dentists	397	104	554	1,485	191	571	262
Sanitary							
Engineers	11	4	5	25	5	6	10
Health							
Educators	12	5	12	17	9	5	6
Sanitary							
Inspectors	238	144	265	519	180	281	274
Social Workers	105	37	77	145	64	77	64
Nutritionists	26	16	40	80	17	43	45
Dieticians	27	11	21	668	12	36	41
Other	908	420	1,330	3,199	654	1,756	1,343
Total	4,099	1,753	5,524	15,099	2,505	5,821	4,820

	VIII	IX	X	XI	XII	Total
Physicians	(414)	(317)	(487)	(405)	(317)	(13,107)
Public	219	95	146	106	44	3,681
Private	195	222	341	299	273	9,426
Nurses	357	331	341	226	191	8,283
Midwives	308	237	419	308	285	6,915
Dentists	172	100	139	78	71	4,124
Sanitary						
Engineers	8	4	6	1	1	86
Health						
Educators	2	13	14	2	0	97
Sanitary						
Inspectors	208	148	166	75	156	2,654
Social Workers	47	45	67	23	28	779
Nutritionists	13	5	28	5	2	320
Dieticians	11	10	23	5	13	278
Other	396	374	720	448	348	11,896
Total	1,936	1,584	2,410	1,576	1,412	48,539 ¹

¹ Includes pharmacists (4,555), veterinarians (419), physical therapists (60), occupational therapists (49), x-ray technicians (506), medical technologists (1,155), attendants (4,887), and vaccinators (265).

Source: National Health Plan Short Term 1978-82, Table 9 as cited in World Bank Report No. 2453-PH.

Diet Summary and Regional Foods

Food Preferences

Rice, the most important staple, is used in diets of more than 70% of Filipinos. Corn consumption is greater in Visayan Islands and certain other regions where rice cultivation is not possible. Corn and root crops are generally considered inferior foods in rice-producing regions. Diets tend to be high in carbohydrates with fish being most important source of protein.

Foods

Cereals: rice, rice noodles, rice cakes, corn grits, white corn, green and sweet corn, corn flour, meal, yellow cakes, pan de sal, loaf bread, cookies/crackers, wheat noodles, wheat flour, cakes/pies, rolls, stuffed baked bread, lumpia wrappers.

Meat/Fish: pork: lean with bone, with fat, shank, organs, head beef and carabeef: lean with bone, tenderloin/sirloin, organs, shank, tail.

canned and processed meat: langoniza, corned beef.

* poultry: chicken, ducks, eggs.

fish (a dietary staple): milk fish, mackerel, mudfish, tuna, slipmouth, tilapia, round scad, anchovy, herring.

shellfish: shrimp, crabs, clams, snails, oysters.

Dairy: evaporated, condensed, powdered and fresh milk, cheese, butter, margarine, ice cream.

Vegetables

and Fruit: vegetables: leaf camote tops, cabbage, kangkong, pechay, malunggay, carrots, mustard, amargosa leaves, lettuce, eggplant, tomatoes, okra, banana blossoms.

legumes: sitao, mungo, baguio beans.

roots and tubers: sweet potatoes, onions, Irish potatoes, garlic, cassava roots.

fruits: bananas, mangoes, papayas, citrus, calamansi, pineapples, lanzones, melons, avocados.

Beverages: coffee, cocoa, soft drinks, alcoholic beverages made from fermented coconut, rice, or sugarcane.

* Poultry consumption is up from 16 to 20% of total meat and fish consumption since 1970.

Diet/Income

	<u>Kilos Per 1,000 People Weekly</u>		
	<u>Lo</u> <u>Income</u>	<u>Hi</u> <u>Income</u>	<u>Average</u>
Rice & Rice Products	1,876.4	2,122.1	1,997.0
Corn & Corn Products	579.6	211.4	398.6
Wheat Products	229.1	659.6	379.0
Pork	99.7	439.4	220.2
Beef & Carabao	51.1	205.7	101.9
Canned & Processed Meat	10.6	97.3	37.9
Poultry	83.3	235.2	126.7
Eggs	48.8	182.5	100.7
Fresh & Frozen Fish	351.5	557.5	450.4
Dried & Smoked Fish	76.5	88.1	83.1
Shell Fish	63.7	166.5	103.9
Canned Fish	24.6	41.4	32.6
Dairy Products	110.0	420.5	230.8
Fresh Fruit	785.1	1,502.9	1,032.7
Vegetables	1,054.0	1,577.0	1,242.4
Cooking Oil	49.2	159.6	89.9
Sugar (White & Brown)	183.3	301.4	235.6
Coffee	24.4	17.6	22.0
Cocoa	4.2	15.4	8.1
Salt	60.7	71.1	64.4

Source: National Food and Agriculture Council
"Income and Food Consumption", September 1973.

Nutritional Status

Widespread malnutrition is caused by insufficient food production, unequal distribution of income (an estimated 45% of families cannot afford minimal food requirements), dietary habits and ignorance of food values, and large family size.

Calorie deficiency is primary problem with estimated average per capita consumption range of 1,638 to 1,990 (in early 1970's) being below maintenance level intake. Protein deficiency is a secondary, less severe problem. Nutrition surveys of 1960's disclosed widespread Vitamin A deficiency and less severe riboflavin deficiency. Vitamin C and calcium intake were low.

A nationwide weight survey in 1977 found 78% of more than 4 million pre-school children to be malnourished: 6% severely (third degree); 25% moderately (second degree); 47% slightly (first degree). Only 22% were of normal height.

Nutritional deficiency diseases occurring in Philippines include beriberi in regions where diet consists mainly of polished rice, and xerophthalmia, an eye disease often leading to blindness, in regions where Vitamin A is seriously lacking in the diet.

Utensils

Cooking - 2-8 quart clay, aluminum or iron

Eating - plastic or china plate, stainless steel or silver spoon
and fork

Wood-fueled stove - clay, gas, electric, inside house

Housing

Rapid family formation, increasing land and construction costs, financial inability of many families to own homes are factors in growing scarcity of housing. National Housing Authority coordinates national housing programs.

Rural:

Regional variations exist, but typical traditional dwelling is of bamboo, thatch and matting, set off the ground on hardwood pilings. Although easily constructed with available materials, it is not very durable or resistant to insect and rodent transmitters of disease. Domestic animals scavenge beneath houses. In Batanes Islands, north of Luzon, houses are of stone and tile to resist severe storms; in other areas, dwellings may be houseboats or built on rafts to enable them to float during flood conditions.

Urban:

Most common urban dwelling is the wooden rowhouse with galvanized roof. Manila experiences severe overcrowding with more than one-third of population living in substandard squatter housing.

About 39% of population has access to safe water: 82% of people in Metropolitan Manila; 51% and 33%, respectively, of other urban and rural populations. About 61% of the people obtain water of questionable quality from open wells, and pumps, rainwater cisterns, lakes, rivers and streams. Only 5% of population is served by public sewerage systems; 37% use septic tanks or pit latrines; others are without facilities.

Government's goal in current five year plan: 62% of population with safe water supply; 46% with sewerage facilities.

Overview of Economy

The Philippine economy is based on private enterprise, government policies influencing direction of development. Agriculture has been traditional base, providing most commodities for foreign exchange earnings which in turn supported industrialization.

During 1960's, the economy grew at about 5 1/2% per year and was characterized by uneven distribution of development benefits, high unemployment (8% in 1970), inadequate public expenditure for infrastructure and social services due to low taxation levels, poor export performance relative to imports for domestic industry, leading to chronic balance-of-payments problems, and a level of agricultural productivity generally resulting in grain deficits.

Economic policies of 1970's have brought some improvements while many problems remain. Tax reform measures (further reforms needed to assure greater equity) have increased public revenues (ratio to GNP: 12.8% in 1977), allowing public investment ratio to rise from 2% in early 1970's to 5% in 1976-78 period while private investment has also increased. Agricultural performance has improved (see Agriculture), while employment increased by about 4.6% annually during 1973-77, generally keeping pace with labor growth.

Terms of trade have declined, since 1975 as result of depressed prices for such major commodities as sugar and copper, while prices of imported oil and other goods have increased. The current account deficit has stabilized at about 4% of GNP, but increased borrowing to finance deficit raised debt service ratio from 16% in 1975 to 20% in 1978. A balance-of-payments surplus for 1979 is expected from higher earnings from tourism, larger remittances from overseas workers, and long-term loans. Inflation in 1978 was marginally above official ceiling of 7%. Income distribution remains highly skewed: highest 20% of households receives estimated 53.3% of private income; lowest 40% receives 14.7% (the latter share having possibly increased with faster rural growth rate).

The most recent (1978-82) in series of development plans since imposition of martial law calls for economic growth rate of 7% (increasing to 8%)*, expansion of employment opportunities, reduction in income disparities, greater self-sufficiency in food and energy, and development of rural areas.

* 1978 growth rate was 5.8%.

Industry

The industrial sector, including manufacturing, mining, and construction, contributed 35% of GDP in 1977 and 14% of total employment; manufacturing accounted for 25% of GDP and 10% of employment, with major industries being food, chemicals, rubber products, beverages and tobacco. Largely concentrated in the Manila area, manufacturing in 1950's and 1960's was protected by high tariff, mainly directed to domestic market and highly capital intensive, resulting in shortage of foreign exchange. Since 1970, a shift in emphasis to labor-intensive manufacturing for export, encouraged by measures allowing import of needed goods free of duty and export processing zones, has resulted in dramatic growth of non-traditional manufacturing (garments, textiles, electronic parts, wood products) and employment gains in the sector.

Although only an estimated 4.8% of Philippine mineral deposits have been tapped, mining contributes significantly to foreign exchange earnings. The country is among largest copper producers in Asia and among top world producers of chromite. Other important mineral exports are iron, nickel, manganese, and gold and such non-metallic minerals as cement, adobe, sand, marble, and lime. Increased emphasis is being given to exploitation of limited oil and coal reserves in line with search for indigenous energy sources.

The construction sector, which grew rapidly between 1974 and 1976 with increased public investment, reached 7.5% of GDP in 1977, leveling off in 1978.

GNP (1976 GNP)

GNP at 1976 market prices: \$17,990 million, \$420 per capita. GNP per capita (real) growth rates for 1960-76 and 1970-76: 2.4% and 3.9% respectively.

(Source: World Bank Atlas, 1978. GNP at market prices rounded to US \$ tens of millions. GNP per capita rounded to nearest US \$10).

Average per capita GNP for country as a whole estimated to be \$475 in 1978.

Imports

The value of imports rose at average rate of 8% per year in 1976-77 while volume increased at average rate of about 5%. Imports of raw materials and intermediate goods were up by an estimated 7-12% per year in real terms in 1976-77. Imports of capital goods, down slightly in 1976-77, recovered in 1978. All major imports increased in 1978; transport equipment, electric machinery and apparatus by largest percents. Fuel imports in 1978 were 18% of total.

Major trade partners and percent of total (1976): Japan, 26.9; US, 22.1; Saudi Arabia, 7.9; Kuwait, 6.1; Australia, 3.2; Germany, 3.5; UK, 3.5; Republic of China, 2; Canada, 1.2; France, 2.4; other, 21.2.

Trend of Major Imports (P mm)

	<u>1977</u>	<u>1978</u>	<u>% increase</u> <u>1978/77</u>
Mineral fuels & lubricants	7,406	7,882	6.4
Non-electric machinery	4,221	4,631	9.7
Transport equipment	2,200	3,210	45.9
Base metals	2,275	2,456	8.0
Electric machinery & apparatus	1,201	1,502	25.1
Chemicals	1,194	1,393	16.7
Cereals & preparations	907	1,028	13.3
Textile fibers	647	746	15.3
Artificial resins & plastic materials etc.	609	679	11.5
Metal manufactures	532	627	17.9

Exports

A trade deficit of \$1.4 bn in 1978, largely the result of low volume and low prices of sugar, represented substantial increase over \$686 mn deficit of 1977. Of leading traditional exports - coconut products, copper concentrates, timber products, and sugar - the latter has accounted for greatest fluctuations in commodity earnings in recent years. Because of 1978 drought, coconut output and export earnings declined. Copper is the traditional export expected to show

greatest growth in 1979 as several new mines begin operation. Non-traditional manufactured exports (garments, handicrafts, electronic components, etc.) and non-traditional agricultural and mineral exports have shown strong growth in 1970's.

Principal export markets and percent of total (1976): Japan, 24.1; US, 35.9; Netherlands, 8.2; UK, 2.8; Germany, 4.1; Iran, 0.6; Australia, 1.8; Republic of China, 1.7; Hong Kong, 1.5; France, 2.3; other, 17.0.

Trend of Major Exports
(P mm)

	<u>1977</u>	<u>1978</u>	<u>% increase</u> <u>1978/77</u>
Coconut oil	2,800	3,975	42.0
Copra	1,277	1,173	- 8.1
Dessicated coconut	663	623	- 6.0
Copra meal	428	509	18.9
Copper concentrates	1,973	1,857	- 5.9
Centrifugal sugar	3,731	1,615	-56.7
Logs	985	1,122	13.9
Lumber	494	598	21.1
Bananas	532	568	6.8
Gold	433	538	24.2

Overview of Agriculture

Agriculture, including forestry and fisheries, characterized by labor-intensity and low production levels in a subsistence orientation, is traditional economic foundation, accounting for about 27% of GDP and employing about one half of labor force. Because most farm units are small (under 5 hectares), rural poor families generally depend on more than one occupation for income. A large percentage of farmers are tenants (see Land Reform). As of August 1975, 10,750.9 thousand hectares (of total 30 million) were under cultivation: 70.9% (7,624.6 thousand hectares) planted in food crops; 29.1% (3,126.3 thousand hectares) in commercial crops. Population pressure and land limitation are a fundamental problem; however, agricultural potentials on existing farm land have not been realized.

Since late 1960's, government efforts to improve agricultural productivity and the quality of rural life have included increased use of high yield seeds, expansion of irrigation systems and other rural infrastructure, and agrarian reform.

Crops and Distribution

Of major crops, rice occupies about 40% of cultivated land; maize, one-third; and coconuts, 2 million hectares. Other important crops are fruit, nuts, and sugarcane and, to lesser extent, root crops, abaca, tobacco, coffee, vegetables, rubber, cacao, ramie, magney, kapok, cotton and other crops.

