

NO. 28

マイクロ  
フロッピー作成

REPUBLIC OF THE PHILIPPINES  
THE HOSPITAL DEVELOPMENT PROJECT  
FEASIBILITY STUDY REPORT

VOLUME 2

FEBRUARY 1980

JAPAN INTERNATIONAL COOPERATION AGENCY

社会開発協力部報告書

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## **CHAPTER II**

### **PRESENT CONDITION OF REGION I & II**

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受入 月日 84.05.15	118
登録No. 04582	98
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## II-1 WEATHER, TOPOGRAPHY AND POPULATION

### 1. Outline for Regions I and II

There are some 7,107 islands of varying sizes and dimensions in the Philippines. Among them the largest are Luzon and Mindanao, with respective land areas of 105,000 km<sup>2</sup> and 95,000 km<sup>2</sup>, which occupy two thirds of the total national land area. Regions I and II, which are situated in northern Luzon between 16 and 19° north latitude have a combined area of 57,971 km<sup>2</sup> (Region I: 21,568 km<sup>2</sup>; Region II: 36,403 km<sup>2</sup>), or approximately 19.3% of the national land area.

With a combined population of 5,202,000 (Region I: 3,269,000; Region II: 1,933,000), the area's population occupies 12.4% of the national total.

The western side of these two regions is bordered by the South China Sea, with plainland running alongside the coastline. On the eastern side, the Sierra Madre mountain range runs alongside the Philippine sea; while in the center, the two regions are divided by the Cordillera Central, which stretches in a north-south direction.

The Cagayan river flows northward between this central mountainous zone and the eastern sea coast mountainous zone, that is central part of Region II, which is composed of a vast plainland. The plainland on these regions' western seacoast is separated from the central plainland by the Cordillera Central; at present, intercourse between the two is not especially convenient. Besides these areas, there is the Batanes province comprising 10 islands strung out northward across the Balintang Channel, extending 162 kilometers from the main island of Luzon. The northern-most of these islands is about 220 km from Taiwan.

Region I comprises 7 provinces: Abra, Benguet, Ilocos Norte, Ilocos Sur, La Union, Mt. Province and Pangasinan and 4 cities Baguio, Dagupan, Laoag and San Carlos. Region II is composed of the 7 provinces of Batanes, Cagayan, Ifugao, Isabela, Kalinga-Apayao, Nueva Viscaya and Quirino.

### 2. Main Industries

The main industry in both regions is agriculture, with rice and tobacco as the leading crops. On the western coast, there is an off-shore fishing industry, a fish processing plant near Pangasinan, and such-forth. In the mountainous part of the

eastern coast, there is a forestry industry with the attendant lumber industries. Moreover, as of recent, work such as afforestation in the mountainous area, irrigation in the central plain and pisciculture in the coastal area aimed at increasing the efficiency and output of the primary industries is being constructively carried on.

### 3. Weather

The weather in the Philippines is tropical, that is hot, humid with abundant rainfall. The effect of the seasonal and trade winds from the Asian continent causes the weather to be roughly divided into a rainy and a dry season, however, depending on the location, there is great variation in the seasons.

- Regions with clearly differentiated rainy and dry seasons ----- The islands of Luzon, Mindoro, Palawan, Panay and the western side of Negros. Rainy season: June -- November. Dry season: December -- May
- Regions with no dry season ----- The areas bordering the Pacific ocean from the southern part of Luzon to Mindoro. The period of heaviest rainfall begins around November and continues through February. Even on other months there is approximately 200 mm of rainfall.
- Areas with a short dry season ----- Luzon's Cagayan plain and central mountainous areas, the western part of Quezon, Masbate, Romblon, the northeastern part of Panay, east Negros, the island of Cebu, Palawan and the northern part of Mindoro. The dry season lasts from January to April with the rest of the year being the rainy season.

According to the above-given classification, Region I falls in the area with clearly differentiated seasons, Region II's central mountainous area and Cagayan plain in that with a short dry season and the eastern mountainous area and Batanes in that with no dry season.

#### (1) Temperature

The average yearly temperature is 27° centigrade. There is little variation in temperature, with the average for January, the coldest month being 25° and the average for May, the hottest month 28°.

(2) Humidity

The humidity is generally high with even the average for the month with the lowest humidity, March, being 71%. In the high humidity months of August and September the average humidity reaches 85%. The weather from March through May is particularly unpleasant with the combination of high temperature and humidity.

(3) Precipitation

As the rainy and dry seasons vary by area, the rainfall also varies from a yearly average of 900 mm to 4,000 mm. The area's with the heaviest precipitation are Baguio City and the eastern portions of Samar and Surigao and the area with the sparsest precipitation is the southern part of Cotabato.

(4) Region I's Meteorological Conditions

The meteorological conditions in Dagupan and Vigan are quite similar, as may be seen on the attached meteorological charts. The figures show that the temperature is highest in April and May and lowest in January. The humidity is highest in August and September, with the precipitation peaking in August, showing a pyramidal curve.

Laoag doesn't differ from the previously mentioned meteorological pattern in that its minimum temperatures are in January and maximum temperatures in May, but it does have the idiosyncrasy of experiencing a comparatively large variation in the temperature which ranges from 15 to 20° centigrade. Accordingly, the humidity also varies from the norm by dropping below 50% from December through February. An average monthly precipitation from June through September of 400 mm is recorded.

Baguio, with an average temperature of 18~20° centigrade enjoys the coolest weather in the Philippines. However, the volume of precipitation here in July, August and September is larger than that experienced by the other areas. With the average monthly rainfall in July and August reaching 900~1,000 mm, precipitation-caused calamities are not infrequent.

(5) Region II's Meteorological Conditions

There is data in Region II from Tuguegarao Aparri and Basco but as Tuguegarao and Aparri are geographically proximate their meteorological trends are virtually identical. Nevertheless,

as Tuguegarao is inland the variation between the maximum and minimum temperatures is slightly larger and the precipitation less. Region II differs from Region I in that the heaviest precipitation is recorded in October and November.

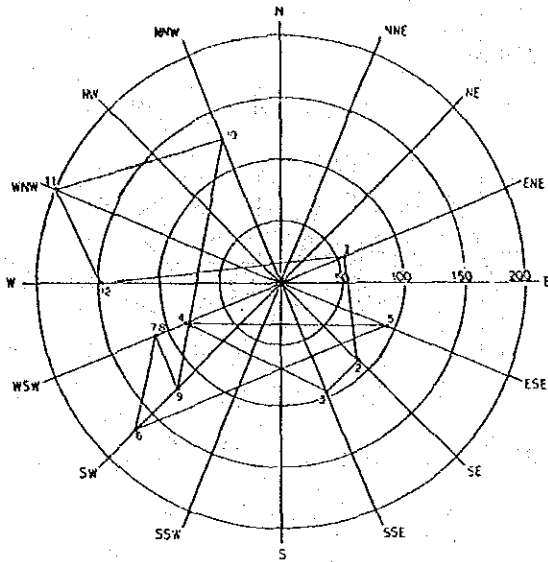
The temperature in the Batanes province is high from May through September, low in December and January and tends to resemble Aparri, but the precipitation averages 100 mm even in the driest month, April, and the annual rainfall tops 3,000 mm. There is no data for the provinces of Nueva Vizcaya and Ifugao, but the temperature appears to be a bit lower and the precipitation heavier.

Top wind velocity and wind direction is given below for each of the 7 above-mentioned areas and the Manila province for which data was available.

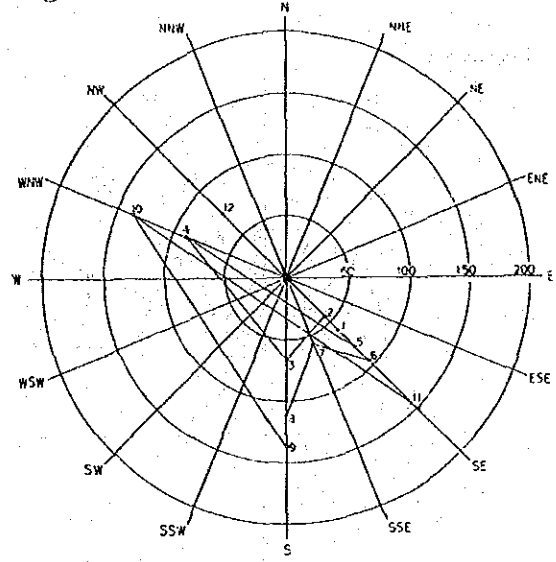
	Max. Wind Velocity (Kph)	Wind Direction	Month/s
Dagupan	104	WSW/NE	Oct./Nov.
Baguio	145	WNW	Nov.
Vigan	159	SSW	Sept.
Laoag	145	N	July, August, Dec.
Tuguegarao	178	WNW	Oct.
Aparri	209	NNE	Oct.
Basco	222	NE	July
Manila	200	WNW	Nov.

In the Project area, Basco's 222 Kph when converted to meters per second yields the figure of 62 m/sec. In this province various architectural strategies to cope with the strong wind, such as building thick walls on buildings and strengthening windows with wooden crosspieces may be observed. Besides Basco, Aparri's 209 Kph and Tuguegarao's 178 Kph are worthy of notice.

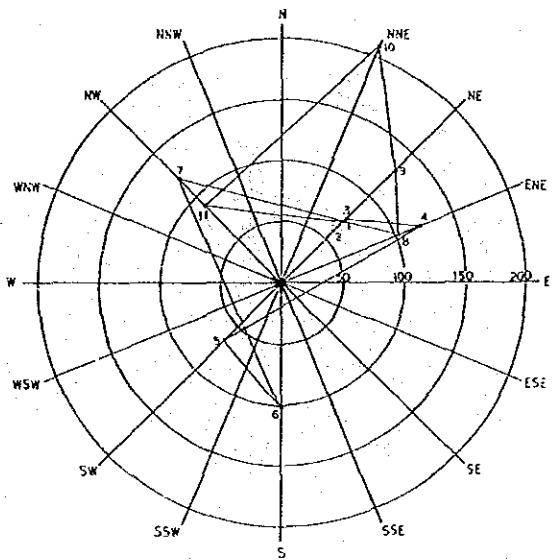
Manila



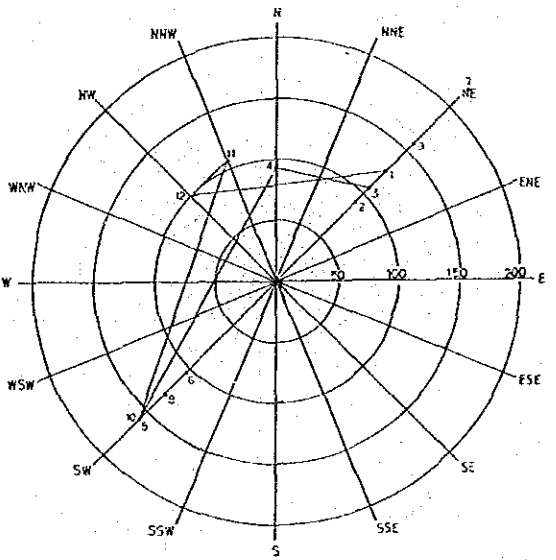
Baguio



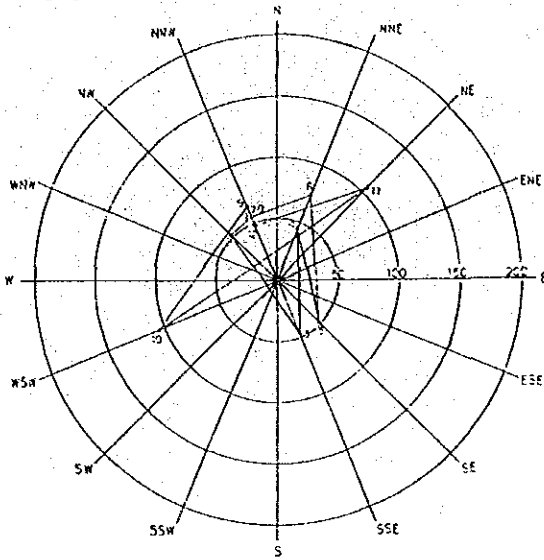
Aparri



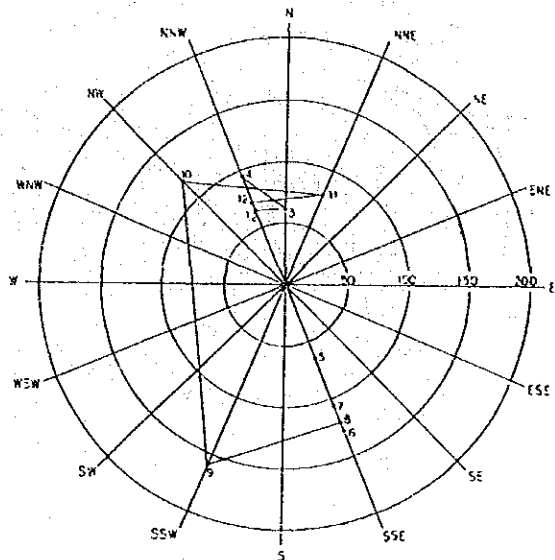
Basco



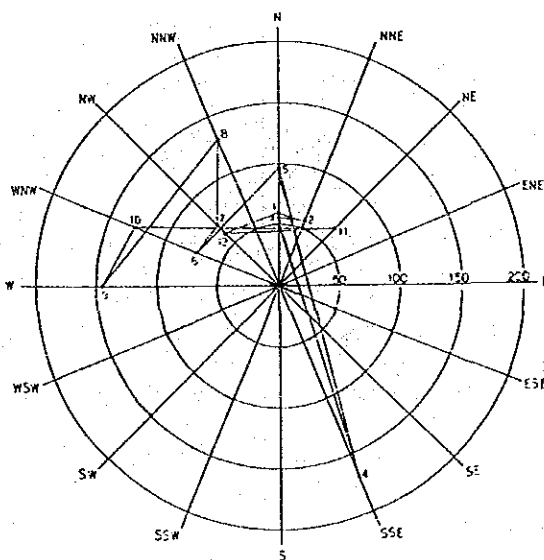
Dagupan



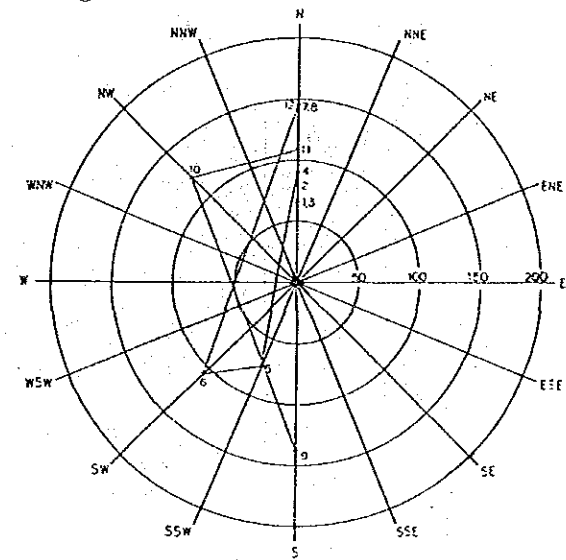
Vigan



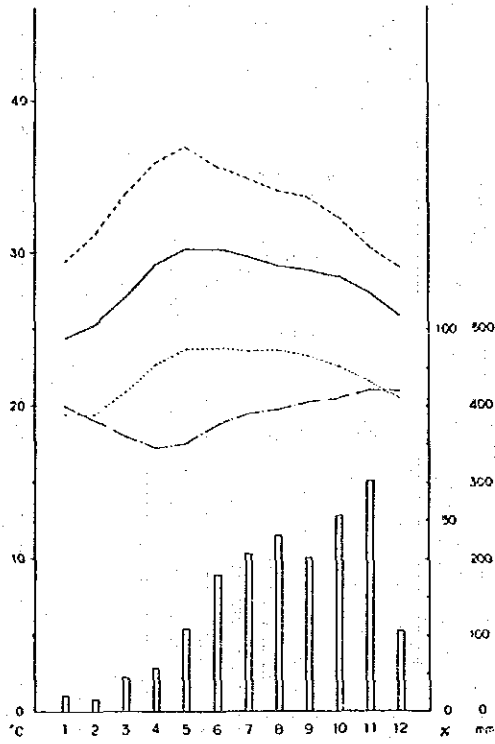
Tuguegarao



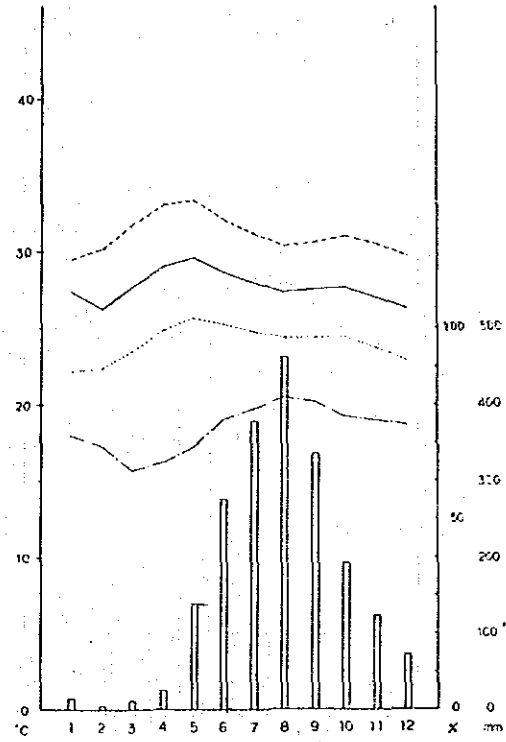
Laoag



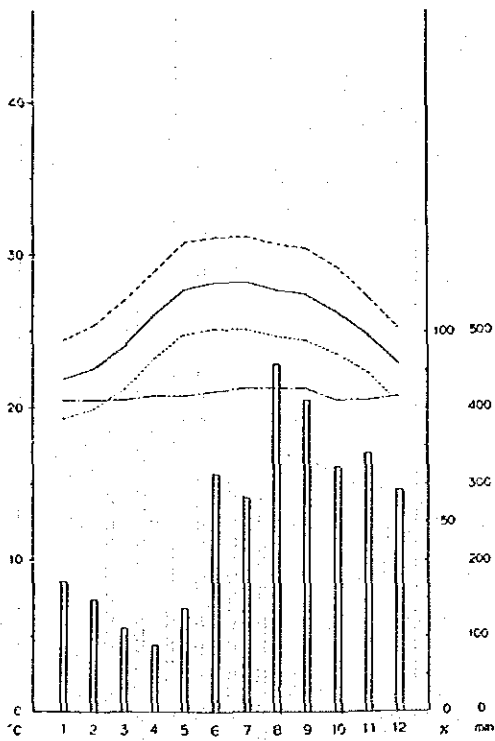
Tuguegarao



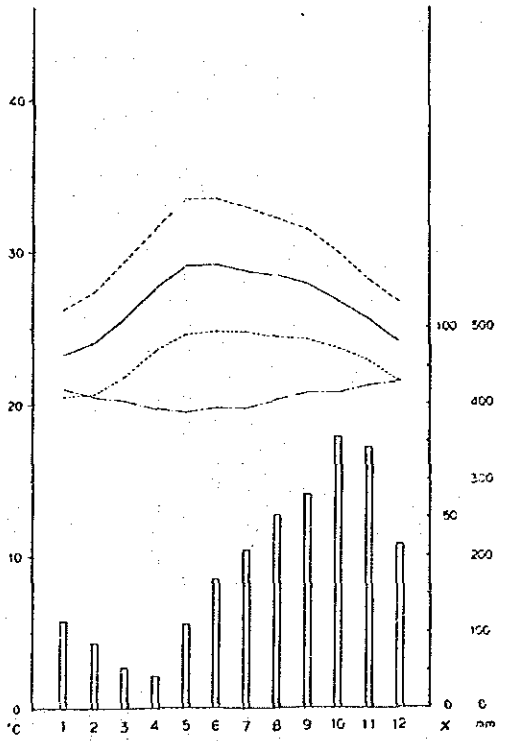
Manila



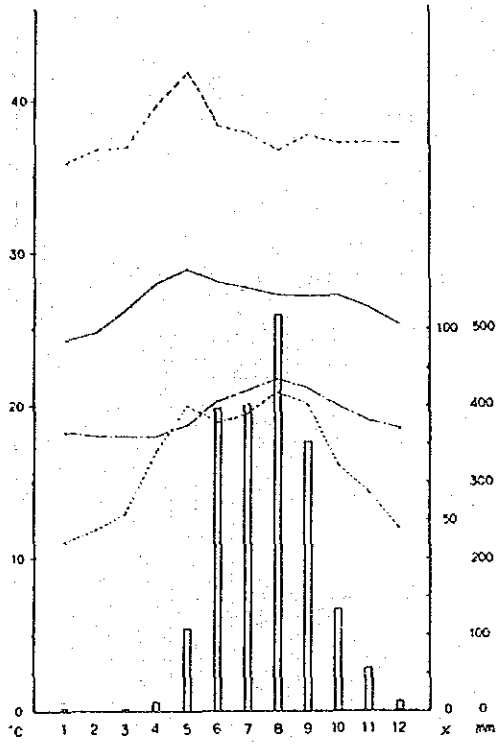
Basco



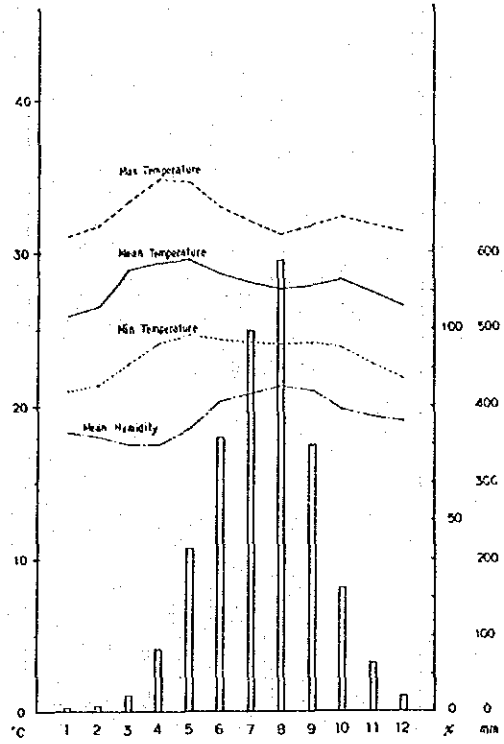
Aparri



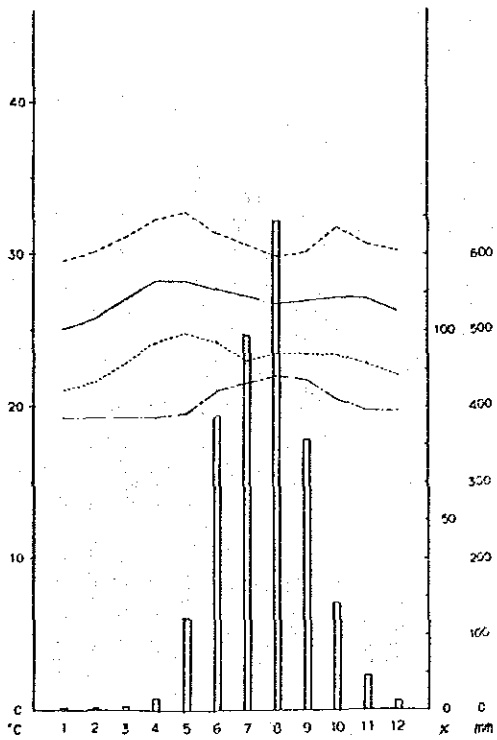
Laoag



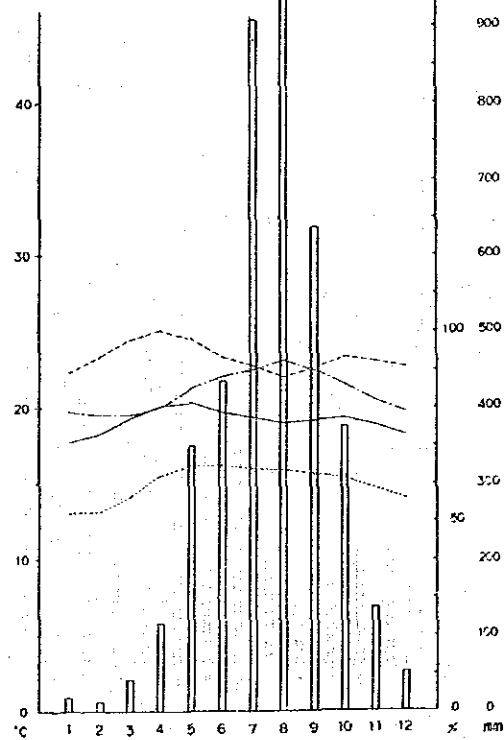
Dagupan



Vigan

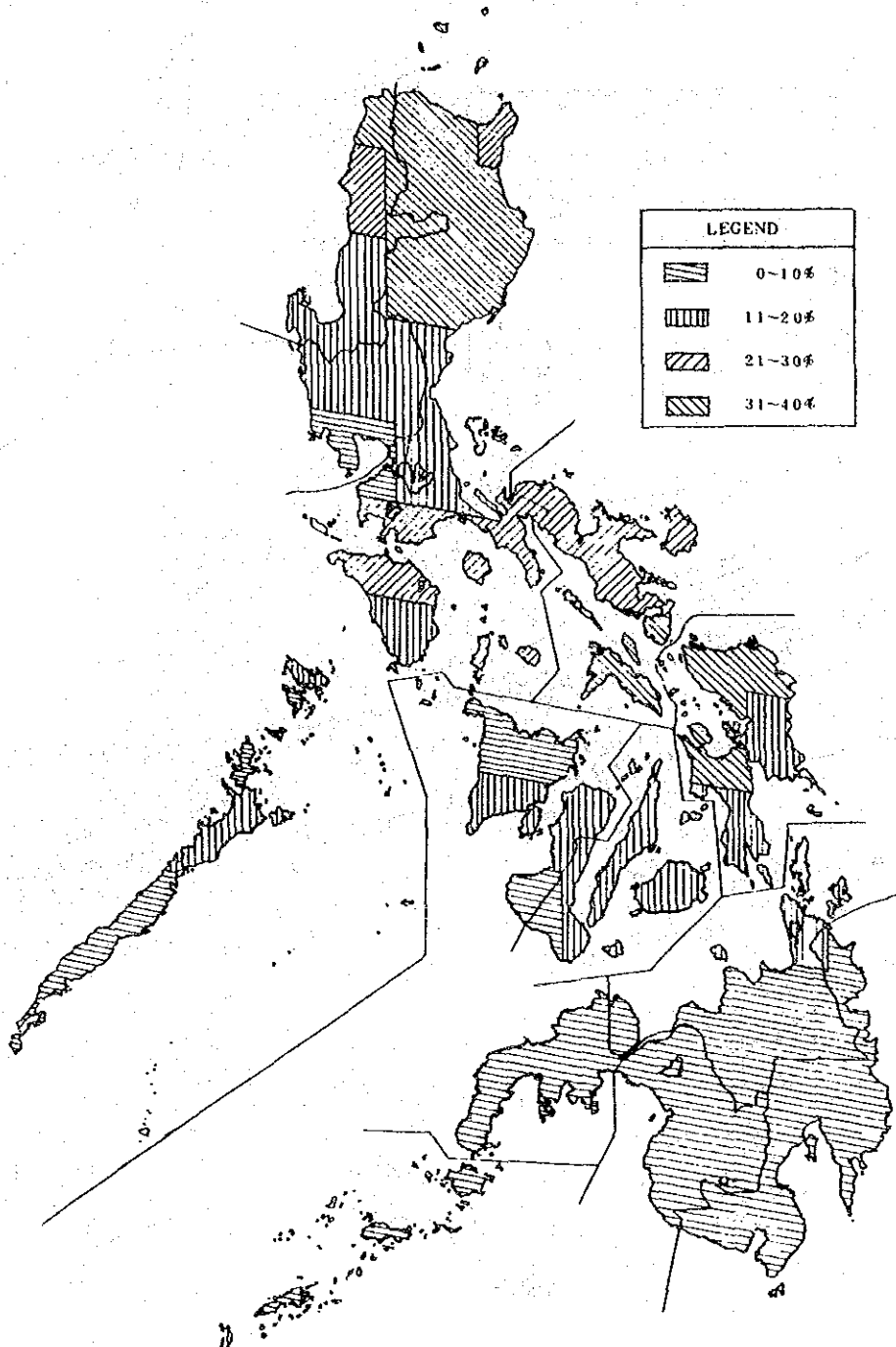


Baguio



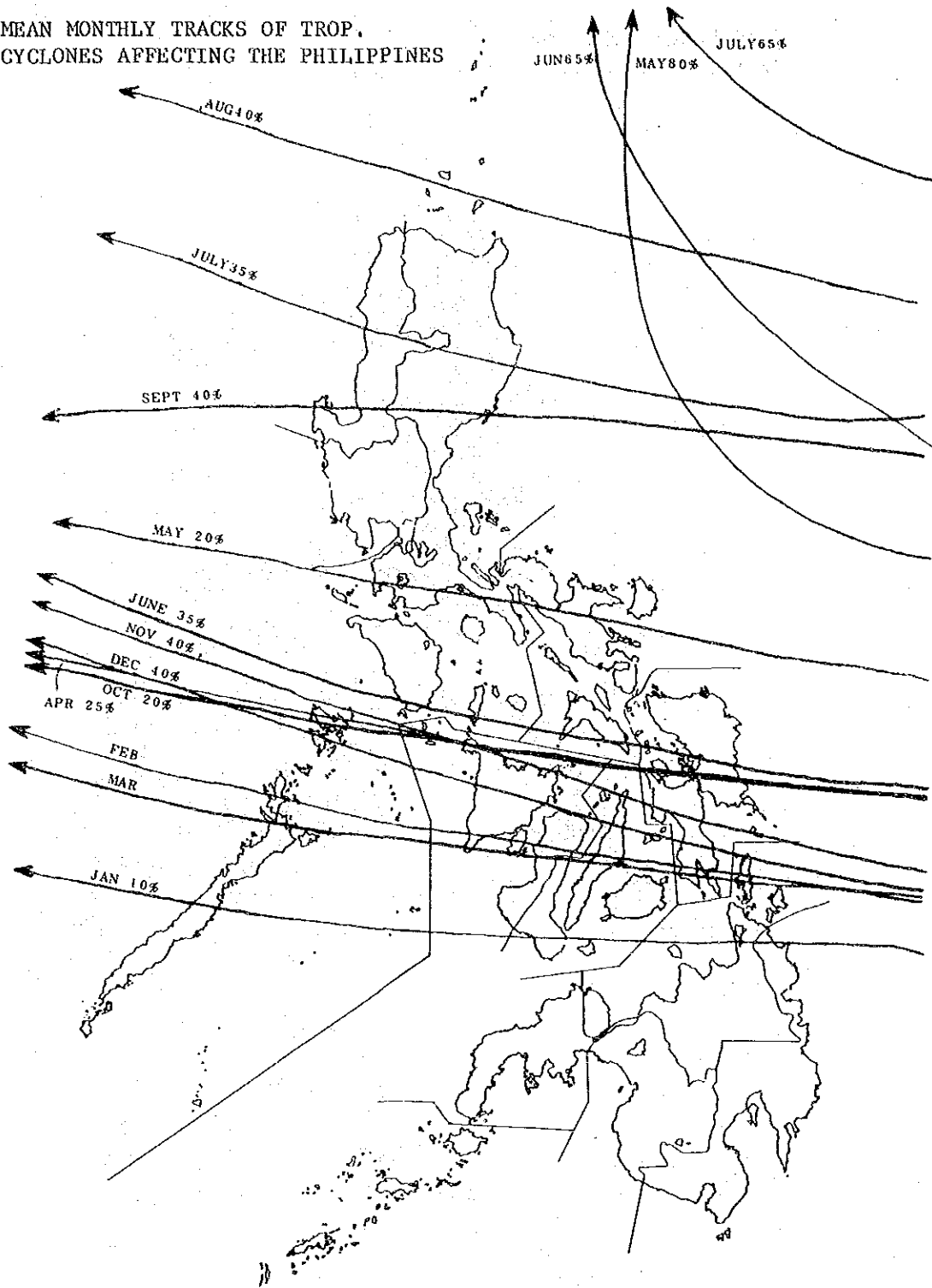


MEAN PERCENTAGE FREQUENCY  
OF TROPICAL CYCLONE PASSAGE

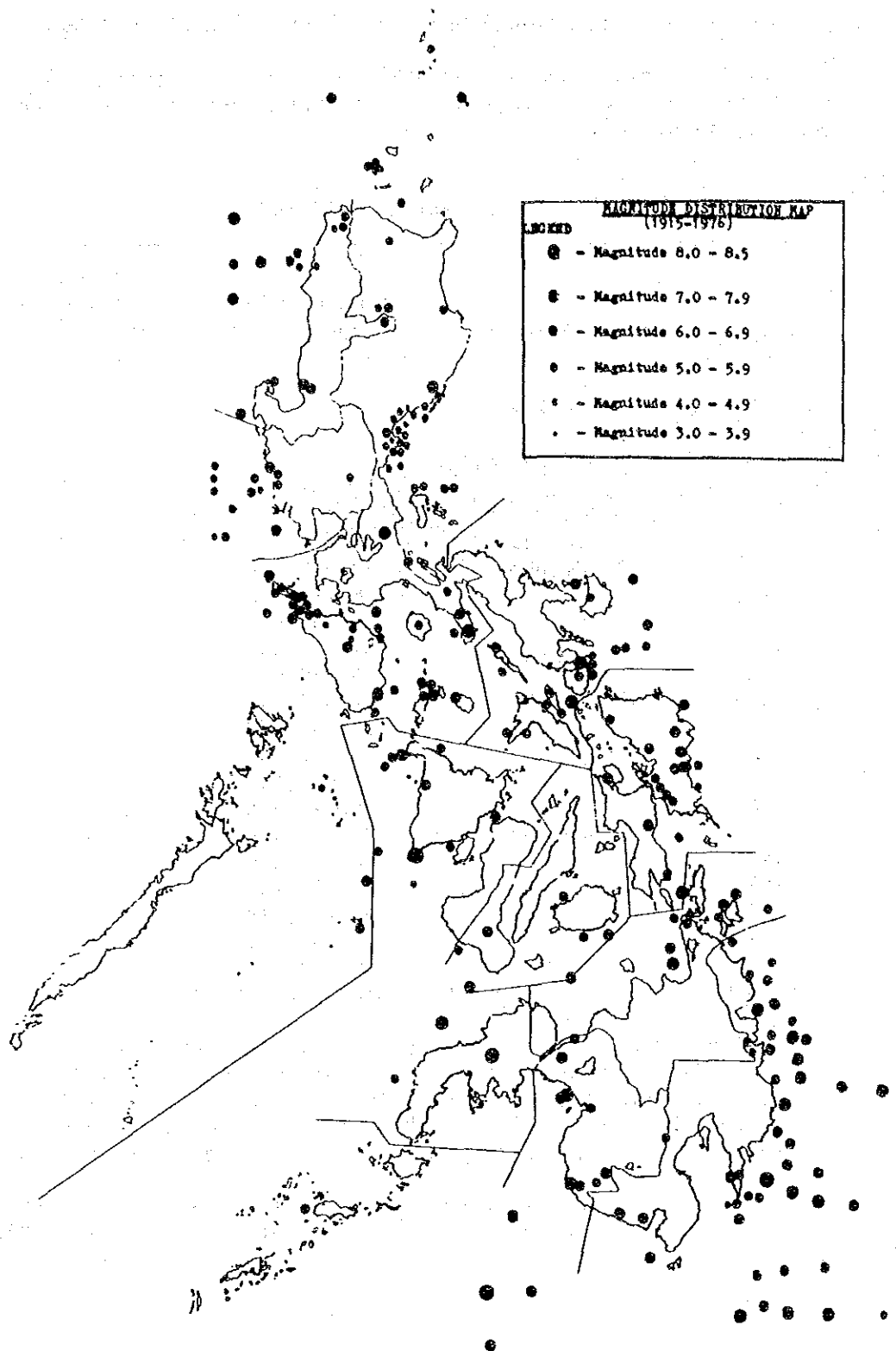


~WEATHER BUREAU CLIMATOLOGICAL DIVISION~

MEAN MONTHLY TRACKS OF TROP.  
CYCLONES AFFECTING THE PHILIPPINES



-WEATHER BUREAU CLIMATOLOGICAL DIVISION-



~NATIONAL GEOPHYCAL AND ASTRONOMICAL OFFICE~