Climate, terrain, and soils influence distribution. Major rice producing regions are Central Luzon (including provinces of Pangasinan, Tarlac, Nueva Ecija, and Bulacan), Cagayan Valley in northeastern Luzon, Bicol Peninsula, western Visayan Islands and southern and western Mindanao. Rice generally has a year-round growing season. More than half of corn is grown in Visayan Islands and southern and western Mindanao. Coconuts are grown mainly in Mindanao (about 50% of nuts harvested) and eastern Visayan Islands, while sugarcane cultivation is concentrated in western Visayas. Almost half of banana production comes from Visayan Islands; tobacco is grown mainly in northern Luzon.

Production

Rice

Favorable weather, expansion of irrigated land, and use of high-yielding seed varieties (in Masagana 99 project) resulted in increased palay (unmilled rice) production of 23% from 1975 to 1978, giving Philippines rice surplus for export of 100,000 tons in 1977-78. Despite lower than expected production in 1978, because of typhoons in Central Luzon, total supply exceeded requirements by about 260,000 tons.

Corn

Production was up 12% to 3.2 million tons from combination of good weather, increased growing area, and "Maisan 77" feed grain production program. Self-sufficient in white corn for human consumption, the Philippine imports yellow corn for animal feed.

Coconuts

Copra output, estimated at 2.5 million tons in 1978 when dry weather and typhoons in important growing areas adversely affected crops, is expected to be further reduced to 2.2 million tons in 1979 due to lag effect.

Sugar

Despite 2% area increase, centrifugal sugar production declined 13% to 2.4 million tons in 1978 and is expected to be down to 2.2 - 2.3 million tons in 1979.

Livestock and Poultry

Livestock production showed slight increase in 1978; poultry and swine production is expanding rapidly. Pigs, chickens, and carabao are found on nearly every farm. Dairy cattle are raised mainly in vicinity of Manila and other cities; beef cattle in Mindanao, Central Luzon, and Masbate. Dairy production lags far behind demand.

Provisional livestock figures for 1977 ('000): cattle, 1,885; pigs, 5,735; buffaloes, 2,921; chickens, 47,784; ducks, 4,195.

Forestry

Philippine forest products, used as building materials for many industries, is a major source of foreign exchange. Pine, several kinds of hardwood, and Philippine mahogany are major forest exports. 1977 yield: 7,871,000 cubic meters of logs; 664,000 board feet of lumber. Nearly half of land is forested, but reserves are being rapidly depleted with resulting soil erosion as consequence of shifting cultivation, illegal cutting, and inadequate reforestation.

Fisheries

Despite potentials of Philippine waters, the fishing industry does not meet demand. About 90% of catch comes from subsistence and commercial fishing, the rest from fishpond production. 1976 production: 509,000 m.t. from commercial fishing; 773,000 m.t. from municipal fisheries and sustenance fishing; 113,000 m.t. from fishponds.

Planting and Harvesting Dates

<u>Crops</u>	<u>Harvest Period</u>	<u>Bulk of Harvest</u>
Maize.....	June - September	August
Rice:		
Lowland.....	October - December	November ¹
Palagad.....	May - July	June
Upland.....	September - November	October
Sugarcane.....	October - April	March
Sugar.....	Campaign from September through August	
Potatoes.....	September - October	October
Sweet potatoes.....	September - October	October
Cassava.....	September - October	October
Onions.....	January - April	April
Tomatoes.....	March - June	June
Watermelons.....	January - March	March
Cabbage.....	November - May	May
Green peas and beans.....	August - September	September
Dry beans.....	August - October	October
Dry peas.....	July - Sept. and Nov. - Jan.	---
Cowpeas.....	Aug. - Sept. and Dec. - Jan.	---
Oranges, mandarins, tangerines, lemons...	January - November	February
Grapefruit.....	Whole year round	---
Bananas.....	Whole year round	---
Avocados.....	June - August	August
Mangoes.....	May - July	July
Pineapples.....	June - August	August
Groundnuts.....	September - October	October
Soybeans.....	October - January	---
Coconuts.....	Whole year round	---
Coffee.....	January - April	March
Tea.....	January - April	---
Cacao.....	October - December	December
Tobacco.....	January - April	March
Cotton.....	January - March	---
Abaca, ramie and kapok..	Whole year round	---
Rubber.....	Whole year round	---

¹Lowland paddy accounts for more than two thirds of the total crop.

Land Reform

The Philippines was declared a land reform area by presidential decree in 1972, the program, in effect, limited to tenanted rice and corn lands. Landholding arrangements in which landlords owned large estates farmed by peasant tenants or sharecroppers in a patron-client relationship put increasingly heavy burden on tenants (1/2 to 2/3 of harvests going to landlords) and have been historical cause of peasant unrest and involvement in militant political movements.

Previous attempts at reform have been largely unsuccessful since landowners wielded political as well as economic power. The present program gives tenant-farmer ownership of land portion (3 hectares if irrigated, 5 hectares if not) and compensates landlord. Administrative problems and landlord resistance have slowed progress, however. As of March 1978, only about 10% of estimated number of beneficiaries had completed formalities, including agreement to make amortization payments for 15 years; 60% had received certificates of land transfer, first step in claiming land.

Imports

Agricultural imports, up about 5% to \$400 mn in 1978, included principally wheat (760,000 tons) powdered milk, cotton (120,000 bales), and soybean meal. US provided nearly three-fourths of wheat, cotton, and tobacco.

Exports

Agricultural exports totaled \$1.84 bn during 1978, \$1 mn less than in 1977. Coconut products, mainly oil, accounted for about half. Exports (tons): coconut products including oil (990,000), copra cake and meal (512,000), copra (380,000) dessicated coconut (91,000); sugar (1.1 mn); bananas (720,000). Non-traditional agricultural exports (fruits, vegetables, marine products, sugar confectionaries, unroasted coffee, processed animal feed) more than quadrupled in value between 1970-76 to 8% of total. Processed pineapples, though traditional, have also expanded.

Physical Geography and Land Use

Climate

Climate is tropical. Despite extent of land area (over 1,000 miles), insular and oceanic nature of country assures considerable uniformity of temperature and maritime modifications. Mean annual temperature of 80° F in lowlands has only about 1° variation between north and south. Annual temperatures are slightly higher in interiors of larger land masses than along coasts. Greatest variations occur with altitude: Baguio, 4,800' in Cordillera Central, 130 miles north of Manila, has mean monthly temperatures 15° to 16° F below Manila's. Absolute lows at sea level are rarely below 60° F; those at Baguio may be 48°.

Seasonal variations between hottest and coolest months are less than 8°; greatest differences are in higher latitudes of Luzon. Most of Luzon has short "cold wave" during December and January from cold Asian air masses. Daily temperatures range in Manila during dry season (April) from 75° F (just before sunrise) to 91° F (between 1 PM and 3 PM). Wet season (September) has same regime with minima and maxima not so extreme (76° and 85° - 86° F).

"Summer" months of April, May, June are dry and hot; with beginning of rainy season the end of June, temperatures are lower but humidity more oppressive. Average monthly relative humidity in Manila (typical of much of Philippines) varies between low of 70.7% in March an high of 85.1% in September.

Temperatures

Normal Mean, Maximum and Minimum Temperatures by Stations 1951-70 (C)

Region I:		Jan	April	July	Oct
Baguio	Mean Temp	17.8	20.3	19.4	19.4
	Max. Temp	22.6	25.0	22.8	23.4
	Min. Temp	13.1	15.5	16.0	15.3
Laoag	Mean Temp	24.4	28.0	27.7	27.2
	Max. Temp	29.9	33.0	31.5	31.7
	Min. Temp	19.0	23.0	23.9	22.7

Vigan	Mean Temp	25.5	28.4	27.3	27.3
	Max. Temp	27.7	32.4	30.7	31.2
	Min. Temp	21.2	24.3	23.9	23.4
Region II: Aparri	Mean Temp	23.3	27.6	28.8	26.9
	Max. Temp	26.3	31.5	33.0	30.0
	Min. Temp	20.5	23.5	24.7	23.7
Basco	Mean Temp	21.9	26.2	28.3	26.4
	Max. Temp	24.4	29.0	31.4	29.1
	Min. Temp	19.4	23.4	25.2	23.6
Tuguegarao	Mean Temp	24.5	29.5	29.1	27.5
	Max. Temp	29.6	36.1	35.0	32.5
	Min. Temp	19.5	22.8	23.7	22.6
Region III Iba	Mean Temp	25.8	28.3	27.1	27.3
	Max. Temp	31.0	33.3	30.8	31.8
	Min. Temp	20.3	23.3	23.4	22.9
Region IV Baler	Mean Temp	24.6	27.1	28.3	27.1
	Max. Temp	28.6	31.5	33.0	31.6
	Min. Temp	20.5	22.6	23.6	22.6
Calapan	Mean Temp	25.4	28.1	27.5	27.1
	Max. Temp	28.5	31.9	31.4	30.9
	Min. Temp	22.3	24.3	23.4	23.1
Manila	Mean Temp	25.9	29.1	28.0	27.8
	Max. Temp	29.7	33.2	31.2	31.1
	Min. Temp	22.2	24.9	24.7	24.3
Porto Princesa	Mean Temp	26.8	26.7	27.2	27.4
	Max. Temp	30.8	33.0	30.8	31.2
	Min. Temp	22.8	24.2	23.6	23.9
Cuyo	Mean Temp	26.9	28.8	27.6	27.7
	Max. Temp	28.9	31.7	30.7	30.6
	Min. Temp	24.8	25.9	24.3	24.7
Region V: Daet	Mean Temp	25.3	27.5	28.1	27.2
	Max. Temp	28.3	31.6	32.5	31.1
	Min. Temp	22.3	23.3	23.8	23.9

		<u>Jan</u>	<u>April</u>	<u>July</u>	<u>Oct</u>
Masbate	Mean Temp	26.3	28.7	28.5	28.3
	Max. Temp	29.5	32.6	32.4	31.7
	Min. Temp	23.4	24.8	25.1	24.8
Region VI: Iloilo	Mean Temp	25.7	28.1	27.4	27.2
	Max. Temp	28.5	31.4	30.1	30.2
	Min. Temp	22.9	24.7	24.6	24.2
Roxas	Mean Temp	26.7	29.0	28.5	28.2
	Max. Temp	29.7	32.5	32.8	32.1
	Min. Temp	23.7	25.4	24.1	24.2
Region VII: Cebu	Mean Temp	26.5	28.4	27.5	27.5
	Max. Temp	30.2	32.8	31.3	31.4
	Min. Temp	22.7	24.0	23.8	23.6
Dumaguete	Mean Temp	26.7	28.6	27.8	27.8
	Max. Temp	29.7	32.2	32.1	32.0
	Min. Temp	23.6	24.9	23.5	23.6
Region VIII: Borongan	Mean Temp	25.9	27.4	27.7	27.4
	Max. Temp	29.1	31.3	32.2	31.8
	Min. Temp	22.6	23.4	23.2	23.0
Tacloban City	Mean Temp	26.0	27.5	27.8	27.8
	Max. Temp	29.0	30.9	31.2	31.2
	Min. Temp	23.0	24.2	24.5	24.3
Region IX: Jolo	Mean Temp	26.2	26.8	27.1	26.8
	Max. Temp	29.9	31.2	31.3	31.0
	Min. Temp	22.5	22.3	22.8	22.5
Zamboanga City	Mean Temp	26.6	27.5	26.8	27.0
	Max. Temp	31.5	32.2	30.8	31.2
	Min. Temp	21.6	22.8	22.8	22.6
Region X: Cagayan De Oro	Mean Temp	25.9	27.5	27.3	27.3
	Max. Temp	30.5	32.7	32.4	32.2
	Min. Temp	21.5	22.4	22.2	22.3

		<u>Jan</u>	<u>April</u>	<u>July</u>	<u>Oct</u>
Surigao	Mean Temp	25.6	27.0	27.5	27.3
	Max. Temp	28.6	30.8	31.4	31.2
	Min. Temp	22.5	23.1	23.5	23.4
Region XI: Cotabato	Mean Temp	26.8	28.2	27.0	27.3
	Max. Temp	30.5	31.9	30.0	32.4
	Min. Temp	21.2	22.4	22.0	22.1
Davao	Mean Temp	26.3	27.9	26.9	27.4
	Max. Temp	30.7	32.9	31.3	32.0
	Min. Temp	21.9	22.9	22.6	22.7
General Santos	Mean Temp	26.8	28.0	26.3	26.8
	Max. Temp	32.4	33.7	30.8	31.7
	Min. Temp	21.2	22.2	21.9	21.9

Rainfall

More variable than temperature, rainfall has significant effect on distribution of vegetation and crops. Average annual rainfalls vary from 35" at Aggunetan station in Cagayan Valley to 215" at Baras on Cataduanes Island. Local precipitation is conditioned by exposure, topography, altitude, prevailing winds and their associated air masses.

Four types of air masses affect Philippines during the year: Indian Ocean air masses (June to September or October) bring heavy precipitation especially along western exposures; North Pacific (October to December) carry limited moisture, deposited as rain on eastern exposures which may experience maximum precipitations; South Pacific (seasonally with Indian Ocean air) may bring substantial rainfall to Mindanao and Sulu Archipelago; Northeast Monsoon (December to March) originating in Siberia - one approach bringing dry, cool air to northern Luzon and another more humid air to central and southern Philippines.

Tropical cyclones or typhoons (locally "baguios") are extremely important in Philippine weather. Originating near the Marianas Islands, typhoons bring strong winds and heavy rains to the Philippines, most frequently between July and November (August - maximum frequency). The coasts of eastern and northern Luzon and the eastern Visayan Islands of Samar and Leyte are struck with greatest frequency

and severity. Southern Mindanao, southern Visayas, and Palawan are rarely affected. About 20 such storms occur yearly in the Pacific; 15 affect Philippine weather; an average of 5 or 6 touch the Philippines.

Distribution

Areas of heaviest precipitation (exceeding 120" annually) (30% of country): (1) mountainous west coasts (drought occurs part of the year), (2) mountainous east coasts, (3) sections of Mindanao.