#### 4. Population, Population Density and Population Composition

The Philippines has a population of 42,071,000 people as of May 1st, 1975 with a growth rate of approximately 3 percent/ annum (Table below).

Total Population, 1877-1974

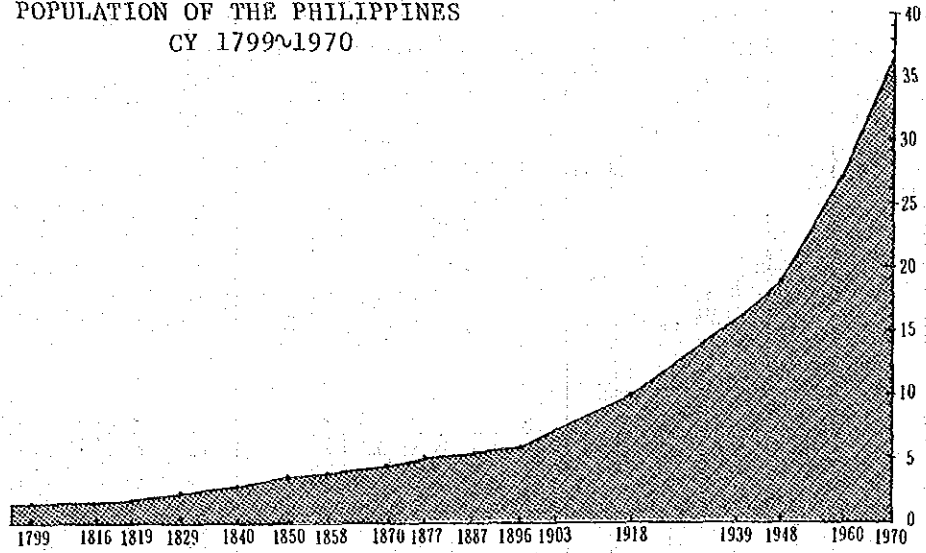
Year	Census population <sup>a</sup>	Estimated midyear population <sup>b</sup>	Annual intercensal growth rate
1877	5,567,685		
1887	5,984,727		
1896	6,261,339		
1903	7,635,426		2.9
1918	10,314,310		1.9
1936	16,000,303		2.2
1948	19,234,182		1.9
1960	27,087,685	27,372,420	3.1
1961		28,174,753	
1962		29,001,656	
1963		29,858,498	
1964		30,749,682	
1965		31,673,693	
1966		32,633,087	
1967		33,629,509	
1968		34,664,683	
1969		35,740,434	
1970	36,684,468	36,851,954	3.0
1971		37,919,096	
1972		39,040,439	
1973		40,218,819	
1974		41,432,623	

a. Data to 1896 excludes non-Christian population.

b. The 1960-69 estimates are interpolated from census populations. The 1970-72 estimates are from L Baal, C. Que, and P. Yunkin, "New Population Projections by Age and Sex for the Philippines and Each Province, 1970-2000." Bureau of the Census and Statistics (BCS), Population Research Division (Manila, n.d.).

Sources: BCS, Yearbook of Philippine Statistics, 1966, and Monthly Bulletin of Statistics (March 1972).

POPULATION OF THE PHILIPPINES  
CY 1799~1970



SOURCES NATIONAL CENSUS AND STATISTICS OFFICE

\* Recent change in the population of Region I and II in the Table below.

Population by Region and Province

Region and Province	Population (in thousands)					
	1975 (May 1)	1970 (May 6)	1960 (Feb. 15)	1948 (Oct. 1)	1939 (Jan. 1)	1918 (Dec. 31)
Philippines	<u>42,071</u> (%)	<u>36,684</u> (%)	<u>27,088</u> (%)	<u>19,234</u> (%)	<u>16,000</u> (%)	<u>10,314</u> (%)
1. Ilocos Region	<u>3,269</u> (7.77)	<u>2,991</u> (8.15)	<u>2,427</u> (8.96)	<u>1,943</u> (10.10)	<u>1,729</u> (10.81)	<u>1,477</u> (14.32)
Abra	147(0.35)	146(0.40)	115(0.42)	87(0.45)	88(0.55)	73(0.71)
Benguet	302(0.72)	264(0.72)	184(0.68)	110(0.57)	122(6.76)	a( - )
Ilocos Norte	372(0.88)	343(0.85)	287(1.06)	251(1.30)	238(1.49)	219(2.12)
Ilocos Sur	420(1.00)	385(1.05)	338(1.25)	276(1.44)	272(1.70)	247(2.39)
La Union	415(0.99)	374(1.02)	293(1.08)	237(1.23)	208(1.30)	178(1.73)
Mt. Province	94(0.22)	93(0.25)	86(0.32)	62(0.32)	59(0.37)	194(1.88)
Pangasinan	1,520(3.61)	1,386(3.78)	1,124(4.15)	920(4.78)	742(4.64)	566(5.49)
2. Cagayan Valley	<u>1,933</u> (4.59)	<u>1,691</u> (4.61)	<u>1,202</u> (4.44)	<u>775</u> (4.03)	<u>714</u> (4.46)	<u>348</u> (3.37)
Batanes	12(0.03)	11(0.03)	10(0.04)	11(0.06)	9(0.06)	8(0.08)
Cagayan	644(1.53)	581(1.58)	445(1.64)	311(1.62)	292(1.83)	191(1.85)
Ifugao	105(0.25)	93(0.25)	77(0.28)	50(0.26)	68(0.43)	a(2)
Isabela	730(1.74)	648(1.77)	442(1.63)	264(1.37)	220(1.38)	113(1.10)
Kalinga-Apayao	163(0.39)	136(0.37)	90(6.33)	56(0.29)	47(0.29)	a( - )
Nueva Vizcaya	279(0.66)	222(0.61)	138(0.51)	83(0.43)	78(0.49)	36(0.35)

Included in the mother municipality

\*1. Includes Quirino

a. Benguet, Ifugao, Kalinga-Apayao, included in Mt. Province

The population of Region I as a percentage of the total national population has been continuously decreasing, while that of Region II has been fluctuating with slight upward trend. Regions showing a decreasing trend include Abra, Ilocos Sur, Ilocos Norte, La Union, Mt. Province, Pangasinan, Batanes, Cagayan, whereas regions showing an increasing trend are Benguet, Kalinga-Apayao, Nueva-Vizcaya. The population of the other regions is fluctuating and it is difficult to identify its specific trend.

Next, the dynamic projection of population which is based upon the "Population Dimension of Planning" published by NEDA's Commission on Population (Table below). According to these documents, the medium assumption indicates that the total population is estimated to be 65 million in the year of 1990, and 83.4 million.

Population Projections and Implicit Growth Rates to the Year 2000

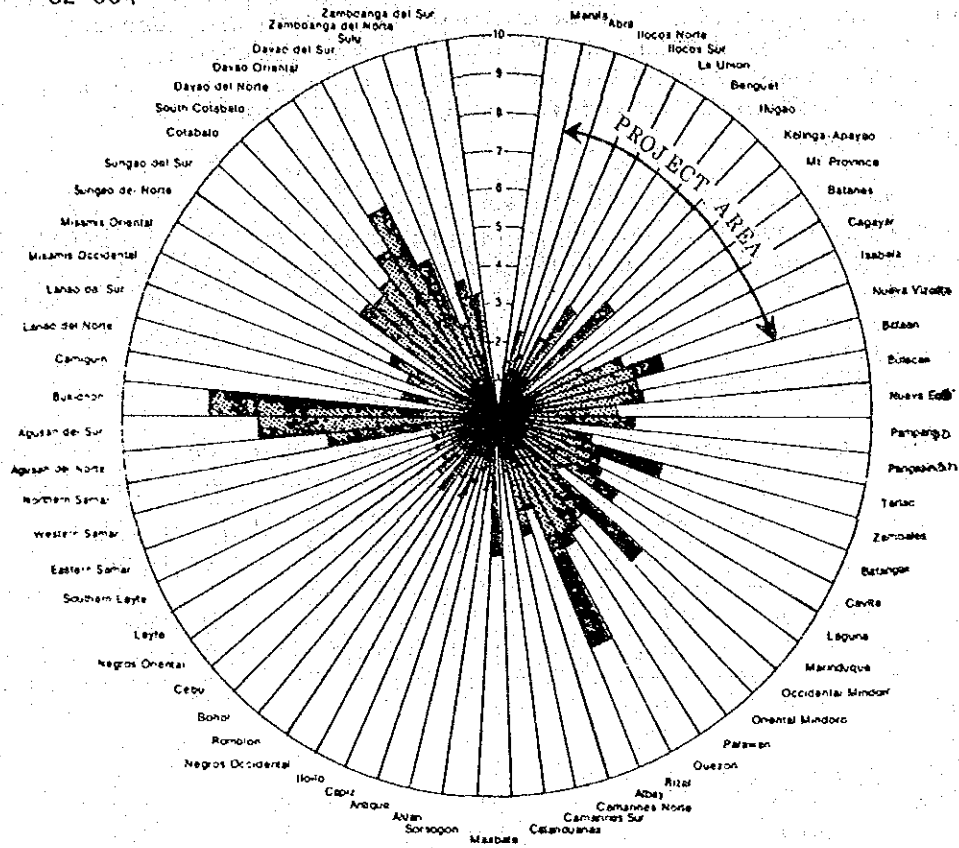
Year	Population projections (millions)			Implicit growth rates <sup>a</sup> (percent)		
	Medium projection	Medium-low projection	Low projection	Medium projection	Medium-low projection	Low projection
1970	36.9	36.9	36.9			
1975	42.5	42.4	42.2	2.9	2.8	2.7
1980	49.1	48.5	47.9	2.9	2.7	2.5
1985	56.7	55.3	53.8	2.9	2.6	2.3
1990	65.0	52.3	59.6	2.8	2.4	2.1
1995	73.9	69.4	64.9	2.6	2.2	1.8
2000	83.4	76.7	70.0	2.4	2.0	1.6

a. Growth rates are for the five-year period preceding the year at which they are listed; thus the medium projection of 2.9 shown for 1975 applies to the 1970-74 period.

Source: Medium and low projections are from NCSO, Age and Sex Population Projections for the Philippines by province: 1970-2000. Medium-low projection is the average of these two.

in the year of 2000. Hence, it is expected that the growth rate will decrease to 2.8 percent and 2.4 percent respectively.

ANNEAL GEOMETRIC GROWTH  
 RATE BY PROVINCE 1960 - 1970  
 C2-004



SOURCE: NATIONAL CENSUS AND STATISTICS OFFICE



SUMMARY OF THE POPULATION PROJECTIONS BY REGION: 1970 - 2000

Region	July 1					
	1970 (May 6)	1975	1980	1985	1990	2000
PHILIPPINES	<u>36,684,486</u>	<u>42,517,330</u>	<u>49,136,853</u>	<u>56,742,143</u>	<u>65,041,174</u>	<u>73,866,546</u>
I - Ilocos	2,990,561	3,310,321	3,630,906	4,038,632	4,445,353	4,911,571
II - Cagayan Valley	1,691,459	1,932,741	2,207,753	2,533,758	2,892,158	3,258,355
III - Central Luzon	3,713,952	4,401,956	5,183,853	6,042,101	6,979,650	7,922,107
IV - Southern Tagalog	8,325,247	10,035,233	12,082,499	14,156,039	16,493,772	18,681,653
V - Bicol	2,966,881	3,247,051	3,533,932	3,939,831	4,359,345	4,872,521
VI - Western Visayas	3,618,326	3,896,233	4,153,727	4,571,537	4,976,290	5,499,126
VII - Central Luzon	3,032,719	3,370,777	3,702,399	4,146,305	4,588,861	5,137,502
VIII - Eastern Visayas	2,381,409	2,523,763	2,685,512	2,920,149	3,157,849	3,445,577
IX - Western Mindanao	1,869,014	2,233,048	2,637,169	3,119,994	3,647,487	4,240,536
X - Northern Mindanao	3,016,865	3,646,061	4,382,673	5,249,104	6,232,383	7,310,771
XI - Southern Mindanao	3,078,053	3,920,146	4,936,430	6,024,693	7,268,026	8,586,827
						10,065,376

Medium Assumption

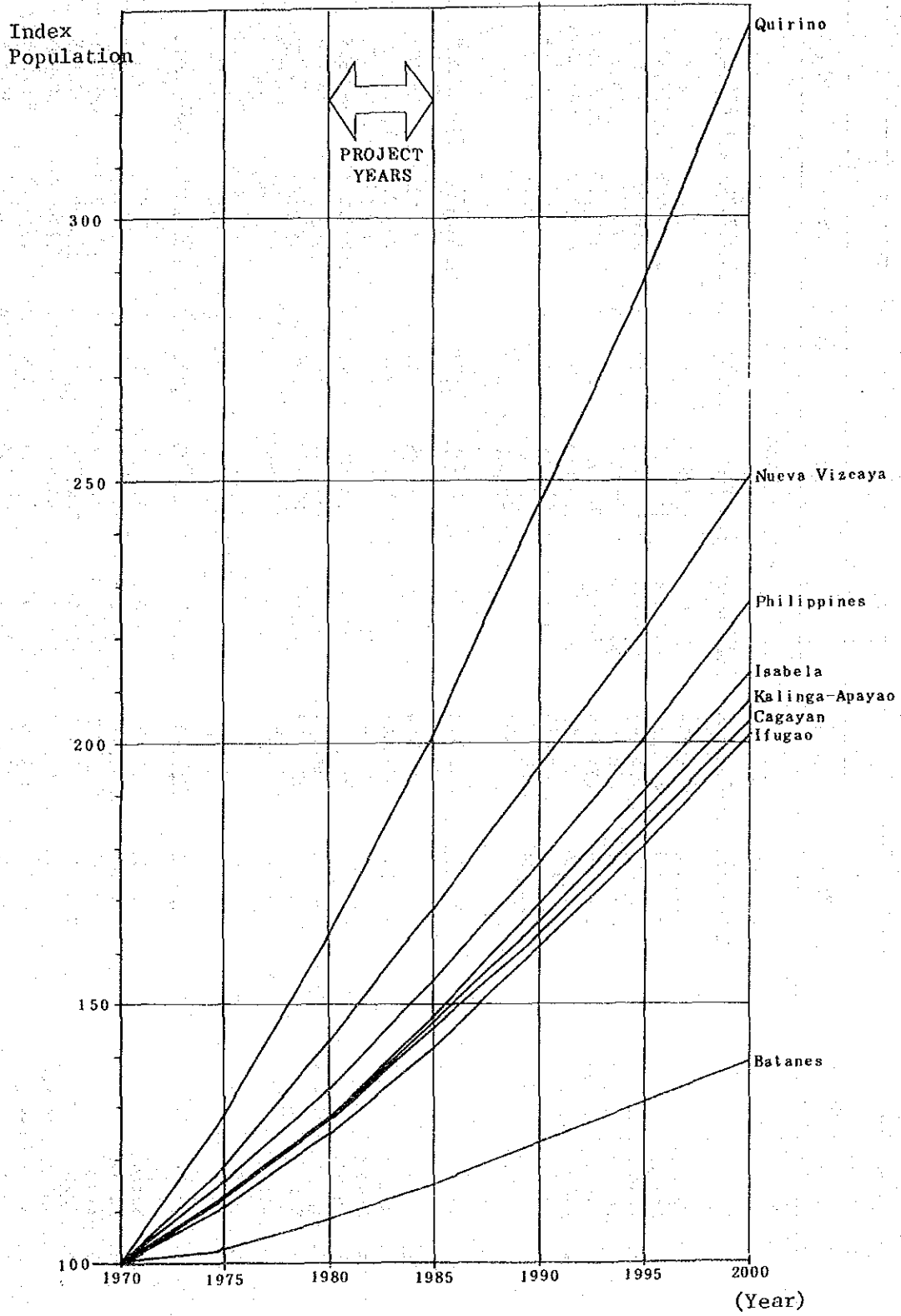
POPULATION PROJECTIONS BY PROVINCE OF REGION I: 1970 - 2000