Areas of relatively light precipitation (under 70" annually) (10% of country): Cagayan Valley; Central Plain of Luzon; much of central Visayan Islands of Cebu, eastern Negros, western Leyte; northern Mindanao and sheltered coastal and intermontane areas of southern and southeastern Mindanao and Cotabato Valley.

Rainfall

Precipitation

Normal Rainfall 1951-1970 (MM)

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
Baguio	11	11	38	104	288	476	576	817	670	257	50	26
Laoac	4	0	2	13	122	436	404	565	389	65	40	11
Vigan	9	1	7	27	127	420	420	704	407	79	40	10
Aparri	148	88	39	38	86	183	207	259	306	331	409	224
Basco	177	141	119	94	119	290	245	354	393	264	335	285
Tuguegarao	20	18	37	54	103	172	248	248	220	226	280	105
Iba	2	1	10	38	261	602	777	1039	733	163	75	28
Baler	181	151	193	236	311	247	230	262	259	362	467	303
Calapan	113	60	54	85	172	201	205	222	180	272	247	207
Pto Prin-												
cesa	34	20	47	42	151	168	185	205	187	182	215	125
Cuyo	18	3	7	37	177	388	465	423	361	276	151	53



	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
Daet	361	191	165	131	137	163	206	275	270	494	614	537
Masbate	170	74	64	42	105	141	179	205	181	224	239	227
Iloilo	42	20	33	38	137	258	280	332	242	212	184	95
Roxas	107	52	54	143	167	2277	280	249	234	354	239	176
Cebu	100	70	53	58	114	178	208	189	178	191	161	133
Dumaguete	81	52	66	40	82	134	157	111	112	163	176	126
Borongan	605	414	306	265	332	220	210	209	190	305	512	670
Tacloban	246	201	131	115	149	137	151	128	135	172	243	288
Jolo	95	89	93	163	249	258	204	146	181	240	202	144
Zamboanga	48	29	43	58	94	142	122	147	144	177	118	84
Cagayan De Oro	95	71	45	31	118	204	219	207	215	169	127	111
Surigao	606	479	369	247	188	133	177	155	170	267	411	607
Cotabato	71	90	95	131	257	251	248	232	238	253	176	98
Davao	124	109	86	139	226	162	195	153	171	171	149	114
General Santos	65	69	44	51	103	104	101	82	78	85	88	70

Land Forms

The Philippine archipelago, extending from 18° N to 6° N latitude, 1,150 miles SSE-NNW and 660 miles ENE-WSW, consists of over 7,100 islands, totaling 115,600 square miles in area. 11 islands account for 94% of land area. Structurally part of a series of western Pacific island arcs, the Philippines appears structurally related to Indonesian Islands, with which it has land or submarine connections. Four of five major tectonic regions found in Indonesia are also present in the Philippines. Active volcanism and strong seismic activity characterize these island arc systems. The Philippine Trough (Emden Deep), descending to 34,218', is less than 100 miles off eastern Mindanao; the deep oceanic basins of the South China Sea and Sulu Sea are off western Philippine coasts.

Geographically the islands can be divided into the principal regions of Luzon, the Visayan Islands, and Mindanao, and the islands of Mindoro, Palawan, and the Sulu Archipelago. In Luzon region (Luzon Islands, numerous smaller islands, and Batan and Babuyan Islands to the north), the island of Luzon (40,420 sq mi and 35% of total land

surface) has 7 major physiographic regions: the North Luzon Highlands or Cordillera Central, Sierra Madre and Eastern Cordillera, Cagayan Valley, Zambales Mountains, the southwestern volcanic area, and the southeastern peninsulas or Bicol.

The 7 large Visayan Islands, grouped around the Visayan Sea, Masbate (1,262 sq mi), Samar (5,050 sq mi), Bohol (1,492 sq mi), Cebu (1,707 sq mi), Leyte (2,785 sq mi), Panay (4,446 sq mi), and Negros (4,905 sq mi), together with numerous smaller islands, make up 21% of total land area. Most have mountainous interiors, the only sizable lowland areas being Leyte Valley, Iloilo Plain on Panay, and the plains of western and northern Negros.

Mindanao (36,537 sq mi and 34% of land surface) has 6 major physiographic regions: Eastern or Pacific Cordillera, Davao-Agusan Trough, Central Mindanao Highlands (Central Cordillera), Bukidnon-Lanao Plateau, Cotabato Basin-Tiruray Highlands, and Zamboanga Peninsula. Numerous islands surround.

Mindoro (3,758 sq mi), largely mountainous and forested, has eastern and northeastern coastal plains.

Palawan (4,500 sq mi), long and narrow, surrounded by 1,100 smaller islands, has rugged mountainous interior and narrow coastal strip.

The Sulu Archipelago, southwest of Zamboanga Peninsula (200 mi long; over 800 islands for total of 1,600 sq mi) is island chain protrusion of submarine ridge joining Mindanao with Sabah in Borneo.

Land Use

About 1/3 of 30 million hectares were under cultivation in mid-1970's. Over 14 million hectares (nearly 50%) are forested; 5% suitable for pasture; 12% other. Principal agricultural areas: Luzon - the Central Plain (largest lowland and economically most important), Cagayan Valley, and Bicol Plain; Panay - the central plain; Negros - wide western plain; Leyte - the northern plain; Mindanao - the Agusan River Valley and Cotobato Plain.

Hydrography

Most rivers are short, many seasonal in flow and subject to flooding in monsoon and typhoon seasons. Larger rivers are navigable for only short distances. Luzon's largest river is the 200 mile long, northward-flowing Cagayan which drains Cagayan Valley. Two important rivers of Central Luzon Plain network are the Agno, flowing northward to Lingayan Gulf, and the Pampanga which empties into Manila Bay. The relatively short Pasig River flowing through Manila is commercially important. In Mindanao, the two longest rivers, both over 200 miles, are the Agusan, which flows northward through Agusan Valley to the Mindanao Sea, and the Mindanao River, which with its tributaries drains Cotobato lowland and empties into Moro Gulf.

Principal Rivers by Province

Agusan	-	Agusan River, ships with 6' draft can ascend 32.9 kms, small craft 257.4 kms.
Albay	-	Polangui River, small steamers can ascend 11.3 kms, rafts 22.5 kms.
Camarines Sur	-	Bicol River, vessels with 9' draft can ascend 40.2 kms, small craft 48.3 kms.
Bohol	-	Loboc River, boats with 8' draft can ascend 4.8 kms, rafts 6.4 kms. Inabanga River, boats 6' draft ascend 5 kms, rafts 40 km. Ipil River, boats with 6' draft ascend 13.7 kms.
Bulacan	-	Plaridel River, small boats can ascend 32.2 kms.
Cagayan	-	Cagayan River, small seagoing vessels can ascend 20.9 kms, small native boats 241.4 kms, rafts 321.8 kms.
Capiz	-	Panay River, small craft can ascend 16.1 kms. Aclan River, small craft can ascend 16.1 kms.
Cotabato	-	Mindanao River, small steamers can ascend 64.4 kms, vessels with 3-1/2 draft for 112.6 kms.
Davao	-	Tagum River, craft with 5' draft ascend 40 kms.

- Ilocos Sur - Abra River, rafts ascend 48.3 kms.
- Iloilo - Jalaur River, rafts can ascend 96.5 kms;
Iloilo River, small ships can ascend 1.6 kms,
small crafts 19.3 kms. Jaro River, rafts can ascend
56.3 kms.
- Isabela - Pinacanauauan River, small craft can ascend 12.9
kms, rafts 32.2 kms. Magat River, small craft can
ascend 9.6 kms, rafts 32.2 kms.
- Leyte - Binahaan River, Cascos can ascend 24.1 kms.
Occidental Negros Danao River, steamers with 10'
draft can ascend 12.9 kms. Ilog River, small
boats can ascend 12.9 kms. Himugaan River, launches
can ascend 6.4 kms.
- Oriental
Mindoro - Naujan River, small craft can ascend 9.6 kms.
- Pampanga - Pampanga River, launches can ascend 40.2 kms,
small native boats for 72.4 kms. This river has
a number of branches navigable by small craft
Pasag River, launches can ascend 16.1 kms.
- Pangasinan - Agno River, small craft can ascend 96.5 kms. This
river has a number of branches navigable by small
craft.
- Rizal - Pasig River, small ships can ascend 1.6 kms, vessels
with 5 to 6' for 29 kms.
- Samar - Catubig River, small craft can ascend 32.2 kms.
Gandara River, small craft can ascend 32.2 kms.
- Sorsogon - Putiao River, vessels with 5' draft can ascend
16.1 kms. Donsol River, small craft can ascend
16.1 kms, rafts 32.2 kms. Irosin River, or Cadacan
River, vessels can ascend 20.9 kms.

Mountains and Volcanoes

Over 65% of country is highlands; most islands have mountainous core.

Luzon has 3 major ranges, running parallel, north-south. Cordillera Central (200 mi long, 36-54 mi wide) with highest elevations (8,000-9,000') in southern part contains Mt. Pulog (9,612'), highest point in Luzon and second highest in Philippines, in one of 3 sub-ranges. Caraballo Mountains, at southern end of Cagayan Valley, connect Cordillera Central and the rugged easternmost range, Sierra Madre (Eastern Cordillera - highest peak Mt. Cresta, 6,136') which continues along eastern edge of Luzon, forms Tayabas Isthmus and Bondoc Peninsula, re-emerges from Sibuyan Sea as Burias and Ticao islands and main cordillera of Leyte. The third range, Zimbales mountains or Western Cordillera, extends from Lingayan Bay through Bataan Peninsula. Of several volcanic peaks in southwestern Luzon, Mt. Banahao (7,177') is highest. Taal Volcano, in caldera occupied by Lake Taal, erupted in 1911 and 1965, destroying life and property. The periodically active volcano, Mt. Mayon (7,941'), is in mountainous volcanic area of southeastern Luzon (Bicol Peninsula); Mt. Bulusan (5,110') dominates volcanic peaks of Sorsogon Peninsula.

In Visayan Islands, highest peaks are on Negros in volcanic main central range (Mt. Canlaon, 8,088') and in southeast (Cuernos de Negros, 6,200'), and in rugged mountain system of Panay (Mt. Madiac, 7,150' and Mt. Nangtud, 6,720').

Mindanao has at least 5 major systems. The Pacific Cordillera on eastern coast (250 mi long), known as Diurta Mountains in north, crests at southern end of range in Mt. Tagdalit (9,217'). Valley-like passes west of Lianga and Bislig bays permit access westward between the two heavily wooded masses. Extensive faulting and earthquakes occur throughout cordillera. Much dissected, heavily forested Central Cordillera (250 mi long) has volcanic peaks in south, including active Mt. Apo (9,690'), highest peak in Philippines, and extinct Mt. Matutin (7,521'). In volcanic Bukidnon-Lanao Plateau of north central area, Mt. Katanglad and Mt. Kalatungan reach 9,499' and 9,377', respectively. There is no active volcanism, but Mts. Makaturing and Ragang have erupted in historical times. An active volcano, Mt. Hibokhibok (Catarman) or Camiguin Island, off north coast, erupted in 1951, killing nearly 2,000 persons. The Tiruray Highlands in southwest Mindanao contain active Parker Volcano (5,700'). Mt. Malindang (7,950') is among volcanoes in northern Zamboanga Peninsula.

The island of Mindoro has 2 main highland masses surrounding Mt. Halcon (8,481') and Mt. Baco (8,160'). Mt. Mantatingajan (6,639') is the highest peak on generally mountainous Palawan.

Volcanoes

<u>Name</u>	<u>Height</u>	<u>Activity</u>	<u>Location</u>	<u>Last Eruption</u>
Mt. Apo	9,630	Active	S Mindanao Island	
Mt. Raganc	9,230	Active	Mindanao Island	
Mt. Canlaon (Malawspina)	8,088	Active	N Negros Island	
Mt. Mayon	7,926	Active	SE Luzon	1968
Mt. Isarog	6,482	Extinct	(SW)S Luzon	
Mt. Cuernos of Negros	6,244	Extinct	NE Negros Island	
Mt. Bulusan	5,115	Active	SE Luzon	1960
Catarman and Camiguin	1,910	Active	NW Camiguin Island	
Mt. Cagua	4,370			
Mt. Pangasun (Ciara Babayun)	3,800	Active	NE Luzon	
		Active	Babayun Island	1925
	3,569			
Mt. Arayat	3,378	Extinct	North of Manila Bay	
Mt. Balut	2,895	Active	Balut Island	
Mt. Camiguin	2,372	Active	S Camiguin Island	
Mt. Taal	984	Active	Volano Island	1971

Note: There are about 100 eruptive centers in the Philippine Islands.

Seismicity

The main axis of the Philippine Fault Zone (Philippine Rift), 700 miles long, runs from southwest-facing escarpment of Caraballo Mountains on Luzon, northwest of Dingalen Bay, through Polillo Strait, Ragay Gulf, northeastern Masbate, the Central Cordillera of Leyte, to the upper Agusan Valley in Mindanao. It is paralleled offshore by the Philippine Trough.

Annual Average of Perceptible Shocks

Northern Luzon	-	13
Manila-Taal	-	9
Isarog Mayon	-	4
Cebu-Bohol	-	1
Sulu-Visayan	-	6
Philippine Deep	-	16

Road Network

Highways, the basic transport mode, totaled 119,220 km in 1977, of which 45,266 km were unsurfaced. The network is concentrated on Luzon and Mindanao, with most of remainder on Cebu, Negros and Panay (main islands of Visayas). In mid-1970's, most of national primary and secondary roads had deteriorated because of inadequate maintenance. The Pan-Philippine Highway is main artery, extending 1,250 miles from Aparri in northern Luzon, through Samar and Leyte to Davao in southern Mindanao, which when completed will have required construction of 285 bridges.

Recently completed highway construction projects include the 51 km Manila North Expressway Extension from Bulacan province to Manila North Road; the 58 km Bataan Expressway serving Mariveles export processing zone; the Lumban-Cavinte-Calaraya loop (Laguna); the Manila North-Santo Tomas (Batangas) road; the Digos-Cotobato City road; the Tarlac City (Tarlac)-Lingayen (Pangasinan) road; and the Cagayan Valley road.