Province	July 1						
	1970 (May 6)	1975	1980	1985	1990	1995	2000
	High Assumption						
Total	2,990,561	3,329,905	3,714,443	4,231,694	4,795,930	5,476,984	6,222,051
1. Abra	145,508	164,305	186,364	214,041	245,186	280,178	319,173
2. Benguet	263,550	305,910	355,755	418,719	490,925	570,817	661,339
3. Ilocos Norte	343,427	381,310	423,165	477,223	534,469	604,697	679,772
4. Ilocos Sur	385,139	410,855	438,503	483,143	529,179	592,313	659,314
5. La Union	373,682	420,330	474,133	544,186	621,838	711,181	809,682
6. Mountain Province	93,112	104,952	119,221	138,666	161,282	186,973	216,557
7. Pangasinan	1,386,143	1,542,244	1,717,302	1,955,716	2,213,051	2,530,825	2,876,214
	Medium Assumption						
Total	2,990,561	3,310,321	3,630,906	4,038,632	4,445,353	4,911,571	5,386,691
1. Abra	145,508	163,414	182,365	204,588	227,621	251,689	276,804
2. Benguet	263,550	303,948	347,577	399,025	453,895	510,308	570,656
3. Ilocos Norte	343,427	379,349	414,066	456,397	496,774	544,159	590,711
4. Ilocos Sur	385,139	408,552	428,765	461,615	491,558	532,486	572,345
5. La Union	373,682	417,957	463,902	519,946	577,015	638,627	702,030
6. Mountain Province	93,112	104,309	116,604	132,338	149,393	167,361	187,006
7. Pangasinan	1,386,143	1,532,792	1,677,627	1,864,723	2,049,097	2,266,941	2,487,139
	Low Assumption						
Total	2,990,561	3,290,925	3,547,371	3,846,087	4,095,101	4,350,569	4,571,698
1. Abra	145,508	162,541	178,366	195,179	210,070	223,394	235,415
2. Benguet	263,550	301,994	339,400	379,362	416,897	450,162	482,031
3. Ilocos Norte	343,427	377,427	404,971	435,659	459,110	484,115	503,809
4. Ilocos Sur	385,139	406,274	419,029	440,163	453,972	473,174	487,560
5. La Union	373,682	415,617	453,670	495,802	532,229	566,584	596,860
6. Mountain Province	93,112	103,667	113,985	126,036	137,516	147,877	158,120
7. Pangasinan	1,386,143	1,523,405	1,637,950	1,773,886	1,885,307	2,005,263	2,107,903

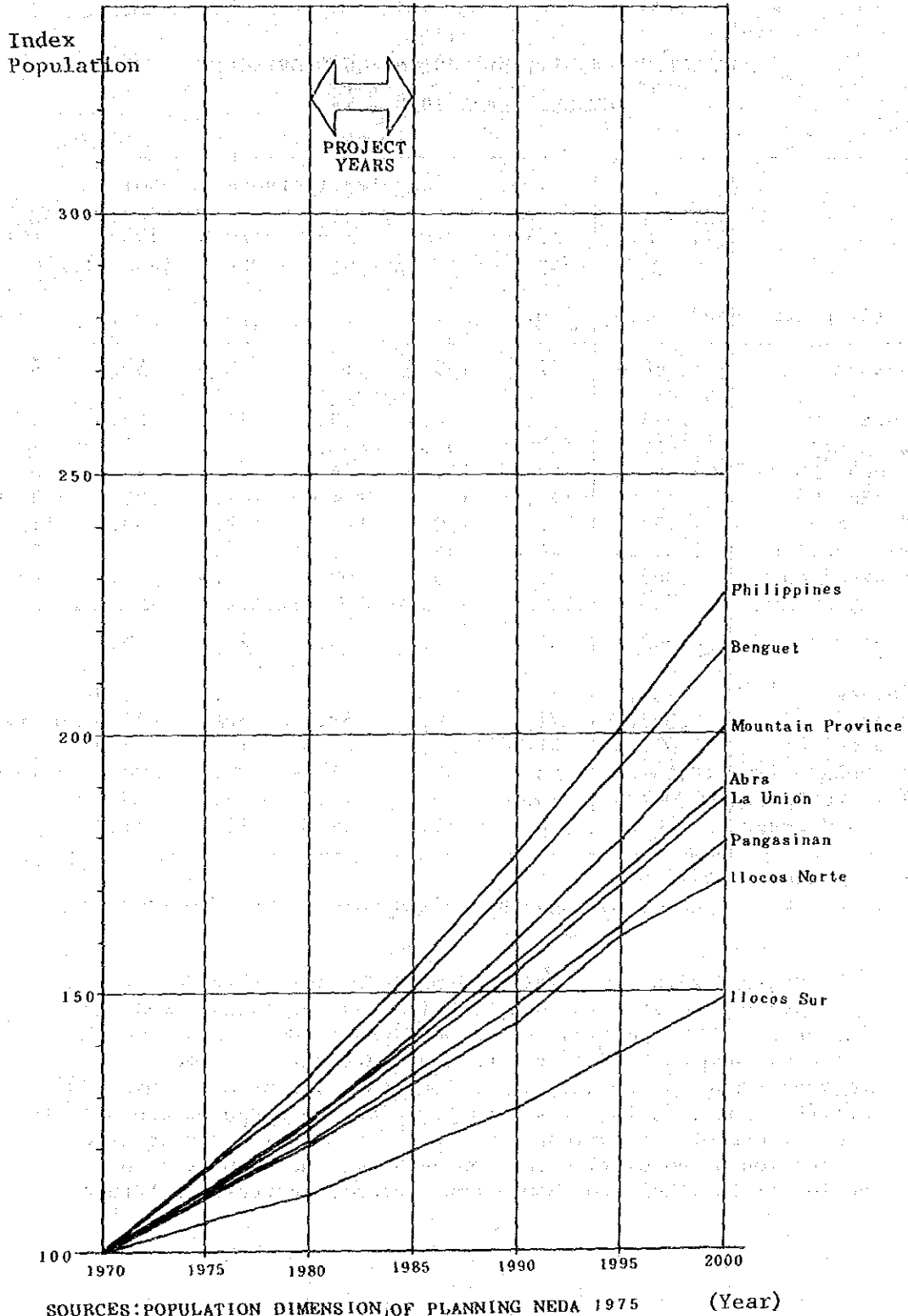
POPULATION PROJECTIONS BY PROVINCE OF REGION II: 1970 - 2000

Province	July 1						
	1970 (May 6)	1975	1980	1985	1990	1995	2000
				High Assumption			
Total	1,691,459	1,946,650	2,259,991	2,660,907	3,131,307	3,652,887	4,255,573
1. Batanes	11,398	11,819	12,697	13,863	15,216	16,747	18,500
2. Cagayan	581,237	664,179	762,276	887,779	1,030,874	1,193,973	1,378,330
3. Ifugao	92,487	103,644	118,297	137,252	160,597	186,201	217,007
4. Isabela	648,123	739,346	852,468	1,005,030	1,185,108	1,385,450	1,618,816
5. Kalinga-Apayao	136,249	155,514	178,309	208,660	243,609	283,208	328,469
6. Nueva Vizcaya	172,198	207,362	252,459	303,029	363,950	426,877	500,607
7. Quirino	49,767	64,786	83,485	105,294	131,953	160,431	193,844
				Medium Assumption			
Total	1,691,459	1,932,741	2,207,753	2,533,758	2,892,158	3,258,355	3,660,359
1. Batanes	11,398	11,739	12,391	13,188	14,035	14,914	15,875
2. Cagayan	581,237	659,683	744,138	845,235	951,976	10,65,004	1,185,150
3. Ifugao	92,487	102,964	115,763	131,012	148,851	166,655	187,372
4. Isabela	648,123	733,462	832,541	955,884	1,092,999	1,233,517	1,389,858
5. Kalinga-Apayao	136,249	154,515	174,375	199,061	225,579	253,493	283,734
6. Nueva Vizcaya	172,198	206,013	246,899	288,970	336,959	381,423	431,245
7. Quirino	49,767	64,365	81,646	100,408	122,059	143,349	167,025
				Low Assumption			
Total	1,691,459	1,918,739	2,155,514	2,406,762	2,653,366	2,867,396	3,081,384
1. Batanes	11,398	11,660	12,087	12,513	12,855	13,098	13,325
2. Cagayan	581,237	555,170	726,000	802,744	873,211	937,310	997,600
3. Ifugao	92,487	102,286	113,228	124,809	137,116	147,243	158,381
4. Isabela	748,123	727,498	812,615	906,725	1,001,039	1,082,961	1,167,188
5. Kalinga-Apayao	136,249	153,518	170,440	189,492	207,564	223,977	239,991
6. Nueva Vizcaya	172,198	204,664	241,337	274,944	309,403	336,385	363,965
7. Quirino	49,767	63,943	79,807	95,535	112,178	126,422	140,934

# DYNAMIC PROJECTION OF POPULATION REGION I



DYNAMIC PROJECTION OF POPULATION REGION II



The population density is shown in Table below.

POPULATION DENSITY BY REGION AND PROVINCE\*<sub>1</sub>  
CENSUS YEARS 1918 - 75

	Land Area (Sq. Km.)	(Density (persons/sq. km))					
		1975 (May 1)	1970 (May 6)	1960 (Feb.15)	1948 (Oct.1)	1939 (Jan.1)	1918 (Dec.31)
Philippines	300,000.0	140.2	122.3	90.3	64.1	53.3	34.4
Region I	21,568.4	151.6	138.7	112.5	90.1	80.2	68.5
Abra	3,975.5	37.0	36.6	29.0	21.8	22.1	18.4
Benguet	2,655.4	113.7	99.3	69.2	41.4	45.9	a
Ilocos Norte	3,399.3	109.4	101.0	84.5	74.0	70.0	64.4
Ilocos Sur	2,579.6	162.8	149.3	131.1	107.1	105.4	95.8
La Union	1,493.1	277.9	250.3	196.5	159.0	139.3	119.2
Mt. Province	2,097.3	44.8	44.4	40.9	29.6	28.1	92.5
Pangasinan	5,368.2	283.1	258.2	209.4	171.5	138.2	105.4
Region II	36,403.1	53.1	46.4	33.0	21.3	19.6	9.6
Batanes	209.3	57.4	54.5	49.3	51.1	43.0	38.2
Cagayan	9,002.7	71.5	64.6	49.5	34.6	32.4	21.2
Ifugao	2,517.8	41.7	36.9	30.5	19.8	27.0	a
Isabela	10,664.6	68.4	60.8	41.5	24.8	20.6	10.6
Kalinga-Apayao	7,047.6	23.1	19.3	12.7	8.0	6.7	a
Nueva Vizcaya <sup>1</sup>	6,961.1	40.1	31.9	19.8	11.9	11.2	5.2

\*1. Includes Quirino

a. Benguet, Ifugao, Kalinga-Apayao included in Mt. Province.

Regions with a population density of more than 200 persons per square kilometer include La Union and Pangasinan, and the latter region in particular reaches almost 300 persons, which is twice as much as that of the national average. A number of regions in Region I have population densities of more than 100 pop./km<sup>2</sup> while Region II's density is on the range of one-half to one-seventh of the national average. Considering the dynamic projection of population mentioned-above, the population of Region II is likely to show a considerable increase in future.

URBAN AND RURAL POPULATION BY SEX, PANGASINAN: 1970 AND 1975

Sex and Residence	1975		1970	
	Number	Percent	Number	Percent
Both Sexes	1,520,085	100.0	1,386,143	100.0
Urban	278,166	18.3	272,492	19.7
Rural	1,241,919	81.7	1,113,651	80.3
Male	760,763	100.0	685,342	100.0
Urban	135,446	17.8	131,377	19.2
Rural	625,317	82.2	553,651	80.8
Female	759,322	100.0	700,801	100.0
Urban	142,720	18.8	141,115	20.1
Rural	616,602	81.2	559,686	79.9

POPULATION BY URBAN-RURAL RESIDENCE AND SEX, MOUNTAIN PROVINCE:  
1970 AND 1975

Residence and Sex	1975		1970	
	Number	Percent	Number	Percent
Both Sexes	94,096	100.0	93,112	100.0
Urban	3,460	3.7	2,930	3.1
Rural	90,636	96.3	90,182	96.9
Male	47,211	100.0	45,898	100.0
Urban	1,676	3.6	1,414	3.1
Rural	45,535	96.4	44,484	96.9
Female	46,885	100.0	47,214	100.0
Urban	1,784	3.8	1,516	3.2
Rural	45,101	96.2	45,698	96.8

URBAN-RURAL POPULATION BY SEX, BENGUET: 1970 AND 1975

Sex	1975		1970	
	Number	Percent	Number	Percent
Both Sexes	302,065	100.0	263,550	100.0
Urban	97,449	32.3	84,538	32.1
Rural	204,616	67.7	179,012	67.9
Male	153,667	100.0	130,673	100.0
Urban	47,279	30.8	40,668	31.1
Rural	106,388	69.2	90,005	68.9
Female	148,398	100.0	132,877	100.0
Urban	50,170	33.8	43,870	33.0
Rural	98,228	66.2	89,007	67.0

URBAN AND RURAL POPULATION BY SEX, ABRA: 1970 AND 1975

Sex and Residence	1975		1970	
	Number	Percent	Number	Percent
Both Sexes	147,010	100.0	145,508	100.0
Urban	25,363	17.3	26,280	18.1
Rural	121,647	82.7	119,228	81.9
Male	74,493	100.0	71,890	100.0
Urban	12,530	16.8	12,584	17.5
Rural	61,963	83.2	59,306	82.5
Female	72,517	100.0	73,618	100.0
Urban	12,833	17.7	13,696	18.6
Rural	59,684	82.3	59,922	81.4