Projects nearing completion in Luzon are the 49 km Marcos Highway, connecting Agoo (La Union) to Baguio city (Mt. Province); the 56 km Lamut-Banaue road passing through Ifugao and Nueva Viscaya; the 104 km East-West road between Marikina (Metro Manila) and Infanta (Quezon) on Pacific side of the country; the 120 km Manila East road crossing Rizal and Laguna; and the 104 km Olongapo (Bataan)-San Fernando (Papanga)-Gapan (Nueva Ecija) road. In Mindanao roads under construction include the 26 km Polloc Port access road; the 209 km Cotobato City-General Santos City road; the 800 km Iligan-Cagayan de Oro-Butuan road; the 227 km Surigao-Agusan-Davao road; the 122 km Bukid-non-Davao road; and the 487 km Zamboanga del Sur road.

Recently completed bridges include the Liloan bridge linking southern Leyte with Panaon Island; the 2,162 meter Marcos Bridge in San Juanico, connecting Samar and Leyte; the 886.8 meter Don Mariano Bridge in Abulog (Cagayan); the 860.1 meter Mandaue-Opon Bridge over Mactan Channel (Cebu); the 743.7 meter Gilber Bridge in Laoag City (Ilocos); the 662.8 meter Gamu Bridge in Gamu (Isabel); and the 495.1 meter Curson Bridge in Madrid (Surigao del Sur).

Vehicles

440,466 passenger cars and 327,146 commercial vehicles were in use in 1977.

Surface Miles
(Luzon Chart)

	B	B	C		L	L	L	M		Q	S	S		
	a	a	a		e	i	u	a		u	a	a		
	g	n	n		a	a	a	n		z	n	n		
	u	g	g		g	g	c	n		o	r	r		
	i	a	a		s	o	e	i		n	n	n		
	o	s	n		p	n	n	a		a	d	d		
					i	n	a	a		y	o	o		
Angeles	168	192	86	358	404	626	125	218	82	525	82	187	16	41
Aparri	424	705	479	189	222	1139	506	731	595	1038	595	453	529	529
Baguio		360	154	264	274	794	82	386	250	693	250	57	184	127
Balanga	242	234	128	418	472	668	193	260	124	567	124	255	58	109
Bangued	197	519	351	444	145	953	219	545	409	852	409	140	343	286
Banguì	340	662	455	329	66	1096	362	688	552	995	552	283	486	429
Batangas	360		226	516	596	486	317	78	110	385	112	379	176	233
Bauan	360	7	226	516	596	493	317	85	110	392	112	379	176	233
Buang	47	369	166	321	227	803	69	395	259	702	259	10	193	136
Bayom-														
Bong	125	377	151	139	419	811	207	403	267	710	267	182	221	178
Bontoc	146	506	280	234	290	940	228	532	396	839	396	175	330	273
Bulan	910	602	776	1066	1146	116	867	524	660	217	658	929	726	783
Cabana-														
Tuan	154	226		290	389	660	128	252	116	559	116	172	70	49
Calamba	304	56	170	460	540	490	261	82	54	389	56	323	120	177
Camil-														
ing	116	269	85	333	334	703	48	295	159	603	159	104	93	36
Candon	135	457	250	383	139	891	157	483	347	790	347	78	218	224
Cavite	282	112	148	438	518	552	239	144	32	414	38	301	98	155
Daet	601	293	467	757	837	193	558	215	351	92	349	620	417	474
Dagupan	70	323	116	334	284	757	12	349	213	656	213	67	147	474
Gapan	176	204	22	312	411	638	146	230	94	537	94	194	48	62
Gerona	112	248	57	302	348	682	87	274	138	581	138	131	72	15

Gumaca	450	142	316	606	686	344	407	64	200	243	198	469	266	323
Iba	247	312	206	496	461	746	165	338	202	645	202	244	136	193
Infanta	393	168	259	549	629	543	350	134	143	441	140	412	209	266
Kbugao														
Kiangan	121	437	211	165	357	871	267	463	327	770	327	244	281	238
Laoag	274	596	389	385		1030	296	622	486	929	486	217	420	363
Legaspi	794	486	660	950	1030		751	408	544	101	542	813	610	667
Lemery	342	25	208	498	578	511	299	103	92	410	98	361	158	215
Libmanan	676	368	542	832	912	118	633	290	426	22	424	695	492	549
Ligao	766	458	632	922	1002	28	723	380	516	73	514	785	582	639
Lingayen	82	317	128	346	296	751		343	207	650	207	79	141	84
Lipa	334	26	200	496	570	472	291	64	84	371	86	353	150	207
Lubuagan	213	573	347	177	357	1007	295	599	463	906	463	242	397	340
Lucena	386	78	252	542	622	408	343		136	307	134	405	202	259
Malolos	208	155	81	371	441	589	162	181	45	488	46	224	21	80
Manila	250	110	116	406	486	544	207	136		443	8	269	66	123
Naga	693	385	559	849	929	101	650	307	443		441	712	509	566
Nasugbu	353	69	219	509	589	555	310	147	103	454	105	372	169	226
Pasay	255	105	121	411	491	539	213	131	5	438	113	274	71	128
Pasig	258	104	124	414	494	538	215	130	11	437	8	277	74	131
Quezon														
City	250	112	116	406	486	542	207	134	8	441		269	66	123
Rosales*	82	286	75	289	318	720	57	312	176	619	176	101	110	43
S. Carlos*	86	311	107	321	300	745	20	337	201	644	201	83	127	70
S. Fer-														
nando**	57	379	172	331	217	813	79	405	269	712	269		203	146
S. Fer-														
nando+	184	176	70	360	420	610	141	202	66	509	66	203		57
S. Pablo+	334	51	200	590	570	545	291	46	84	353	86	353	150	207
Sta. Cruz+	346	82	212	502	582	466	303	58	96	365	96	365	162	219
Silang	293	74	159	449	529	514	250	106	43	413	46	312	109	166
Sorsogon	847	539	713	1003	1083	58	804	461	597	154	595	866	663	720
Tagaytay	306	61	172	462	542	510	263	102	56	409	62	325	122	179
Tarlac	127	233	49	317	365	667	84	259	123	566	123	146		57
Tugue-														
Garao	311	592	366	76	309	1026	393	618	482	925	482	304	436	438
Vigan	196	518	311	444	78	952	218	544	408	851	408	139	342	285

Vigan To:

Angeles	326	Gerona	270	Rosales	240
Aparri	300	Gumace	608	S. Carlos	222
Baguio	196	Iba	383	S. Fer-	
Balanga	394	Infanta	551	nando	139
Bangued	67	Kabubao		S. Fer-	
Bangui	144	Kiangan	279	nando	342
Batangas	518	Laoag	78	S. Pablo	492
Bauan	518	Legaspi	952	Sta. Cruz	504
Bauang	149	Lemery	500	Silang	451

Bayom-		Libmanan 834	Sorsogon 1005
Bong	341	Ligao 924	Tagaytay 464
Bontoc	210	Lingayen 218	Tarlac 285
Bulan	1068	Lipa 492	Tugue-
Cabana-		Lubuagan 279	Garao 351
Tuan	311	Lucena 544	Bigan
Calamba	462	Malolos 363	
Camili-		Manila 408	
ing	246	Naga 851	
Candon	61	Nasugbu 511	
Cavite	440	Pasay 413	
Daet	759	Pasig 416	
Dagupan	206	Quezon	
Sapan	333	City 408	

* Pangasinan
 ** La Union
 + Laguna
 ++ Pampanga

(Samar Chart)

												Abuyog
												Allen 365
												Basey 300 99
												Baybay 144 410 45
												Borongan 300 173 254 255
												Calbayog 218 206 176 124 241
												Carigara 233 247 99 91 357 90
												Catarman 309 76 206 362 252 48 317
												Catbalogan 148 161 72 146 217 104 196 169
												Gandara 42 106 203 30 188 256 146 154 211
												Guivan 259 217 324 204 289 118 257 113 372 212
												Naasin 332 331 289 437 177 361 375 78 219 485 120
												Ormoc Cty 122 259 258 216 364 55 288 302 44 146 412 89
												Palompon 57 179 274 273 231 379 70 303 317 101 161 427 146
												S. Isidiro 93 78 200 257 256 214 362 53 286 300 122 144 410 143
												Sogod 197 176 119 59 330 329 287 435 174 359 373 75 217 483 118
												** 177 104 121 106 179 153 152 110 258 51 182 196 104 40 306 59
												*148 325 252 269 254 327 166 140 98 158 199 170 48 252 142 206 207

*Taft
 **Tacloban

(Panay Distance Chart)

Balasan

99 Barotac Nuevo
94 42 Calinog
214 212 203 Cutasi
159 190 148 55 Ibaday
133 34 59 182 207 Iloilo
109 26 27 200 175 32 Janiway
167 74 85 142 197 40 58 Miagao
246 149 164 63 118 119 137 79 Patnongon
56 113 71 172 117 130 98 156 235 Roxas
223 126 141 86 141 96 114 56 23 212 S. Jose De Buenavista
32 67 62 226 171 101 77 135 214 88 191 Sara

(Mindanao Distance Chart)

Butuan
Cabadbaran 27
Cagayan 216 189
Cotabato 263 479 452
Datu Piang 60 299 506 479
Davao 201 215 387 575 548
Initao 402 247 211 52 268 211
Xolabugan 78 344 189 153 130 346 319
Liang 412 334 641 572 545 282 106 93
Malaybalay 357 233 155 284 215 229 103 291 264
Marawi 226 405 68 71 334 179 143 123 339 312
Oroquieta 230 395 574 162 240 448 293 257 292 508 481
Osamis Cty 43 187 352 531 119 197 405 250 214 249 465 438
Pagadian 98 141 153 318 497 85 163 371 216 180 215 431 404
Sta. Cruz 333 367 410 296 246 603 306 364 38 163 177 349 537 510
Surigao 633 527 561 604 435 387 202 442 364 671 602 575 312 96 123
** 340 377 243 277 320 151 131 310 158 80 415 327 291 28 244 217
*502 786 592 259 357 400 412 577 756 344 422 630 475 439 474 690 663

*Zamboanga

**Talakag

Railroads

Railroads, relatively unimportant as a means of transportation in the Philippines, are confined to the islands of Luzon and Panay. There are two government-owned railroads: the Philippine National Railway (PNR) with 643 miles of main line and 625 miles of branch lines and siding is located on Luzon and runs from San Fernando in La Union Province on northwestern coast to Legazpi in the southeast; the Philippine Railroad Company, with 73 miles of antiquated track is located on Panay.

Ports

In 1974, the port system consisted of 589 public ports and 161 private ports. Of public ports, 93 were classified as national (38 ports of entry, 20 sub-ports of entry, 35 others) and 496 were classified as municipal ports. Major ports are listed below:

Aparri, Luzon

Lat. 18° 22' N; long. 121° 38' E. On the Cagayan River. Aparri is a Customs port of entry and is considered unsafe at most times of the year.

Accommodation: The river being inaccessible to ocean-going vessels, logs and lumber are usually loaded at the anchorage. Logs are floated out and lumber received from lighters.

Provisions and

Water: No fresh water available, but small quantities of fresh stores and ice available.

Pilotage: Compulsory for vessels over 40 tons.

Batangas, Luzon

Lat. 13° 45' N; long. 121° 03' E. Port of entry.

Approach: Semi-circular body of water between Cazador Point and Matoco Point, 14.4 km wide exposed to S winds. Anchorage for large vessels SE of Santa Clara pier in 27.5 to 33 m, good holding ground.

Accommodation: Santa Clara pier has depth at NE seaward corner of 5.18 m, decreasing shorewards to 0.61 m on N side at distance of 80 m, and at S seaward corner 5.49 m, decreasing along S side to 1.52 m, at distance of 100 m. Caltex Cargo Wharf, 1.6 km NW is 164.6 m long at seaward face, with depths of 7.62 to 8.53 m alongside.

Water: Fresh water obtainable at Caltex Wharf.

Tanker

Terminals: Caltex Oil Wharf 0.6 km W of cargo wharf, extends 304 m S into bay and ends in a "T" with its S face 83.51 m long; main southern berth has 12.19 m alongside and a mooring buoy 79.24 m from each end. Night berthing possible.

Pilotage: No local pilots. Foreign vessels calling at Santa Rita may obtain a pilot from Manila.

Bislig Bay, Mindanao

Lat. 8° 14' N; long. 126° 22' E. Under customs jurisdiction of Bislig.

Approach: Bay should only be entered during daylight hours. Marker buoys.

Weather: During January, February and March, with NE monsoon, it is difficult to approach pier and secure ship; berthing stern to shore with bow anchor out is recommended (about 23 m clear from inner corner to beach).

Accommodation: Pier owned by Bislig Bay Lumber Co. is in good condition with dolphins on both sides.

Cagayan De Oro, Mindanao

Lat. 8° 30' N; long. 124° 40' E. Port of entry.

Approach: Wharf located on W shore at head of Macajalar Bay, just S. of the Cagayan Light. Entrance clear and free from hazard.

Accommodation: Concrete wharf 151.8 m long with 9.14 m depth at N end and 7.92 m at S end. Fairly well protected but open to NE.

Storage: Seven warehouses for copra totalling 3,000 tons capacity.

Provisions: Limited stores.

Water: No fresh water.

Development: Construction of 160 m quay extension with a depth alongside of not less than 8.5 m. Reclamation of 130,000 cu m in progress.

Pilotage: Compulsory. Vessels shifting or changing berth in the stream pay half rates. Pilotage for foreign vessels leaving anchorage in the stream is optional.

Cebu, Cebu

Lat. 10° 18' N; long. 123° 53' E. Port of entry and Quarantine pratique.

Approach: Temporary light, mounted on a steel pole at southern entrance. Care must be taken not to mistake Mactan Airport Beacon Light or Cebu Customs Beacon Light for temporary Luis Ledge Light, as a number of vessels have committed that error and run aground.

Harbor lies in middle of E side of Cebu Island in strait between Cebu and Mactan islands. Entrance from NE end of strait or from S end.

Vessels up to 7.9 m may use entrance and should await pilot off buoy C-1, but S entrance is generally preferred.

Accommodation: In harbor there are nine berths at Marginal Wharf and six berths at finger piers. Berths 1-9 at Marginal Wharf, 3.66, 4.88, 7.01, 7.62, 7.62, 7.62, 7.92, 6.70, 3.66m depths alongside respectively.

Marginal Wharf's berth No. 7 and Piers I and II are used for ocean-going vessels.

Storage: Import cargo is stored in small customs warehouse (capacity 200 tons) or in open under tarpaulins (unless immediate delivery is taken). A large number of private companies have their own export shed, capacities up to 6,000 tons.

Crane: Floating crane of 25 tons capacity available.

Provisions: Fresh stores.

Water: Fresh water at ocean-going berths at 20 tons/hr.

Tanker

Terminals: Six berths. Lengths 170.7 m to no limit. Drafts 7.31 to 9.45 m. Night berthing possible. Water and bunkers available.

Bunkers: Fuel, diesel fuel and gas oil from the Shell Co. of the Philippines Ltd. at Shell Islands Wharf. (Cables: "Shell Cebu"). Light diesel and fuel and gas oil from Standard-Vacuum Oil Co. (Cables: Stanvac, Cebu). Pilotage to these berths is compulsory.

Shiprepairs: Minor repairs by Cebu Shipyards at Opon.

Pilotage: The use of a pilot through the straits and for mooring and unmooring at any berth in the harbor, is compulsory. Pilots should be advised in advance which harbor entrance to be used. Vessels taking a pilot through the channel are exempt

from mooring and unmooring pilotage. The use of a pilot from a pier on wharf in the Cebu channel, and for shifting from berth to berth to anchorage or vice versa, is compulsory.

Airport: N.I.A.: Mactan Airport, Cebu City (several flights daily to Manila).

Dadiangas, Mindanao

Lat. 6° 6' 30" N; long. 125° 9' 30" E. Town on the NE shore of Sarangani Bay near E side of Siloway River. Most important shipping center of the surrounding area, and port of entry.

Approach: Weather: During SE monsoon weather usually rough and choppy, with moderate winds in afternoons - mornings usually calm and smooth.

Accommodation: Vessels calling at Dadiangas usually anchor 640 m from shore in 18.3 to 36.6 m, southward of a green warehouse, near beach, eastward of town. Two privately maintained mooring buoys about 300 yards from shore are used by inter-island vessels. Lighters are used to ferry passengers and cargo from shore to vessels at the anchorage.

Provisions: Supplies and general provisions are obtainable in limited quantities.

Development: Construction of a 300 m quay extension with a depth alongside of not less than 8.5 m. Reclamation of 240,000 cu m.

Airport: Airfield is 10 km NE of the town and three flights a week between Manila and other ports maintained by P.A.L.

Davao, Mindanao

Lat. 7° 4.6' N; long. 125° 37.5 ' E. Port of entry and quarantine pratique.

Approach: Gulf and course to Davao are clear and free from hazards. Vessels for Davao loading should proceed past Davao City to Sta. Ana (3.2 km north-east of Davao River mouth) and anchor 450 yards north-east or south-east off the end of the Sta.

Ana pier is 36.6 m, mud bottom. Pier itself is unsuitable for operations. Anchorage is well protected and outside the typhoon belt. Currents through the Pakiputan Strait run about 2.5 knots.

Accommodation: 8 km past the city, on W side of Pakiputan Strait, at Lanang Point, is a concrete wharf, 152.4 m long at face and with controlling depth of 8.2 m.

Copra, hemp, logs and lumber are lightered from the surrounding points in the Gulf to the Sta. Ana anchorage.

Storage: Totals of 7,500 tons copra and 79,000 tons hemp warehouse space available.

Provisions: Fresh stores, dunnage mats and lumber available.

Water: Fresh water available.

Tanker

Terminals: Shell Oil Co. maintains a T-shaped pier and installation, N of Sta. Ana. It is 30.48 m long at face with controlling depth of 8.23 m.

Development: Construction of about 405.15 m steel sheet pile wall, plus a complementary steel sheet piling of 19.45 m long on the rock bulkhead portion.

Shiprepairs: Minor repairs only.

Pilotage: To and from Govt. piers is compulsory; to and from private piers optional.

Dumaguete, Negros.

Lat. $9^{\circ} 18' N$; long. $123^{\circ} 18' E$. Port of entry and quarantine station.

Approach: Approach easy without hazard. Anchorage not recommended owing to depth of water. Port exposed to NE monsoon when it may be impossible to go alongside.

Accommodation: Reconstructed pier is 126.5 m long; large vessels normally berth on S side, using about 60.95/91.43 m of wharf.

Storage: Four copra shippers have warehouse capacity totalling 4,700 tons.

Provisions: Limited fresh stores.

Water: From pier.

Shiprepairs: No facilities.

Pilotage: Compulsory for docking or undocking and from quarantine to any anchorage in stream or shifting.

Iloilo, Panay

Lat. $10^{\circ} 41' N$; long. $122^{\circ} 35' E$. Port of entry and Quarantine Station.

Approach: Large vessels anchor off the river mouth. Entrance to the river is impossible until further dredging is completed; present controlling depth approx. 4.57 m.

Accommodation: The Iloilo Straits wharf, just south of the river mouth, is a covered wharf of 160 m long with 9.14 m depth alongside. Ample lighters and tugs for loading and discharging in the roadstead. Good, safe and easy harbor.

- Storage: No shed accommodation.
 - Water: Fresh water from water barge; insufficient pressure at wharf hydrant.
 - Bunkers: Fuel oil, diesel fuel and gas oil from Shell.
 - Pilotage: Pilotage through the Iloilo Straits to and from the harbor, to the Iloilo Straits wharf and to the Iloilo River, in and out, is compulsory.
- Vessels taking pilot through Iloilo Straits are exempt from mooring or unmooring pilotage fees, except when the vessel first anchors in the stream longer than 12 hours, in which case they shall pay the docking fees.
- Airport: Local airport with services to N.I.A. at Cebu.

Isabela, Mindanao

Lat. 6° 44' N; long. 121° 59' E. The port is at Basilan City in Mindanao.

- Approach: The West entrance is generally used by ocean-going vessels calling at Isabela. Because of the geographical situation and natural hazards, night entry is not recommended.
- Accommodation: Anchorage off the wharves is from 11 m to 14.6 m with a sand and coral bottom. The existing government facilities include a timber landing 77 m long, and a reinforced concrete wharf 106 m long. Depth alongside is from 8 to 9 m. A regular launch service between Zamboanga City and Basilan is maintained.
- Private Wharf: Weyerhauser Phil. Inc.
- Development: The concrete wharf is being extended, and reclamation work is in progress. One transit shed is being constructed.
- Shiprepairs: Minor repairs and welding jobs can be performed.

Pilotage: Available. Pilot station is in Isabela.

Medical
Facilities: Available at Isabela or at Zamboanga City.

Airport: Zamboanga City Airport, 26 km.

Jolo, Jolo Island

Lat. 6° 3' N; Long. 121° E. Port of entry for customs and quarantine pratique. On NW coast of island about 0.8 km from Belan Point.

Approach: Approach to anchorage and pier clear and free from hazard, except shoal at NE end of pier. Anchorage to NW of pier in 22 to 25.6 m exposed to NE monsoons.

Accommodation: Govt. "U"-shaped pier is 88.39 m long at face, with controlling depths of 7.62 m at NE end, 7.92 m at middle and 9.14 m at SE end. Warehouses for 5,500 tons of copra and 3,000 bales of hemp.

Provisions: Fresh stores in limited quantities.

Water: Fresh water from pipe on pier (limited in dry season).

Pilotage: Docking and leaving government or private wharf, compulsory.

Manila, Luzon

Lat. 14° 35' N; long. 120° 58' E. Principal port of entry, at head of Manila Bay.

Approach: Entrance to Manila Bay by channel north of Corregidor or through the south channel. Latter is not recommended during hours of darkness or in poor visibility. No obstructions between bay entrance and quarantine anchorage (see pilotage instructions for remainder of entry).

Largest Vessel: Empress of Britain, 42,000 tons.

Accommodation: Vessels with 100 tons or more of cargo for discharge must berth at piers (unless granted ship-side delivery permits). At present there are five piers with a total of 23 berths for ocean-going vessels. Controlling depths alongside are: Pier 15: between 10.97 and 11.89 m, Pier 9: between 7.31 and 11.58 m, Pier 13: between 9.45 and 11.28 m, Pier 5: between 8.23 and 10.36 m, Pier 3: between 8.23 and 10.97 m.

Storage: One general bonded warehouse for import cargoes; five public bonded warehouses for storage goods imported under bond; seven private bonded warehouses; four manufacturing bonded warehouses.

Cranes: Floating cranes of 25, 40, 60 and 75 tons available.

Water: Fresh water at the piers and from barges.

Tanker
Terminals: One berth, 213.4 m long, draft 9.14 m. Night berthing possible. Water and bunkers available.

Bunkers: Fuel oil from Caltex. Delivery by barge is made at anchorages or at piers. Fuel, diesel and gas oil from Standard-Vacuum Oil Co; also Shell. Fresh water from barges.

Development: The Manila Container Terminal is being developed at the existing port. A 658 m long crane supporting structure is being constructed along the existing marginal wharf. This project is aimed at centralizing the handling of container traffic to a specific facility. This will leave the South Harbor to its original role of handling general cargoes.

Shiprepairs: All types.

Pilotage: Compulsory. All vessels should await the representative of the Immigration Authority in quarantine anchorage. Pilot boards at completion of inspection if vessels are proceeding to one of the 26 anchorages inside the breakwater or to one of the piers.

Airport: Manila International Airport.

Puerto Princesa, Palawan

Lat. $9^{\circ} 43' 52''$ N; long. $118^{\circ} 43' 55''$ E.

Approach: Table head, 176 m high, close to shore, approx. 5.6 km SW of Panagtaram Point, is a good landmark when entering port. Tidepole Point, reddish cliff, approx. 6.1 m high, 3.5 km westward of Banca-Bancaon Point, identified by light tower on it. Puerto Princesa Light is displayed on Tidepole Point. Light fixed red, visible 11.2 km. Outside harbor entrance visible only over an arc of 41° from 285° to 326° . In Inner Harbor light obscured eastward of the bearing 150° . A large irregular inlet, 3.2 km wide at entrance, extending about 9.6 km in a NW direction. Coral reefs about 0.8 km wide, narrow navigable width of the channel to about 1.6 km. Depth of channel - 62 m shoaling to 16.4 m.

Accommodation: Town has a "T" shaped concrete pier with berthing face of 38.4 m. Gedeon Shoal, with a depth of 1.8 m approx. 594 m westward of pier, marked by a black buoy. Vessels not going alongside pier may anchor SW of Princesa Point in 21.9 to 29.2 m, mud bottom. A more protected anchorage may be had in 16.5 to 18.3 m, approx. 365 m northward of the end of the pier. Ship's tackle used in loading and unloading, control depth of water 36.6 m. Transit shed available.

Provisions: Available.

Water: Drinking water piped to pier.

Bunkers: Diesel oil, gasoline and kerosene may be purchased in drums and tins.

Airport: Approx. 3 km away from pier. Weekly service to Manila.

San Fernando, Luzon

Lat. 16° 36' 59" N; long. 120° 18' 45" E. Port of entry and terminus of railway from Manila. Shipping facilities are at Poro on S shore of San Fernando Harbor where there is also a Philippine Naval patrol base.

Approach: At approach, San Fernando Light is displayed at an elevation of 32.6 m above H.W. from a white cylindrical iron tower. Occulates white light every 10 seconds, visible for 25.6 km on horizon. Many unmarked submerged wrecks. All shipping facilities concentrated at Poro Highway and railway line connection with San Fernando. Entrance to harbor between reefs approx. 730 m. Fagg reef extends nearly 0.8 km, least depth 8.2 m on which sea breaks in heavy weather, lies approx. 3.2 km NW from San Fernando Point.

Weather: Harbor and piers somewhat protected from NE Monsoons, but open to the weather from N and NW. In heavy northerly weather, vessels anchor off Poro in the south-western part of the harbor, recommended anchorage approx. 1.3 km north by east from the long wooden pier at Poro in 21.9 m mud bottom and good holding ground.

Accommodation: There are three operating piers at present, one leased to oil companies for their exclusive use, and a private wharf. Government pier, 85 m long, 19 m wide and 3 m high from M.L.L.W. Depth, 6.10 m shore end, 16.15 m far end. Two LST ramps available to expedite loading outgoing cargo without using valuable berthing facilities. Ship's tackle used for cargo handling. No tugs, lighters or launches.

Private Wharf: Shipline Inc.'s pier is used for ocean going vessels. It is 351.72 m long, 24.38 m wide, with berthing space of 260.29 m on each side. Draft of 18.29 m offshore end, 9.75 m inshore end.

Storage: Transit sheds are now in use. Warehouse available, and handling by Shipline, Inc., which is a subsidiary of Lepanto Mining Co. Ten warehouses available, and 20 ha open storage.

Water: Limited fresh water..

Bunkers: Available from Shell, at berth, while working cargo.

Development: Shipperside plans to extend present pier with a cement pier 121.91 m to outer end. This will give two additional big ship berths. Shipperside is planning to erect a 50,000-gallon tank.

Pilotage: Compulsory for all vessels entering or leaving.

Airport: Approx. 1 km SE of pier..

Tacloban, Leyte

Lat. 11° 15.2' N; long. 124° 59.8' E.

Approach: Tacloban is a customs port of entry and is situated on the west shore at the head of San Pedro Bay. The whole bay is encumbered with islets, reefs, shoals and fish traps. Exceptional caution, therefore, should be executed in entering and proceeding to the pilot station. If bound for Tacloban pier vessels should anchor off Egbert shoal and await pilot. If not bound for the pier, good anchorage will be found in the vicinity of Dio Islet in 9.1 to 11 m, mud bottom. Maximum draft in San Pedro channel is 5.79 m, liable to silting.

Accommodation: The pier is a Government-owned concrete structure, 365.74 m long and 15.24 m wide, liable to silting alongside (7.62 m at sea end shallowing to 4.88 m at middle).