URBAN-RURAL POPULATION BY SEX, ILOCOS SUR: 1970 and 1975

Sex	1975		1970	
	Number	Percent	Number	Percent
Both sexes	419,776	100.0	385,139	100.0
Urban	69,918	16.7	64,349	16.7
Rural	349,858	83.3	320,790	83.3
Male	208,262	100.0	186,874	100.0
Urban	33,681	16.2	30,003	16.1
Rural	174,581	83.8	156,871	83.9
Female	211,514	100.0	198,265	100.0
Urban	36,237	17.1	34,346	17.3
Rural	175,277	82.9	163,919	82.7

URBAN-RURAL POPULATION BY SEX, ILOCOS NORTE: 1970 AND 1975

Sex	1975		1970	
	Number	Percent	Number	Percent
Both Sexes	371,724	100.0	343,427	100.0
Urban	87,009	23.4	83,025	24.2
Rural	284,715	76.6	260,402	75.8
Male	185,548	100.0	167,210	100.0
Urban	41,889	22.6	38,496	23.0
Rural	143,659	77.4	128,714	77.0
Female	186,176	100.0	176,217	100.0
Urban	45,120	24.2	44,529	25.3
Rural	141,056	75.8	131,688	74.7

URBAN AND RURAL POPULATION, BY SEX, GAGAYAN: 1970 AND 1975

Residence and Sex	1975		1970	
	Number	Percent	Number	Percent
Both Sexes	644,075	100.0	581,237	100.0
Urban	72,280	11.2	85,360	14.7
Rural	571,795	88.8	495,877	85.3
Male	329,120	100.0	292,630	100.0
Urban	35,770	10.9	41,905	14.3
Rural	293,350	89.1	250,725	85.7
Female	314,955	100.0	288,607	100.0
Urban	36,510	11.6	43,455	15.1
Rural	278,445	88.4	245,152	84.9

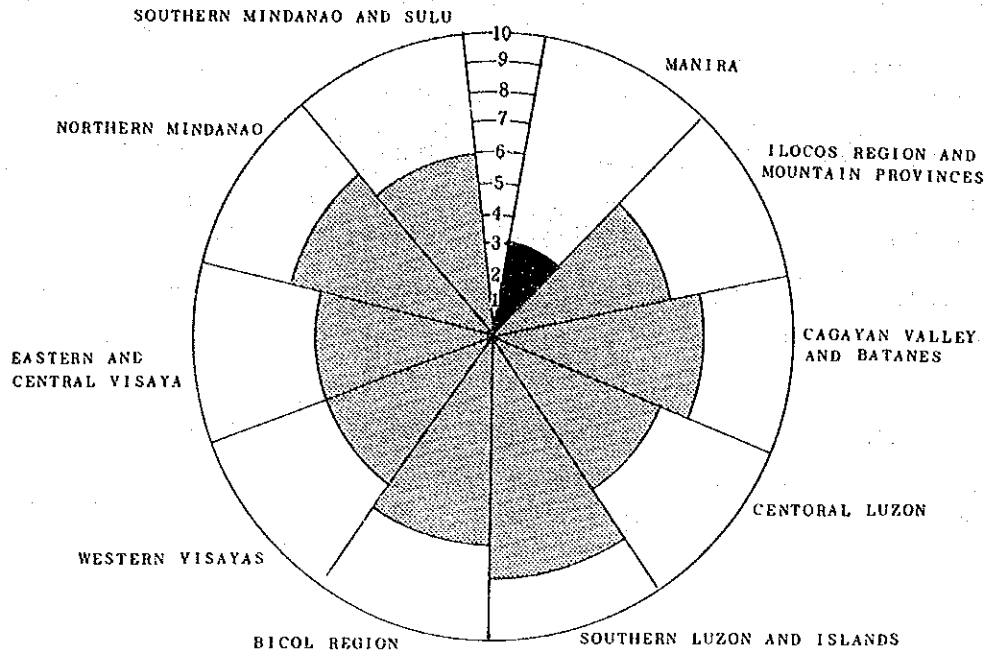
URBAN-RURAL POPULATION BY SEX, NUEVA VIZCAYA: 1970 AND 1975

Residence and Sex	1975		1970	
	Number	Percent	Number	Percent
Both Sexes	213,151	100.0	172,198	100.0
Urban	34,627	16.2	43,267	25.1
Rural	178,524	83.8	128,931	74.9
Male	108,022	100.0	86,995	100.0
Urban	17,169	15.9	21,351	24.5
Rural	90,853	84.1	65,644	75.5
Female	105,129	100.0	85,203	100.0
Urban	17,458	16.6	21,916	25.7
Rural	87,671	83.4	63,287	74.3

URBAN-RURAL POPULATION, BY SEX, IFUGAO: 1970 AND 1975

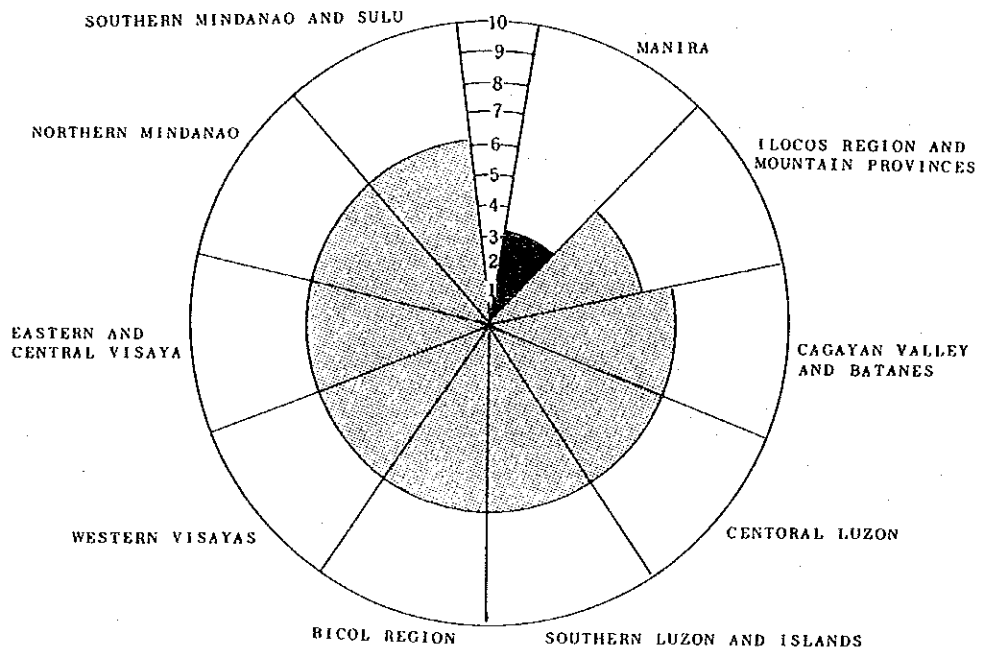
Residence and Sex	1975		1970	
	Number	Percent	Number	Percent
Both Sexes	104,707	100.0	92,487	100.0
Urban	5,898	5.6	6,961	7.5
Rural	98,809	94.4	85,526	92.5
Male	52,611	100.0	45,086	100.0
Urban	2,973	5.7	3,339	7.4
Rural	49,638	94.3	41,747	92.6
Female	52,096	100.0	47,401	100.0
Urban	2,925	5.6	3,622	7.6
Rural	49,171	94.4	43,779	92.4

AVERAGE FAMILY SIZE BY REGION  
1971



SOURCE: NATIONAL CENSUS AND STATISTICS OFFICE

AVERAGE FAMILY SIZE BY REGION  
1965



SOURCE: NATIONAL CENSUS AND STATISTICS OFFICE

We then refer to Table before in respect to urban and rural population as well as population mobility. It indicates that inter alia urbanization is underdeveloped, in the regions of Ifugano, Kalinga-Apayao and Mountain Province; and that Batanes notably is the only one region where no urban population is found available. In 1970, 32 percent of the total population reside in the urban area with the remaining 68 percent in the rural area.

In respect of the family composition, the average number of persons per house-hold in Manila was three in 1965 but that of Region I accounts for five and Region II six. In 1971, while the position in Manila remains unchanged, Region I and II saw an increase by one person to six and seven respectively.

We now study the population composition in terms of age and sex.

ENUMERATED MALE AND FEMALE POPULATION OF THE  
PHILIPPINES BY FIVE YEAR AGE GROUP: 1960 AND 1970

Age group	Male		Female	
	1969 (Feb. 15)	1970 (May 6)	1960 (Feb. 15)	1970 (May 6)
	(%)	(%)	(%)	(%)
All ages	13,662,869(50.4)	18,250,351(49.7)	13,424,816(49.6)	18,434,135(50.3)
0 - 4	2,354,038	2,965,024	2,218,377	2,871,594
5 - 9	2,254,566	M 3,001,138	2,114,832	2,893,681
10 - 14	1,765,992	2,547,450	1,669,435	2,478,426
15 - 19	1,384,759	1,982,777	1,429,547	2,096,954
20 - 24	1,194,182	1,526,521	1,264,441	1,624,113
25 - 29	952,368	1,188,984	1,000,981	1,271,238
30 - 34	F 764,978	1,007,747	791,473	1,063,783
35 - 39	702,568	F 940,632	725,906	958,013
40 - 44	546,393	731,954	552,585	752,992
45 - 49	524,638	625,860	508,045	656,332
50 - 54	M 365,354	501,965	344,745	513,635
55 - 59	252,394	402,888	235,536	404,713
60 - 64	231,786	M 311,285	199,118	302,336
65 - 69	112,702	191,463	113,126	196,716
70 - 74	A 106,799	150,576	102,141	141,689
75 - 79	55,731	62,660	54,280	67,913
80 and over	93,621	F 101,085	100,248	120,762
Not Stated	-	10,342	-	19,315

<sup>7</sup>Robert T. Myers, "Errors and Bias in the Reporting of Ages in Census Data" Transactions of the Actuarial Society of America JAFFE. Handbook of Statistical Methods for Demographers, U.S. Government Printing Office. Washington D.C., 1960. pp. 115-125.

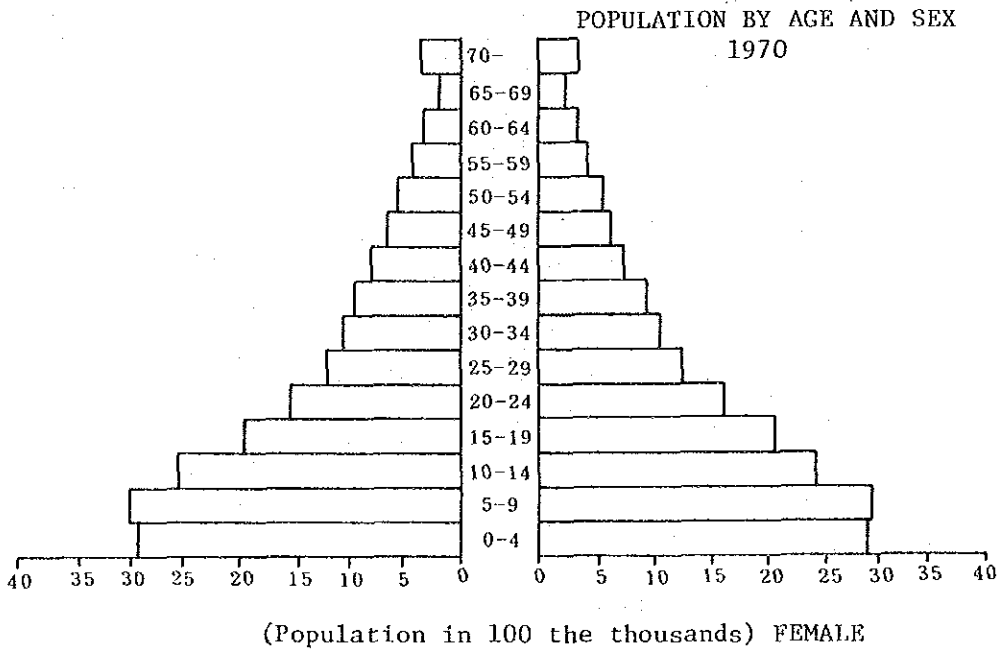
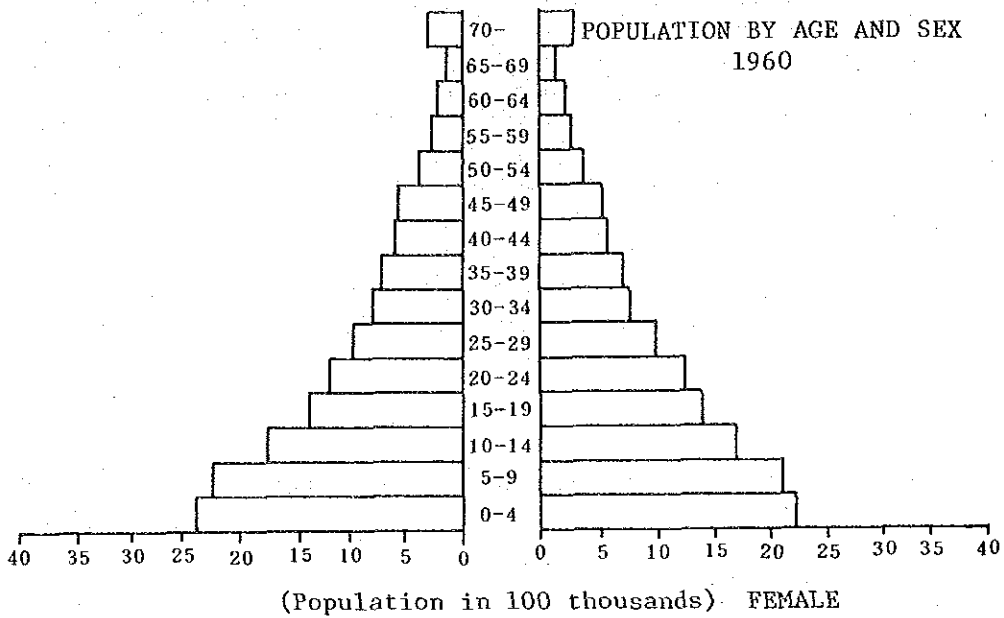
<sup>8</sup>Results of a test for various age groupings such as 1-5, 2-6, 3-7, 4-8, or 5-9 indicate that 0-4 and 5-9 year groupings seem to contain least amount of errors.

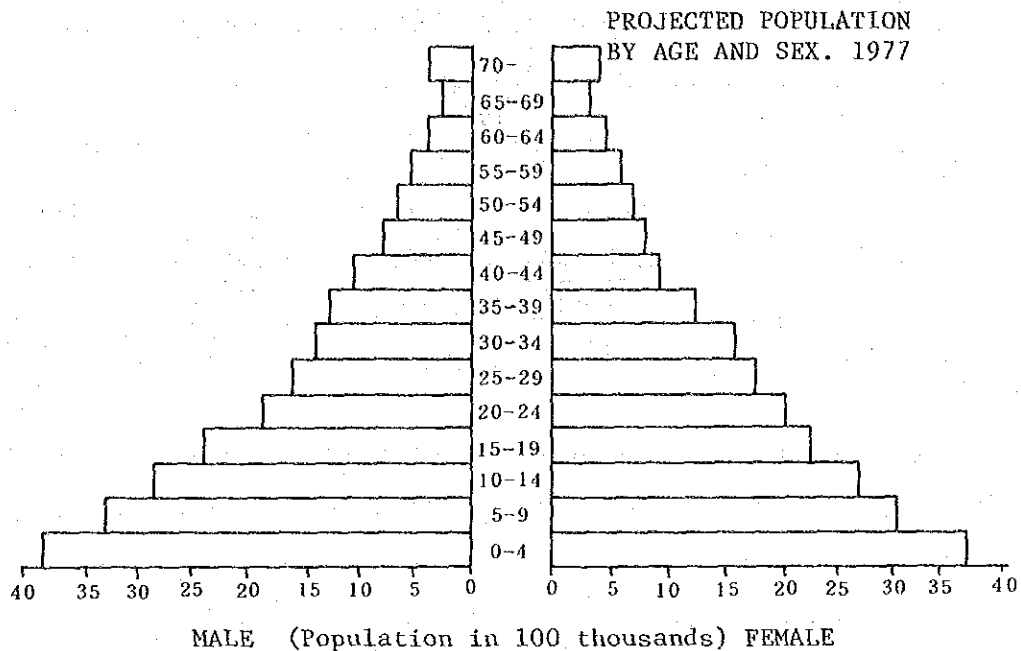
M: Male Dominant Ages

F: Female Dominant Ages

A: Alternatively Dominant Ages

The ratio between male and female population has become reversed during the period from 1960 and 1970, which indicates that the female life expectancy is on the steady increase. In particular, female dominance in the young and middle age groups in 1960 was extended to the elderly age group as well, which eliminates male dominance in the early elderly age group. The number of females more than 75 years old has been increasing steadily and this establishes the pattern of female dominance in the elderly age group.





When the population is divided into such categories as a young group, adult group (working population group) and elderly group, 45.7 percent belongs to the first category, 51.4 percent to the second and 2.9 percent the third in 1970. Regional comparison in this regard, between the period from 1970 to 1975, reveals that the young group has shown a decreasing trend (1-2 percent), which both the adult and elderly groups have show an increasing trend. This tendency suggests that population composition corresponds to the Swedish type. Based upon the available date, regions contrary to this trend are Ilocos Sur and Ifugao with regard to the elderly group and Batanes with regard to young and adult groups.

In general, it may be concluded that promotion of family planning has been gradually creating positive effects. In light of the still high-birth rate, however, it will be essential not only to lower the death rate but also the birth rate in particular.

#### AGE COMPOSITION OF THE POPULATION PHILIPPINES 1970

Age Composition	Number	Percent
Total	36,684,486	100.0
0-14 years	16,757,313	45.7
15-64 years	18,864,652	51.4
65 years and over	1,062,521	2.9

AGE COMPOSITION OF THE POPULATION, PANGASINAN: 1970 AND 1975

Age Composition	1975		1970	
	Number	Percent	Number	Percent
Total	1,520,085	100.0	1,386,143	100.0
0 - 14 years	659,792	43.4	617,867	44.6
15 - 64 years	797,331	52.5	713,101	54.4
65 years and over	62,962	4.1	55,175	4.0

AGE COMPOSITION OF THE POPULATION, MOUNTAIN PROVINCE: 1970 AND 1975

Age Composition	1975		1970	
	Number	Percent	Number	Percent
Total	94,096	100.0	93,112	100.0
0 - 14 years	39,248	41.7	41,552	44.6
15 - 64 years	51,006	54.2	48,066	51.6
65 years and over	3,842	4.1	3,494	3.8

AGE COMPOSITION OF THE POPULATION, BENGUET: 1970 AND 1975

Age Composition	1975		1970	
	Number	Percent	Number	Percent
Total	302,065	100.0	263,550	100.0
0 - 14 years	129,187	42.8	119,733	45.4
15 - 64 years	166,920	55.2	139,013	52.8
65 years and over	5,958	2.0	4,804	1.8



AGE COMPOSITION OF THE POPULATION, ABRA: 1970 AND 1975

Age Composition	1975		1970	
	Number	Percent	Number	Percent
Total	147,010	100.0	145,508	100.0
0 - 14 years	59,841	40.7	61,717	42.4
15 - 64 years	79,770	54.3	76,625	52.7
65 years and over	7,399	5.0	7,166	4.9

AGE COMPOSITION OF THE POPULATION, ILOCOS SUR: 1970 AND 1975

Age Composition	1975		1970	
	Number	Percent	Number	Percent
Total	419,776	100.0	385,139	100.0
0 - 14 years	166,212	39.6	160,558	41.7
15 - 64 years	227,360	54.2	200,043	51.9
65 years and over	26,204	6.2	24,538	6.4

AGE COMPOSITION OF THE POPULATION, ILOCOS NORTE: 1970 AND 1975

Age Composition	1975		1970	
	Number	Percent	Number	Percent
Total	371,724	100.0	343,427	100.0
0 - 14 years	144,719	38.9	136,823	39.8
15 - 64 years	202,434	54.5	185,061	53.9
65 years and over	24,571	6.6	21,543	6.3

SOURCES: NEDA NATIONAL CENSUS AND STATISTICS OFFICE

AGE COMPOSITION OF THE POPULATION, CAGAYAN: 1970 AND 1975

Age Composition	1975		1970	
	Number	Percent	Number	Percent
Total	644,075	100.0	581,237	100.0
0 - 14 years	283,488	44.0	264,723	45.6
15 - 64 years	339,260	52.7	297,812	51.2
65 years and over	21,327	3.3	18,702	3.2

AGE COMPOSITION OF THE POPULATION, IFUGAO: 1970 AND 1975

Age Composition	1975		1970	
	Number	Percent	Number	Percent
Total	104,707	100.0	92,487	100.0
0 - 14 years	48,421	46.2	43,504	47.0
15 - 64 years	54,403	52.0	46,884	50.7
65 years and over	1,883	1.8	2,099	2.3

AGE COMPOSITION OF THE POPULATION, NUEVA VIZCAYA: 1970 AND 1975

Age Composition	1975		1970	
	Number	Percent	Number	Percent
Total	213,151	100.0	172,198	100.0
0 - 14 years	94,749	44.4	80,569	46.8
15 - 64 years	112,084	52.6	86,927	50.5
65 years and over	6,318	3.0	4,702	2.7

AGE COMPOSITION OF THE POPULATION, BATANES: 1970 AND 1975

Age Composition	1975		1970	
	Number	Percent	Number	Percent
Total	11,870	100.0	11,398	100.0
0 - 14 years	5,282	44.5	4,935	43.3
15 - 64 years	5,669	47.8	5,616	49.3
65 years and over	919	7.7	847	7.4

In respect to the population composition by occupation, note should be made to the population rate employed in primary industries. The rate by region based upon the available date is in the following:

	1970(%)	1975(%)
PANGASINAN	53.3	54.2
Mt. PROVINCE	83.3	87.6
BENGUET	53.8	46.6
ABRA	75.2	78.0
ILOCOS SUR	62.7	63.5
ILOCOS NORTE	64.4	65.5
CAGAYAN	72.0	72.1
IFUGAO	88.5	90.1
NUEVA VIZCAYA	69.6	68.0
BATANES	75.2	78.5

It should be noted that this sector shows an increasing trend in general since only two regions - Benguet and Nueva Vizcaya - show the reverse trend.

POPULATION 10 YEARS OLD AND OVER CLASSIFIED BY MAJOR GAINFUL OCCUPATION  
PANGASINAN: 1970 AND 1975

Major Gainful Occupation Group	1975 <sup>1</sup>		1970 <sup>2</sup>	
	Number	Percent	Number	Percent
Total	391,557	100.0	408,244	100.0
Farmers, fishermen, hunters, loggers and related workers	212,360	54.2	217,617	53.3
Craftsmen, production process workers and related laborers	49,883	12.7	61,872	15.2
Sales workers	31,081	8.0	28,357	6.9
Service, sports, and related workers	25,886	6.6	26,066	6.4
Professional, technical and related workers	23,070	6.0	29,142	7.1
Workers in transport and communications	17,241	4.4	19,907	4.9
Clerical workers	10,614	2.7	7,648	1.9
Stevedores, related freight handlers and laborers n.e.c.	9,805	2.5	7,080	1.7
Administrative, executive, and managerial workers	2,464	0.6	3,084	0.8
Others	9,153	2.3	7,471	1.8

POPULATION 10 YEARS OLD AND OVER CLASSIFIED BY MAJOR GAINFUL  
OCCUPATION, MOUNTAIN PROVINCE: 1970 AND 1975

Major Gainful Occupation Group	1975 <sup>1</sup>		1970 <sup>2</sup>	
	Number	Percent	Number	Percent
Total	42,744	100.0	43,023	100.0
Farmers, fishermen, hunters, loggers and related workers	37,433	87.6	36,069	83.8
Professional, technical and related workers	1,413	3.3	1,518	3.5
Craftsmen, production process workers and related laborers	1,035	2.4	1,611	3.8
Service, sports and related workers	745	1.7	744	1.7
Sales workers	542	1.3	761	1.8
Clerical workers	517	1.2	433	1.0
Workers in transport and communications	394	0.9	463	1.1
Miners, quarrymen and related workers	123	0.3	769	1.8
All others	542	1.3	655	1.5

<sup>1</sup>All data for 1975 were taken on a 100-percent basis. Economic activity concept is based on "usual occupation" (gainful activity during the past twelve(12) months).

<sup>2</sup>The 1970 data on occupation, industry and class of worker were obtained from a 5-percent sample. Economic activity concept is based on "labor force" (gainful activity during the past week).

POPULATION 10 YEARS OLD AND OVER CLASSIFIED BY GAINFUL OCCUPATION,  
BENGUET: 1970 AND 1975

Major Gainful Occupation Group	1975 <sup>1</sup>		1970 <sup>2</sup>	
	Number	Percent	Number	Percent
Total	96,181	100.0	96,105	100.0
Farmers, fishermen, hunters, loggers and related workers	44,761	46.6	51,694	53.8
Craftsmen, production process workers and related laborers	10,797	11.2	9,376	9.8
Service, sports, and related workers	8,832	9.2	6,867	7.1
Miners, quarrymen, and related workers	7,816	8.1	7,662	8.0
Professional, technical and related workers	6,639	6.9	5,630	5.8
Sales workers	6,135	6.4	5,050	5.2
Workers in transport and communications	4,275	4.4	3,606	3.8
Clerical workers	3,770	3.9	2,947	3.1
Stevedores, related freight handlers and laborers n.e.c.	1,148	1.2	915	1.0
Administrative, executive and managerial workers	1,016	1.1	1,064	1.1
Others n.e.c. and occupations unidentifiable	992	1.0	1,294	1.3

<sup>1</sup>All data for 1975 were taken on a 100-percent basis. Economic activity concept is based on "usual occupation" (gainful activity during the past twelve(12) months).

<sup>2</sup>The 1970 data on occupation, industry and class of worker were based on "labor force" (gainful activity during the past week).