Provisions: Limited supplies of stores; dunnage mats available.

Water: Fresh water at low pressure.

Pilotage: Compulsory for vessels over 100 g.r.t. entering or leaving port through San Pedro Bay, also for anchoring in the quarantine area in the harbor stream, for shifting or changing berth within the harbor limit.

Zamboanga, Mindanao

Lat. 6° 54.2' N; long. 122° 4.6' E.

Approach: Approach is well marked by white, steel-framed light on Little Santa Cruz Island on the south and the iron frame light tower on the Zamboanga dock on the north. Town easily distinguished by T-shaped pier and numerous waterfront buildings.

Owing to depth, strong currents and hard, uneven bottom, no good anchorages available; many vessels have dragged and lost their anchors. Vessels proceeding to the pier should anchor one half mile due south of light tower and await pilot. Harbor exposed to southwest monsoon, and sudden gales may then be expected, causing heavy seas.

Accommodation: T-shaped concrete govt. pier provides berthing space for two vessels at face. Face is 243.83 m long with 8.23 m alongside at eastern end, gradually diminishing to 5.18 m at western end. Great care should be taken in approaching pier in order to avoid shoal area 3.7 to 5.5 m which lays westward of the end of the pier. Approach must be made against the current, being careful not to bring current too wide of the bow.

Provisions: Adequate fresh stores.

Water: Small quantities of ice and fresh water.

Shiprepairs: Minor repairs only.

Pilotage: Pilotage anchoring in the Stream. Docking and leaving Government Wharf or privately owned piers is compulsory.

Airport: National Airport at Zamboanga, with daily (excl. Sunday) service to Manila.

Shipping Lines

In 1974, the Philippine Merchant Marine Fleet consisted of 10,652 vessels: 3,540 fishing boats, 2,096 cargo carriers, 485 passenger vessels, 240 combined passenger and cargo vessels.

National Lines

Botelho Bulk Transport Corp.: 8th floor, Antonion Building, T.M. Kalaw St., Ermita, Manila; F. 1966; 3 vessels.

Eastern Shipping Lines, Inc.: ESL Building, INTRAMUROS, Manila; 6 vessels; services to Japan and Philippines.

Lustevenco (Luzon Stevedoring Co.): Tacoma and Second Sts., Port Area, P.O.B. 582, Manila; F. 1909; Worldwide tanker and towage operations; fleet of 28 tankers, 122 tugs and 509 barges.

Magsaysay Lines, Inc.: Magsaysay Building, 520 T.M. Kalaw St., Ermita, Manila (P.O.B. 21); 4 vessels; shipping agents and brokers.

Maritime Company of the Philippines: 105 Dasmarinas St., (P.O.B. 805), Manila; 9 cargo vessels.

Philippine Ace Lines, Inc.: P.O.B. 3567, Ground Floor, Mary Bachrach Bldg., Port Area, Manila; 5 vessels; cargo and liner services to Japan, Europe, South America and U.S.A.

Philippine Internal Shipping Corp. (PISC): f. 1978; co-operative venture by 18 companies; 6 cargo vessels.

Philippine President Lines Inc.: PPL Building, 1000-1046 United Nations Avenue, Manila; 12 cargo vessels. Services: chartering, U.S.A., Japan, Europe.

Sweet Lines, Inc.: Head Office: Arellano Blvd., Cebu City; 13 passenger-cargo vessels.

Transocean Transport Corp.: Magsaysay Building, 520 T.M. Kalaw St., Ermita, Manila (P.O.B. 3050) 5 cargo vessels.

United Philippine Lines, Inc.: UPL Building, Santa Clara St., INTRAMUROS, Manila; services to Japan, Hong Kong, and U.S.A.

William Lines, Inc.: Pier 14 North Harbor, Manila; passenger and cargo inter-island service; 20 pass/cargo vessels.

Airports

Manila airport is the primary international airport, a second international airport is located at Mactan, Cebu. In 1972, there were 76 national airports and several private airstrips.

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.

<u>Location</u> <u>Coordinates</u>	<u>Eleva- tion M/ Temp C</u>	<u>Runway Characteristics</u>				<u>Fuel/ Octane</u>
		<u>NR/Type</u>	<u>Slope %</u>	<u>Aircraft/ Length M</u>	<u>Aircraft/ Strength (1,000 kg)</u>	
Buayan/General Santos						
ALTN-S 6°7'10" N 125°14'5" E	3 29.3	01/19	0.31	1020	G A UW 13/1 27/2	

Remarks: Alternate Aerodromes: Davao/Intl., Manado/Sam Ratulangi.

Aids: Stopway 01-60; 19-100. Clearway 01-280.

Cotabato/
Dinaig
ALTN-S

7°10'30" S 124°12'30 E	52 29.5	10/28	0.42	1600	C A UW 33/1 46/2	
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Remarks: Alternate Aerodromes: Davao/Intl.

Aids: MD, MC, MT.

<u>Location</u> <u>Coordinates</u>	<u>Elevation M/</u> <u>Temp C</u>	<u>Runway Characteristics</u>					<u>Fuel/</u> <u>Octane</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>	
Davao/ Intl. REG-S							
7°7'59" N 125°39'11" E	27 29	05/23	0.35	2004	B	AUW 34/1 50/2 75/4	100JA1

Remarks: Alternate Aerodromes: Buayan/General Santos, Cotabato/
Dinaig.

Aids: L, MD, MC, Mt, L4, 5, 9. Stopway 05-100; 23-150. Clearway
05-120; 23-150. No telex. Prior notice to aerodrome re-
quired. Fuel available on prior notice.

Laoag/Intl.
RAG-GA

18°11'1" N 120°31'48" E	6 29.8	01/19	0.09	1500	C	AUW 45/1 91/2 136/4	100JA1
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Aids: MD, MC, MT, MO, L4, 9. Clearway 01-186, 19-290. No telex.
Prior notice to aerodrome required. Fuel available on prior
notice.

Lapu-Lapu/
Mactan Intl.
ALTN-S

10°18'48" S 123°58'58" E	10 29.6	04/22	0.18	2591	A	AUW 45/1 84/2 159/4	100JA1
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Remarks: Alternate Aerodromes: Hong Kong Intl., Manila Intl.

Aids: SA (04), AV (04) (22), LR, LTX, LB, LO, MD, MC, MT, MTD,
MFD, MTX, MO, L4, 5, 9, ILS (04-1), Stopway 04 & 22-305.

Clearway 04-485; 22-610. No telex. Fuel available on prior notice.

<u>Location</u> <u>Coordinates</u>	<u>Eleva-</u> <u>tion M/</u> <u>Temp C</u>	<u>Runway Characteristics</u>					<u>Fuel/</u> <u>Octane</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>	
Manila/Intl. REG-S							
14°30'41" N	23						
121°0'57" E	31.2	06/24	0.58	3354+	A	AUW 40/1 91/2 163/4	100JA1

Remarks: Alternate Aerodromes: Hong Kong Intl., Kaohsiung/Kaohsiung, Lapu-Lapu/Mactan Intl., Naha/Naha, Saigon/Tan-Son-Nhut, Taipei Intl.

Aids: ILS (21-1), VOR, L, PA (24-1), VA (06+), LR, LTX, LB, LO, MD, MT, MTD, MS, MFD, MTX, MO, L6, 7, 9. Remarks: +3850. AUW 342 P 4/79 (facility planned-date completion). No telex. Fuel available on prior notice.

Zamboanga/
Zamboanga
REG-S

6°55'11" N	9						
122°3'52" E	29	09/27	0.162	2610	A	AUW 45/1 68/2 125/4	100JA2

Aids: L, LR, LB, LO, MD, MC, MT, MTX, MO, L4, 9. Stopway 09-140; Clearway 09-155; 27-80. No telex.

* Key

INSTR - Instrument Approach Runway
N-INSTR - Non-Instrument Runway

Radio Aids

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

Lighting Aids

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

Marking Aids

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

Additional Lighting

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

Personal Entry Requirements

Passport and visa required. (See Travel and Visa Information).

Vaccination (See Travel).

Aircraft Entry Requirements

All private and non-scheduled commercial aircraft overflying or landing for technical or non-commercial purposes, or for commercial purposes for the first time, must obtain prior diplomatic clearance from the Philippine Department of Foreign Affairs. Permission may be requested through local firms acting as representatives or supplying aircraft services, through Philippine diplomatic or consular offices abroad or, if necessary, through the American Embassy in Manila for relay to approving officials. Applications for clearances must be received by the Department of Foreign Affairs at least seven working days in advance of the proposed flight. Once a clearance is issued, strict adherence to the itinerary is requested, and any changes in flight schedule of more than 24 hours or in data provided must be reported at least 24 hours in advance to the Philippine Air Force, Division Commander, First Air Division, Nichols Air Force Base.

All requests must include (a) aircraft registration marks and radio calls, if different, (b) owner of aircraft, (c) type of aircraft, (d) departure point and date and time of departure, (e) planned route, (f) time of penetration of Philippine ADIZ and time over checkpoints, (g) name and citizenship of pilot and crew, (h) purpose of flight, number of passengers and/or description and pounds of cargo, (i) name of local agent, if any, (j) name, address, and business of charterer, if any, (k) requirements for fuel and lubricants while in the Philippines, specifying type and quantity desired, (l) certification from operator that the aircraft will follow the approved route, that the aircraft will be used only for the purpose stated, that while over Philippine territory, the aircraft will maintain radio contact with CAA facilities and will follow instructions and that if intercepted by air defense units, the aircraft will follow their instructions.

Non-scheduled commercial flights discharging or picking up revenue passengers, cargo, or mail in the Philippines, other than those flights landing for commercial purposes for the first time, must ob-

tain a permit from the Philippine Civil Aeronautics Board. Requests must be submitted at least 7 working days in advance to the Executive Director, Philippine Civil Aeronautics Board, 6th floor Katigbak Building, Corner A. Mabini Street and T. Kalaw, Ermita, Manila 2901 (telegraphic address: AVIOBOARD MANILA/Telex: None) and must include the same information as listed above, submitted in triplicate with the first copy addressed to the attention to the Division Commander, Headquarters, First Air Command and the second copy to the attention of the Flight Safety Division.

Special Notices

An aircraft making a commercial flight for the first time must submit its application through the U.S. Embassy, 1201 Roxas Blvd., Manila (telegraphic address: AMEMBASSY MANILA/TELEX: 7227366).

Aeronautical Information Source

AIP PHILIPPINES

International NOTAM Office

MNAILA-RPMYIN

Airlines

Philippine Air Lines Inc. (PAL): PAL Bldg., Ayala Ave., Makati, P.O.B. 954, Metro Manila; internal services and international services to Australia, Hawaii, Hong Kong, Indonesia, Japan, Pakistan, Singapore, Taiwan, Thailand, the U.S.A., the Federal Republic of Germany, Italy and the Netherlands; fleet of 9 DC-3, 3 DC-10-30, 2 DC-8-53, 2 DC-8-33, 11 HS-748, 1 HS-660.

Foreign Airlines:

The following foreign airlines serve the Philippines; Air France, Air Nauru, Air Niugini, Alitalia, Cathay Pacific Airlines Ltd. (CPA),

China Air Lines, Egypt Air, Garuda Indonesian Airways, JAL, KLM, Korean Air Lines, Lufthansa, Malaysian Airline System, Northwest Airlines (NWA), Pan American, PIA, Qantas, SAS, Singapore Airlines, Swissair and Thai International.

Air Distances*

From Manila to:

Melbourne.....	3,920
New York (JFK) Intl.....	8,505
Paris.....	6,681
Rangoon.....	1,661
Rome.....	6,456
Sandakan.....	628
San Francisco.....	6,972
Singapore.....	1,485
Sydney.....	3,888
Tacloban Intl.....	353
Tokyo.....	1,860
Zamboanga.....	528

From Guam to:

Manila.....	1,594
Clark.....	1,625

* In Statute Miles

Electric Power

With growing demand for energy and crude oil imports presently valued at \$1 bn, the Philippines is making an effort to develop indigenous energy resources - hydro-electric, geothermal, and oil, the combined output of which can potentially satisfy about 20% of projected needs. The country's first commercial oil well went into limited production in early 1979 when the first geothermal turbine also began operation. 5 more geothermal units scheduled to begin production by end of year will provide 440 mw. -- about one-quarter of power from new sources.

Manila Electric Company (MERALCO) and the government-owned National Power Corporation (NPC) are main suppliers (90%). Total capacity in 1977: 4,186,000 kw; 15.2 billion kwh produced, 335 kwh per capita.

Municipalities and Cities with Electric Service 1977

<u>Region</u>	<u>Percent</u>
I. Ilocos.....	65.5
II. Cagayan Valley.....	19.4
III. Central Luzon.....	73.6
IV. Metro Manila Area.....	100.0
IV-A. Southern Tagalog.....	27.2
V. Bicol.....	53.5
VI. Western Visayas.....	42.3
VII. Central Visayas.....	13.0
VIII. Eastern Visayas.....	17.4
IX. Western Mindanao.....	22.1
X. Northern Mindanao.....	8.4
XI. Southern Mindanao.....	24.1
XII. Central Mindanao.....	46.6

(Source: Five-Year Philippine Development Plan, 1978-1982.
Chapt. 3)

Radio Network

Radio is the major medium of communication. A total of 227 radio stations operates in the country, 40 of them in Metro Manila.

Banahaw Broadcasting Corporation: Broadcast City, Capitol Hills, Diliman, Quezon city; 14 stations.

DPI Radio-TV Network: GSIS Building, Arroceros St., Manila; 12 stations.

Far East Broadcasting Company: P.O.B. 1, Valenzuela, Metro Manila; f. 1948; 7 stations; operates a home service 24 hours a day, a cultural music station, an overseas service throughout Asia in 73 languages.

Manila Broadcasting Co.: Elizalde Bldg. 141 Ayala Ave., Makati, Metro Manila; 5 stations.

Nation Broadcasting Corporation: 4th Floor, Sikatuna Bldg., Ayala Ave., Makati, Metro Manila; 20 stations.

Newsounds Broadcasting Network: Suites 408-409 Chateau Makati Bldg, F. Zobel St., Makati, Metro Manila; 11 stations.

Radio Mindanao Network: Suites 411-413 Chateau Makati Bldg., F. Zobel St., Makati, Metro Manila; 13 stations.

Radio Philippines Network: Broadcast City, Capitol Hills, Diliman, Quezon City; 15 stations.

Radio-Republic Broadcasting System; E. de los Santos Ave., Diliman, Quezon City.

Voice of the Philippines: National Media Production Center, Solana St., Intramuros, Metro Manila.

<u>Region</u>	<u>Call-sign</u>	<u>Frequency (khz)</u>	<u>Power (kw)</u>	<u>Equip-ment</u>	<u>Operating Agency</u>
Philippines					
I. Ilocos					
Abra					
Bangued	DZPA	890	1	Custom-built	Catholic Welfare Organization
Benguet					
Baguio City	DZWT	540	10	Gates BCM	Mountain Province Broadcasting

<u>Region</u>	<u>Call-sign</u>	<u>Frequency (khz)</u>	<u>Power (kw)</u>	<u>Equip-ment</u>	<u>Operating Agency</u>
	DWHB	590	1	Custom-built	Radio Mindanao Network
	DWBW	740	1	RCA BTA	Banahaw Broadcasting Corporation
	DZWX	1020	1	Collins TM	Northern Broadcasting Corporation
	DZBS	1370	1	Atronics BC	Radio Philippines Network
	DZEQ	1510	1		Bureau of Broadcasting
Ilocos Norte					
Laoag	DZRL	630	1	Atronics BTA	Radio Philippines Network
	DWLW	660	1	Gates	Banahaw Broadcasting Corporation
	DZJC	770	1	Collins	Manila Broadcasting Company
	DZVR	1060	5	Collins	Northern Broadcasting Company
Batac	DZLF	1110	3	Custom-built	Ilocandia Radio-TV Network
Ilocos Sur					
Vigan	DZVW	600	1	Elec. RT-1 AM	Northern Broadcasting Station Company

<u>Region</u>	<u>Call-sign</u>	<u>Frequency (khz)</u>	<u>Power (kw)</u>	<u>Equip-ment</u>	<u>Operating Agency</u>
	DZXE	790	1	Certa C1000	Fairwaves Broadcasting Network
La Union					
San Fernando	DZXC	640	1	Custom- built	Vanguard Radio Network
	DZLU	700	1	Collins 221	Northern Broad- casting Company
	DZYR	1350	1	Custom- built	Trans-Radio Broadcasting
Agoo	DZAG	570	2.5		Voice of the Philippines
Bauang	DZNL	750	1	Custom- built	Radio Nalinac
Poro Point	DWVA	1140	1000		Voice of America
				Custom- built	Nation Broad- casting Corporation
	DWDW	1040	5	Gates BE-1	Banahaw Broad- casting Corporation
	DZWN	1170	5	Collins 231	Northern Broad- casting Corporation

<u>Region</u>	<u>Call-sign</u>	<u>Frequency (khz)</u>	<u>Power (kw)</u>	<u>Equip-ment</u>	<u>Operating Agency</u>
	DZMQ	1210	5		Dagupan City
	DWMC	1260	1		Magiliw Community Broadcasting
	DZDL	1420	5	Custom-built	Insular Broadcasting System
II. Cagayan Valley					
Batanes	a	a	a	a	a
Cagayan Tuguegarao	DZTG	690	1	Recho Tam	Radio Philippines Network
	DZCV	740	1	Custom-built	Filipinas Broadcasting Network
	DZYT	780	1	Custom-built	Nation Broadcasting Corporation
Ifugao	a	a	a	a	a
Isabela Cauayan	DZYI	720	1	Custom-built	Nation Broadcasting Corporation
	DZNC	840	1	Custom-built	Northern Broadcasting Company
Santiago	DWSI	1320	1	Custom-built	Nation Broadcasting Corporation
	DZYS	1350	2	Custom-built	Rans-Radio Broadcasting

<u>Region</u>	<u>Call-sign</u>	<u>Frequency (khz)</u>	<u>Power (kw)</u>	<u>Equip-ment</u>	<u>Operating Agency</u>
Kalinga- Apayao	a	a	a	a	a
Nueva Vizcaya Solano	DZMG	1390	1	Custom- built	Vanguard Radio Network
Quirino	a	a	a	a	a
III. Central Luzon					
Bataan	a	a	a	a	a
Bulacan Valen- zuela	DZAS	680	40	TEC 13-R	Far East Broad- casting Company
	DZRM	960	10		Bureau of Broadcast
Malueta	DZFM	710	10		Bureau of Broadcast
	DZCA	830	5		Office of the Civil Defense
Malolos	DZRV	860	50	Tele- funken	Radio Veritas
	DZRP	920	50		Voice of the Philippines (NMPC)
Bambang	DZEE	1380	10		Media Monitor
Nueva Ecija Cabanatuan City	DZCI	560	1	Gates	Cabanatuan Broadcasting
	DZXO	1240	1	Custom- built	Vanguard Radio Network

<u>Region</u>	<u>Call-sign</u>	<u>Frequency (khz.)</u>	<u>Power (kw)</u>	<u>Equip-ment</u>	<u>Operating Agency</u>
	DWAR	1300	2		Victory Broad- casting System
Pampanga					
Angeles City	DZAB	790	1	Recho Tam	Angeles Broad- casting
	DZYA	1490	1	Custom- built	Nation Broad- casting Corporation
Tarlac	DZTG	880	1	Custom- built	Nation Broad- casting Corporation
	DZXT	1120	1	Custom- built	Filipinas Broadcasting Network
Zambales					
Olongapo	DZYZ	640	1	Custom- built	Nation Broad- casting Corporation
	DWHL	770	2	GEBCGE	Beta Broadcast- ing
	USAF	1300	25		United States Air Force
Iba	DWRF	1470	250		Far East Broad- casting Company
IV. Southern Tagalog					
Sub-Region IV-A					
Manila	DWXX	1000	5	RCA 10CB	Hypersonic Broadcasting Company
	DZSA	1230	1	Custom- built	Delta Broad- casting System

<u>Region</u>	<u>Call-sign</u>	<u>Frequency (khz)</u>	<u>Power (kw)</u>	<u>Equip-ment</u>	<u>Operating Agency</u>
Rizal					
Quezon City	DZME	1540	5		Capitol Broadcasting Center
	DZBB	580	10	Gates BC 10	GMA Radio/TV Arts
	DWKW	600	10	Astronics	IBC
	DZBM	740	5	BTA 1002	Mareco Incorporated
	DZRJ	780	5	AMC BTA	Rajah Broadcasting Network
	DZEC	1050	5	Recho Tam	Eagle Broadcasting Company
	DWWA	1160	10		Banahaw Broadcasting Corporation
	DWWW	1280	50	Gates BC 10P	Radio Philippines Network
	DZEM	1360	10	RCA BTA 10K	Christian Broadcasting Service
	DZUP	141.0	1		University of the Philippines
Pasay City	DZHH	1570	10		Philippine Air Force
Caloocan City	DZHP	1130	10	Gates BC 10	Radio Mindanao Network

<u>Region</u>	<u>Call- sign</u>	<u>Frequency (khz)</u>	<u>Power (kw)</u>	<u>Equip- ment</u>	<u>Operating Agency</u>
	Makati DWRT	980	10	Custom- built	Trans-Radio Broadcasting Network
	Malabon DZRH	650	10	BCT 10-K	Manila Broad- casting Company
	DWIZ	800	5	Recho Tam	Philippine Broadcasting Corporation
	DZXQ	1250	5		Mabuhay Broad- casting Corporation
	Muntinlupa DWAU	940	15	Custom- built	United Broad- casting Corporation
	DWBL	1190	10	Custom- built	FBS Radio Net- work
	Mandaluyong DWAD	1080	10	Custom- built	Crusaders Broadcasting System ABN
Sub-Region IV-B Aurora (Sub- Province)	a	a	a	a	a
	Batangas Batangas DZBT	870	1	Recho Tam	Luzonian Colleges
	DZYQ	1290	1	Custom- built	Catholic Welfare Organiza- tion

<u>Region</u>	<u>Call- sign</u>	<u>Frequency (khz.)</u>	<u>Power (kw)</u>	<u>Equip- ment</u>	<u>Operating Agency</u>
Lipa					
City	DWRL	730	1	Custom- built	Associated Com- munication
	DWRB	1470	1	Custom- built	Ribbon Broad- casting
Cavite	a.	a	a	a	a
Laguna					
San Pablo					
City	DZSP	810	1	Custom- built	Nation Broad- casting Corporation
	DWAY	1320	1	De Bc lk	Guaranteed Broadcasting
	DWKS	880	1	Custom- built	Conamor Broad- casting
Los Banos					
	DZLB	1210	1		U.P. Los Banos
Marindu- que	a	a	a	a	a
Occidental Mindoro					
San Jose					
	DZYM	1530	1	Custom- built	Trans-Radio Broadcasting
Oriental Mindoro					
Calapan					
	DZOM	1440	1	BC 610 mod.	ORMARCO (Ben Viduya)
Palawan					
Puerto Princesa					
	DYPR	770	1	Custom- built	Palawan Broad- casting

<u>Region</u>	<u>Call-sign</u>	<u>Frequency (khz)</u>	<u>Power (kw)</u>	<u>Equip- ment</u>	<u>Operating Agency</u>
Quezon					
Lucena City					
	DWCW	1020	1	BC 11-K	Banahaw Broad- casting Corporation
	DZEL	1150	5	Gates	Eagle Broad- casting Corporation
	DZLT	1240	5	Recho Tam	Luzonian Colleges
Infanta					
	DZJO	770	2.5	RCA FRT 15A	Bayanihan Broadcasting Corporation
Romblon	a	a	a	a	a
V. Bicol					
Albay					
Legaspi City					
	DWGW	690	1	BEC BK-1	Banahaw Broad- casting Corporation
	DZGB	720	1	UNELMANCO	People's Broad- casting Net- work
	DWZR	820	1	Custom- built	Hypersonic Broadcasting Network
	DZRC	890	5	Custom- built	Filipinas Broadcasting Network
	DWAS	1390	1		Far East Broad- casting Corporation

<u>Region</u>	<u>Call-sign</u>	<u>Frequency</u> (khz)	<u>Power</u> (kw)	<u>Equip-ment</u>	<u>Operating Agency</u>
	DZRA	1360	1		Catanduanes State Colleges
Camarines Norte Daet	DZMD	1220	1	Custom-built	People's Broadcasting Network
	DZVX	1270	5	Custom-built	Northern Broadcasting Corporation Daet
Camarines Sur Naga City	DZDR	1040	5	Custom-built	Northern Broadcasting Corporation
	DZHN	1080	5	Custom-built	Radio Mindano Network
	DWNW	750	5		Banahaw Broadcasting Corporation
Iriga City	DZKI	1330	1	NFC	Radio Philippines Network
Canaman	DZGE	850	5	Custom-built	Filipinas Broadcasting Corporation
Catanduanes a Masbate	DYME	810	1	RMCA FRT	Masbate Enterprises

<u>Region</u>	<u>Call- sign</u>	<u>Frequency (khz)</u>	<u>Power (kw)</u>	<u>Equip- ment</u>	<u>Operating Agency</u>
	Sorsogon DWFA	800		Custom- built	Hypersonic Broadcasting
	DZMS	1250	1	Custom- built	People's Broad- casting Net- work
VI. Western Visayas					
Aklan					
Kalibo	DYKR	1480	1	Custom- built	Ruta Broad- casting
Antique					
San Jose	DYKA	820	1	Westing- house	Catholic Wel- fare Organ- ization
	DYFJ	1340	1	Custom- built	Ruta Broad- casting
Capiz					
Roxas City	DYRO	1010	1	Recho Tam	Allied Broad- casting Corporation
	DYVR	1360	2.5	Collins	Eric Frial
Guimaras (Sub- Province)a		a	a	a	a
Iloilo					
Iloilo City	DYCI	550	1		Bureau of Broadcast
	DYFM	800	5	Custom- built	Northern Broad- casting Company

<u>Region</u>	<u>Call-sign</u>	<u>Frequency (khz)</u>	<u>Power (kw)</u>	<u>Equip-ment</u>	<u>Operating Agency</u>
	DYRP	990	5	Collins	Allied Broad-casting Center
	DYSA	1050	1	Custom-built	University of San Agustin
	DYRI	1280	5	Custom-built	Ruta Broad-casting
	DY00	1440	1	Gates	GMA Radio/TV ARTS (PBS)
Negros Occidental					
Bacolod City					
	DYHB	720	1	Custom-built	Radio Mindanao Network
	DYBQ	870	5		Banahaw Broad-casting Corporation
	DYRH	1200	5	Collins	Allied Broad-casting Center
	DYVS	1250	1		Far East Broad-casting Company
	DYKB	1390	5	NEC MB	Radio Philip-pines Net-work
	DYWB	1500	5	Custom-built	Northern Broad-casting Company
	DYRL	1360	5		Sampaguita Broadcasting
San Carlos City					
	DYRS	1420	1	Custom-built	Vicente Ragde and Sons

<u>Region</u>	<u>Call- sign</u>	<u>Frequency (khz.)</u>	<u>Power (kw.)</u>	<u>Equip- ment</u>	<u>Operating Agency</u>
	Cadiz DYRG	630	5	Collins	Cadiz Radio/TV Network
	La Carlota DYEZ	690	5	Custom- built	Manila Broad- casting Company
	Binalbagan DYKW	910	1	Custom- built	Radio Philip- pines Net- work
VII. Central Visayas					
	Bohol Tagbilaran City DYXT	1030	1	Custom- built	Universal Broadcasting
	DYTR	1090	1	Custom- built	Doroteo Toledo
	DYRD	1150	1	Astron- ics	Bohol Chronicle
	Cebu Cebu City DYDY	570	1		Banahaw Broad- casting Corporation
	DYNC	760	5	Custom- built	Nation Broad- casting Corporation
	DYLV	1450	1	NAB LAB BCIK	Northern Broad- casting Company
	DYMR	1410	1		Bureau of Broadcast
	Mambaling DYHP	600	5	Westing- house	Radio Mindanao Network

<u>Region</u>	<u>Call-sign</u>	<u>Frequency (khz)</u>	<u>Power (kw)</u>	<u>Equip-ment</u>	<u>Operating Agency</u>
	DYRB	540	5	Custom-built	Allied Broadcasting Corporation
	DYRC	900	5		Cebu Broadcasting Company
	DYRF	1180	5	Custom-built	Catholic Welfare Organization
	DYLA	1550	10	RCA BTA	Viz-Min Conf. Trade Union
Mandaue City	DYRE	820	5		Eastern Broadcasting Corporation
	DYUL	1240	5	Custom-built	Audience, Incorporated
	DYKC	1260	5	NEC	Radio Philippines Network
Negros Oriental					
Dumaguete City	DYSR	840	10	10 BC-3	Media Monitor
	DYRM	1120	1	Recho Tam	Allied Broadcasting Center
Siquijor (Sub-Province)	a	a	a	a	a

<u>Region</u>	<u>Call-sign</u>	<u>Frequency (khz)</u>	<u>Power (kw)</u>	<u>Equip-ment</u>	<u>Operating Agency</u>
VIII. Eastern Visayas					
Biliran (Sub-Province)					
a		a	a		a
Leyte					
Tacloban City		730	1	Recho Tam	East Visayan Broadcasting
DYBR					
Ormoc City		770	1	Astron-ics	Ormoc Broad-casting
DYRR					
Palo		790	1	Custom-built	Manila Broad-casting Company
DYVL					
Southern Leyte		a	a		a
a					
Eastern Samar					
Borongan		650	1	Custom-built	Eastern Broad-casting System
DYFL					
Northern Samar		a	a		a
a					
Western Samar					
Catbalogan City		860	1		Recta Broad-casting
DYOG					
DYRV		1220	1	Custom-built	R.C.P.I.
DYHR		1110	1		Hypersonic Broadcasting Company
DYMS		1040	1	Custom-built	Manila Broad-casting Company

<u>Region</u>	<u>Call-sign</u>	<u>Frequency (khz.)</u>	<u>Power (kw)</u>	<u>Equip-ment</u>	<u>Operating Agency</u>
IX. Western Mindanao					
Sub-Region IX-A					
Basilan					
	DXBI	560	2.5	Custom-built	Catholic Welfare Organization
	DXBS	820	1	Custom-built	Basilan Broadcasting
Sulu					
	Jolo DXSM	1220	1		Bureau of Broadcast
	DXAS	1430	1	Custom-built	Far East Broadcasting Corporation
Tawi-Tawi					
	a	a	a	a	a
Sub-Region IX-B					
Zamboanga del Norte					
	DXKD	1060	1	NEC	Radio Philippines Network
Zamboanga del Sur					
Zamboanga City					
	DXRZ	950	5	Custom-built	University of Mindanao Broadcasting Network
	DXYZ	980	5	Custom-built	Nation Broadcasting Corporation
	DXXX	1010	5		Radio Philippines Network

<u>Region</u>	<u>Call-sign</u>	<u>Frequency (khz)</u>	<u>Power (kw)</u>	<u>Equip-ment</u>	<u>Operating Agency</u>
	DXLL	1050	5	Collins	Lopez and Sons Broadcasting
	Pagadian City DXKP	1370	1	NEC	Radio Philip- pines Net- work
X. Northern Mindanao					
Agusan del Norte					
Butuan City					
	DXBC	630	5	Recho Tam	Pacific Broad- casting
	DXJM	680	1	Astron- ics	Radio Mindanao Network
	DXRB	830	1	Custom- built	Nation Broad- casting Corporation
	DXCB	1230	1	Custom- built	Marrakesh Broadcasting
Agusan del Sur					
	a	a	a	a	a
Bukidnon Malaybalay					
	DXBB	530	2.5	RMCA FRT 15	Catholic Wel- fare Organ- ization
	DXMB	610	1	Custom- built	Ruta Broad- casting
Valencia					
	DXCR	1330	5	Custom- built	Mountain View College
Camiguin					
	a	a	a	a	a
Misamis Occidental					
Ozamiz City					
	DXDD	550	5	Custom- built	Catholic Wel- fare Organ- ization

<u>Region</u>	<u>Call-sign</u>	<u>Frequency (khz)</u>	<u>Power (kw)</u>	<u>Equip-ment</u>	<u>Operating Agency</u>
	DXSY	1220	5	Custom-built	Times Broadcasting Corporation
	DXOC	1490	1	Custom-built	Filipinas Broadcasting Network
Misamis Oriental					
Cagayan de Oro City					
	DXOR	650	1	STD TEL	Pedro N. Roa Broadcasting
	DXCC	780	10	Custom-built	Radio Mindanao Network
	DXMO	950	5	Custom-built	University of Mindanao Broadcasting Network
	DXKO	1290	1	NEC	Radio Philippines Network
	DXCT	700	1	Gates	Banahaw Broadcasting Corporation
Surigao del Norte					
Surigao					
	DXKS	1060	1	NEC	Radio Philippines Network
	DXRS	1200	1	Custom-built	Radio Mindanao Network

<u>Region</u>	<u>Call- sign</u>	<u>Frequency (khz)</u>	<u>Power (kw)</u>	<u>Equip- ment</u>	<u>Operating Agency</u>
XI. Southern Mindanao Surigao del Sur Bislig	DXBL	800	1	Custom- built	Nation Broad- casting Corporation
	DZHP	1000	1	Custom- built	Radio Mindanao Network
Davao del Norte	DXRE	860	1		Nation Broad- casting Corporation
	DXKT	1070	1	NEC	Radio Philip- pines Net- work
Tagum	DXCD	560	5	Gates	Catholic Wel- fare Organ- ization
Davao Oriental a		a	a	a	a
Davao del Sur	DXHU	1410	5		International Harvardian
Davao City	DXDC	590	5	Custom- built	Radio Mindanao Network
	DXRA	710	10	Custom- built	Rizal Memorial Colleges
	DXRD	670	1	Custom- built	Nation Broad- casting Corporation

<u>Region</u>	<u>Call-sign</u>	<u>Frequency (khz)</u>	<u>Power (kw)</u>	<u>Equip-ment</u>	<u>Operating Agency</u>
	DXMC	740	5	REL-BT-5	University of Mindanao Broadcasting Network
	DXUM	900	1	Custom-built	Mt. Apo Science Foundation
	DXER	930	10		Eastern Broadcasting
	DXGE	980	5	Custom-built	Erna Cruz
	DXUL	1100	1	Custom-built	Audience, Incorporated
	DXRP	1350	5		Bureau of Broadcast
Matina	DXSS	830	2.5	Gates	Southern Broadcasting
Digas	DXML	1040	1	Custom-built	Rural Electrification Corporation
	DXDS	1160	1	Custom-built	University of Mindanao Broadcasting Network
Bo. Dumoy	DXFE	1200	5	Custom-built	Far East Broadcasting Company

<u>Region</u>	<u>Call- sign</u>	<u>Frequency (khz)</u>	<u>Power (kw)</u>	<u>Equip- ment</u>	<u>Operating Agency</u>
South Cotabato	DXWW	640	1		Banahaw Broad- casting Corporation
General Santos City	DXDX	690	1	Astron- ics	Radio Philip- pines Network
	DXGS	750	1	Custom- built	Filipinas Broadcasting
	DXMZ	770	1	Custom- built	University of Mindanao Broadcasting Network
	DXCP	990	2	Custom- built	Catholic Welfare Organization
XII. Central Mindanao					
Lanao del Norte					
Iligan City	DXIC	720	1	Recio Tam	Radio Mindanao Network
	DXRI	750	1	Custom- built	Nation Broad- casting Corporation
	DXMI	810	1	Custom- built	University of Mindanao Broadcasting Network
Lanao del Sur					
Marawi City	DXSO	1190	1		Bureau of Broadcast
Maguindanao					
Cotabato City	DXND	730	1		Notre Dame Broadcasting

<u>Region</u>	<u>Call-sign</u>	<u>Frequency (khz)</u>	<u>Power (kw)</u>	<u>Equip-ment</u>	<u>Operating Agency</u>
	DXMS	880	10	Gates	Notre Dame Broadcasting
	DXRO	940	5	Custom-built	Nation Broadcasting Corporation
	DXMV	1170	1		University of Mindanao Broadcasting Network
North Cotabato					
Cotabato					
	DXCM	1090	5	Recho Tam	University of Mindanao Broadcasting Network
Marbel					
	DXKI	1060	5	Custom-built	Far East Broadcasting Company
Sultan Kudarat					
	a	a	a	a	a

^aNo radio station

Source: Telecommunication Control Bureau, as cited in Philippine Yearbook 1977.

Telephone System

Telecommunications systems were generally inadequate in mid-1970's; service was concentrated in urban and commercial centers. The Philippine Long Distance Telephone Co. is largest of private telephone companies with network of 48 exchanges. It is principal supplier of long-distance telephone service with nationwide microwave network interconnecting 87 exchanges operated by other private companies and 12 exchanges maintained by government agencies. As of

December 1975, the company had 404,272 telephones in service. The Government Telephone system (GTS) operated 13 automatic exchanges in Metro Manila Area, maintaining 10,840 telephones. Trans-Pacific cable system and a permanent satellite earth station provide overseas communication.

Television

There are 5 major television networks. 501,400 TV sets were in use in 1975.

GMA Radio Television Arts: E. de los Santos Ave., Diliman, Quezon City.

GTV - 4: Broadcast Plaza, Bohol Ave., Quezon City; jointly operated by the Bureau of Broadcasts and the National Media Production Center.

Intercontinental Broadcasting Corporation: Broadcast City, Capitol Hills, Diliman, Quezon City; 12 stations.

Kanlaon Broadcasting System, Inc.: Broadcast City, Capitol Hills, Diliman, Quezon City.

Commercial Television Stations in Operation: As of October 31, 1975

<u>Location/Channel</u>	<u>Call-sign</u>	<u>Frequency (MHZ)</u>	<u>Power (KW)</u>	<u>Operating Agency</u>	<u>Equipment</u>
Quezon City Panay Avenue	DZKB-TV	187.25	25.0	Radio Philip- pines Network	Toshiba SS 42060
Channel 9		191.75	6.25		
Diliman	DZBB-TV	175.25	5.0	Republic Broad- casting Serv- ice	Gates BT 5
Channel 7		179.75	2.5		
San Francisco del Monte	DZTV-TV	211.25	25.0	Inter-Island Broadcasting Corporation	GE Model 17
Channel 13		215.75	6.25		

<u>Location/Channel</u>	<u>Call-sign</u>	<u>Frequency (MHZ)</u>	<u>Power (KW)</u>	<u>Operating Agency</u>	<u>Equipment</u>
Bohol Avenue	DWWX-TV	55.25	25.0	Banahaw Broadcasting Corporation	RCA CHOA 1
Channel 2		59.75	5.0		BC 50841A
Bohol Avenue	DWGT-TV	67.25	25.0	National Media Production Center	RCA TT-10A1
Channel 4		71.75	1.0		BC 50841A
Baguio City Mt. Sto. Thomas	DZBC-TV	61.25	0.500	Banahaw Broadcasting Corporation	STD-ELEC
Channel 3		65.75	0.125		Type 11652
Otek Street	DWHB-TV	83.25	0.500	Inter-Island Broadcasting Corporation	Recho TTV 5
Channel 6		87.75	0.125		
Harrison Road	BZBS-TV	205.25	5.0	Radio Philippines Network	
Channel 12		209.75	1.25		
Batangas Mt. Banoy	DZQL-TV	61.25	0.500	Banahaw Broadcasting Corporation	Custombuilt
Channel 3		65.75	0.125		
Camarines Sur Iriga City	DWKI-TV	193.85	5.0	Radio Philippines Network	Toshiba TTV
Channel 10		197.75	1.25		
Naga City	DZHN-TV	205.25	0.500	Inter-island Broadcasting Corporation	Dynair RX
Channel 13		209.75	0.125		600 H

<u>Location/Channel</u>	<u>Call-sign</u>	<u>Frequency (MHZ)</u>	<u>Power (KW)</u>	<u>Operating Agency</u>	<u>Equipment</u>
Negros Occidental Bacolod City	DYXL-TV	61.25	2.0	Banahaw Broad- casting Corporation	REF BT 2K
Channel 4		71.75	0.500		
Bacolod City	DYKB-TV	181.25	5.0	Radio Philip- pines Network	Toshiba TV
Channel 8		185.25	1.25		
Murcia	DYHB	55.25	25.0	Inter-Island Broadcasting Corporation	DUMONT 9000
Channel 2		59.75	5.0		
Murcia	DYAF-TV	193.25	5.0	Catholic Wel- fare Organiza- tion	RCA TT 5A
Channel 10		185.25	1.25		
Cebu City	DYCB-TV	61.25	2.0	Banahaw Broad- casting Corpora- tion	RCA TT 2AL
Channel 3		65.75	1.0		
	DYSS-TV	175.25	0.100	Republic Broad- casting Corpora- tion	Gates BT 100
Channel 7		179.75	0.050		
	DYKC-TV	187.25	5.0	Radio Philip- pines Network	Toshiba TV
Channel 9		191.75	1.25		
	DYTV-TV	211.25	12.5	Inter-Island Broadcasting Corporation	RCA TT 12EH
Channel 13		211.25	3.125		
Cagayan de Oro City	DXCC-TV	193.25	0.500	Radio Mindanao Network	Recho TTV 5
Channel 10		197.75	0.250		
Davao City	DXTV-TV	211.25	5.0	Inter-Island Broadcasting Corporation	DUMONT 800
Channel 13		215.75	1.25		

<u>Location/Channel</u>	<u>Call-sign</u>	<u>Frequency (MHZ)</u>	<u>Power (KW)</u>	<u>Operating Agency</u>	<u>Equipment</u>
Matina	DXAW-TV	67.25	10.0	Banahaw Broad-casting Corporation	RCA
Channel 4			2.5		
Zamboanga City	DXLL-TV	61.25	0.500	Zamboanga TV Corporation	VIDEONICS Package TV
Channel 3		65.75	0.050		

Source: Telecommunications Control Bureau, as cited in Philippine Yearbook 1977.

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