POPULATION 10 YEARS OLD AND OVER CLASSIFIED BY MAJOR GAINFUL  
OCCUPATION, ABRA: 1970 AND 1975

Major Gainful Occupation Group	1975 <sup>1</sup>		1970 <sup>2</sup>	
	Number	Percent	Number	Percent
Total	43,358	100.0	50,493	100.0
Farmers, fishermen, hunters loggers and related workers	33,829	78.0	37,954	75.2
Professional, technical and related workers	2,453	5.6	2,644	5.2
Service, sports and related workers	1,605	3.7	2,712	5.4
Craftsmen, production process workers and related laborers	1,565	3.6	3,171	6.3
Sales workers	1,039	2.4	1,008	1.9
Clerical workers	982	2.3	947	1.9
Workers in transport and communication	944	2.2	782	1.5
All others	941	2.2	1,275	2.6

<sup>1</sup>All data for 1975 were taken on a 100-percent basis. Economic activity concept is based on "usual occupation" (gainful activity during the past twelve(12) months).

<sup>2</sup>The 1970 data on occupation, industry and class of worker were based on a 5-percent sample. Economic activity concept is based on "labor force" (gainful activity during the past week).

POPULATION 10 YEARS OLD AND OVER CLASSIFIED BY GAINFUL OCCUPATION,  
ILOCOS SUR: 1970 AND 1975

Major Gainful Occupation Group	1975 <sup>1</sup>		1970 <sup>2</sup>	
	Number	Percent	Number	Percent
Total	122,271	100.0	140,322	100.0
Farmers, fishermen, hunters, loggers and related workers	77,645	63.5	88,001	62.7
Craftsmen, production process workers and related laborers	16,043	13.1	20,898	14.9
Sales workers	6,540	5.3	6,292	4.5
Professional, technical and related workers	6,192	5.1	8,220	5.9
Service, sports and related workers	5,872	4.8	6,082	4.3
Workers in transport and communications	4,110	3.4	4,441	3.2
Clerical workers	2,672	2.2	2,150	1.5
Stevedores, related freight handlers and laborers n.e.c.	1,300	1.1	1,253	0.9
Administrative, executive and managerial workers	521	0.4	842	0.6
Others	1,376	1.1	2,143	1.5

<sup>1</sup>All data for 1975 were taken on a 100-percent basis. Economic activity concept is based on "usual occupation" (gainful activity during the past twelve(12) months).

<sup>2</sup>The 1970 data on occupation, industry, and class of worker were based on a 5-percent sample. Economic activity concept is based on "labor force" (gainful activity during the past week).

POPULATION 10 YEARS OLD AND OVER CLASSIFIED BY GAINFUL  
OCCUPATION, ILOCOS NORTE: 1970 AND 1975

Major Gainful Occupation Group	1975 <sup>1</sup>		1970 <sup>2</sup>	
	Number	Percent	Number	Percent
Total	104,271	100.0	108,822	100.0
Farmers, fishermen, hunters, loggers and related workers	68,315	65.5	70,040	64.4
Craftsmen, production process workers and related laborers	9,684	9.3	12,135	11.1
Professional, technical and related workers	6,124	5.9	7,540	6.9
Service, sports, and related workers	5,668	5.4	5,835	5.4
Sales workers	5,037	4.8	4,964	4.6
Workers in transport and communications	3,737	3.6	3,278	3.0
Clerical workers	2,594	2.5	2,033	1.9
Stevedores and related freight handlers and laborers n.e.c.	1,115	1.1	541	0.5
Administrative, executive, and managerial workers	692	0.7	535	0.5
Others n.e.c., and occupations unidentifiable	1,305	1.2	1,921	1.7

<sup>1</sup>All data for 1975 were taken on a 100-percent basis. Economic activity concept is based on "usual occupation" (gainful activity during the past twelve(12) months).

<sup>2</sup>The 1970 data on occupation, industry, and class of worker were based on a 5-percent sample. Economic activity concept is based on "labor force" (gainful activity during the past week).

POPULATION 10 YEARS OLD AND OVER CLASSIFIED BY MAJOR OCCUPATION,  
CAGAYAN: 1970 AND 1975

Major Gainful Occupation Group	1975 <sup>1</sup>		1970 <sup>2</sup>	
	Number	Percent	Number	Percent
Total	177,172	100.0	198,075	100.0
Farmers fishermen, hunters, loggers and related workers	127,754	72.1	142,759	72.0
Craftsmen, production process workers and related laborers	12,190	6.9	15,006	7.6
Professional, technical and related workers	7,724	4.4	9,433	4.8
Sales workers	7,553	4.3	6,597	3.3
Service, sports and related workers	7,361	4.1	9,167	4.6
Workers in transport and communications	5,594	3.2	6,265	3.2
Stevedores, related freight handlers and laborers n.e.c.	3,970	2.2	3,406	1.7
Clerical workers	2,758	1.6	2,708	1.4
Others	2,268	1.2	2,734	1.4

<sup>1</sup>All data for 1975 were taken on a 100-percent basis. Economic activity concept is based on "usual occupation"<sup>1A</sup> (gainful activity during the past twelve(12) months).

<sup>2</sup>The 1970 data on occupation, industry and class of worker were based on a 5-percent sample. Economic activity concept is based on "labor force" (gainful activity during the past week).

POPULATION 10 YEARS AND OVER CLASSIFIED BY MAJOR GAINFUL OCCUPATION,  
IFUGAO: 1970 AND 1975

Major Gainful Occupation Group	1975 <sup>1</sup>		1970 <sup>2</sup>	
	Number	Percent	Number	Percent
Total	47,185	100.0	43,616	100.0
Farmers, fishermen, hunters, loggers and related workers	42,560	90.1	38,586	88.5
Craftsmen production process workers and related laborers	1,448	3.1	2,398	5.5
Professional, technical and related workers	1,122	2.4	846	1.9
Service, sports and related workers	519	1.1	595	1.4
Sales workers	462	1.0	297	0.7
Clerical workers	393	0.8	272	0.6
Workers in transport and communications	232	0.5	184	0.4
All others	449	1.0	437	1.0

<sup>1</sup>All data for 1975 were taken on a 100-percent basis. Economic activity concept is based on "usual occupation" (gainful activity during the past twelve(12) months).

<sup>2</sup>The 1970 data on occupation, industry and class of worker were based on a 5-percent sample. Economic activity concept is based on "labor force" (gainful activity during the past week).

POPULATION 10 YEARS OLD AND OVER CLASSIFIED BY  
MAJOR GAINFUL OCCUPATION,  
NUEVA VIZCAYA: 1970 AND 1975

Major Gainful Occupation Group	1975 <sup>1</sup>		1970 <sup>2</sup>	
	Number	Percent	Number	Percent
Total	62,971	100.0	54,639	100.0
Farmers, fishermen, hunters, loggers and related workers	42,845	68.0	38,027	69.6
Craftsmen, production process workers and related laborers	4,581	7.3	3,967	7.3
Sales workers	3,542	5.6	2,157	4.0
Professional, technical and related workers	3,095	5.0	3,041	5.6
Service, sports and related workers	2,803	4.4	2,886	5.3
Workers in transport and communications	2,317	3.7	1,812	3.3
Clerical workers	1,394	2.2	1,012	1.8
Stevedores, related freight handlers and laborers, n.e.c.	992	1.6	901	1.6
managerial workers	675	1.1	195	0.4
Others n.e.c., and occupations unidentifiable	727	1.1	641	1.1

<sup>1</sup>All data for 1975 were taken on a 100-percent basis. Economic activity concept is based on "usual occupation" (gainful activity during the past twelve(12) months).

<sup>2</sup>The 1970 data on occupation, industry and class of workers were based on a 5-percent sample. Economic activity concept is based on "labor force" (gainful activity during the past week).

POPULATION 10 YEARS OLD AND OVER CLASSIFIED BY MAJOR  
GAINFUL OCCUPATION, BATANES: 1970 AND 1975

Major Gainful Occupation Group	1975 <sup>1</sup>		1970 <sup>2</sup>	
	Number	Percent	Number	Percent
Total	4,721	100.0	5,778	100.0
Farmers, fishermen, hunters, loggers and related workers	3,705	78.5	4,345	75.2
Professional, technical and related workers	271	5.7	522	9.0
Clerical workers	212	4.5	83	1.5
Service, sports and related workers	158	3.3	198	3.4
Craftsmen, production process workers and related laborers	107	2.3	226	3.9
Sales workers	88	1.9	108	1.9
Administrative and managerial workers	56	1.2	149	2.6
All others	124	2.6	147	2.5

<sup>1</sup>All data for 1975 were taken on a 100-percent basis. Economic activity concept is based on "usual occupation" (gainful activity during the past twelve(12) months).

<sup>2</sup>The 1970 data on occupation, industry and class of worker were based on a 5-percent sample. Economic activity concept is based on "labor force" (gainful activity during the past week).



## II-2 THE PRESENT CONDITION OF THE HEALTH SYSTEM

The superior report is quoted in this chapter; Health Information for Regional Health Planning in the Philippines written by Dr. R. Suplido and Dr. Fernando T Avelino in the book of HEALTH PLANNING AND HEALTH INFORMATION IN SOUTHEAST ASIA published from SEAMIC (SOUTHEAST ASIAN MEDICAL INFORMATION CENTER)

### Description of the Health System

#### • Health Policies and Plan

Existing government policies with respect to health have been divided into three aspects, namely: policies on government health services; government policies vis-a-vis the private sector; and policies on special health problems, although the details for the third subject will not be dealt with in this paper.

#### 1. Government Health Services

- 1) The government holds the major health responsibility. The new constitution guarantees health as the birth right of all citizens under Section 7 of the article on the Declaration of Principles and State Policies, "by saying that the state shall establish, maintain and ensure adequate social services in the field of...health..to guarantee the enjoyment by the people of a decent standard of living." Under Section 5 of the same article, the government re-asserts this health responsibility, particularly the health of youth, when it states that "the state recognizes the vital role of the youth in nation-building and shall promote their physical, intellectual and social well-being." Furthermore, the government's four-year plan gives support to this function by declaring that "a health people is a productive people. Thus a program providing adequate health services should be part of the overall plan approach."
- 2) The government delegates its major health function to the Department of Health. The government delegates its commitment on health to the Department of Health under the Integrated Reorganization Plan. This legislation declares that, "the Department of Health is the primary policy, programming, coordinating and administrative entity of the executive branch of the government in the field of health. The primary function of the Department is the promotion, protection and preservation of the health of the people".

3) The government shall provide total medical care. Under the Philippine Medical Act of 1969 (R.A. 6111), the government declares its policy "to gradually provide total medical service for people by adopting and implementing a comprehensive and coordinative medical care program". This program aims at helping the people pay for adequate medical care through the health insurance fund. Under this scheme, total coverage of medical services is based on the needs of the patients rather than on their ability to pay. It allows freedom of choice of physicians and hospitals. It also lessens the burden of the government to provide free hospital services.

4) Government shall provide for the medical needs of indigent and poor patients. In order to attain equity in the field of health the government shall provide for the needs of medically indigent and poor patients. This responsibility is made possible through the provision and operation of free or charity beds in the various government hospitals. The hospital financing law (R.A. 1939) declares that all government hospitals shall operate not less than 90 percent (later reduced to 70 percent) of its bed capacity on free or charity beds. This law further asserts that it is the government's duty to provide a free general hospital bed for every 5,000 population.

In areas which are far from government hospitals or where access to government hospitals is difficult, R.A. 293 appropriated funds subsidizing charity beds for indigent sick persons in private hospitals. All these are to be undertaken by the Department of Health.

5) Government shall extend health services to rural areas. According to the Integrated Reorganization Plan, the Department of Health "shall extend maximum health service to the rural areas". This emphasis on health in the rural areas is made possible through R.A. 1062 as amended by R.A. 1191 which is an Act "strengthening health and dental services in the rural areas and providing funds thereof". It also created Rural Health Units (RHU's) for every municipality, whose staff size and composition is determined by the population size of the municipality.

6) Government shall establish hospitals. In fulfilling its obligation to provide for the health needs of the country, the government shall establish hospitals under various legislations (hospital financing Law of R.A. 1939, and the creation of National District Hospital of R.A. 5720).

- 7) Government has control and regulation over all medical practice. The government regulates medical practice and education in the country under the Philippine Medical Act of 1959 (R.A. 2362). Supervision, control and regulation of the practice of medicine are made through provisions determining the qualifications of those engaging in the practice of medicine and surgery, and regulating the manner and circumstances in which a specified field of practice shall be performed. These are all aimed at assuring the public of high quality professional medical care. The government exercises this special regulatory power since health care involves life and patients normally lacking the ability to judge the quality of health and medical services.

## 2. Government Vis-a-vis the Private Sector

Although the responsibility for health services rests on the government, this does not necessarily mean that the government should deliver all these services. And even if a large share of these services is already being delivered by the government, a very substantial involvement also comes from the private sector. However, some government policies have been established governing the services of the private sector.

- 1) Control over private hospitals. Control over private hospitals is exercised through the hospitals license Act (R.A. 4226) whereby the government requires the license of all hospitals. Approval of plans and construction permits are required.
- 2) The government requires the provision of medical treatment to business establishment and schools. In order to promote and preserve the health of the people, the government has required that the various establishment and the school administrators of public and private schools should furnish free emergency medical treatment to employees and students, respectively, (R.A. 46; 3961; R.A. 124; Administratives Order 114, & 1970).

## • Health Organization and Infrastructure

### 1. Organization of the Health Service Delivery System

The Philippine Health Care System is a complex set of organizations interacting to provide an array of health services. At the very center of this network is the department of Health or DOH whose responsibility is the protection and maintenance of the health of the people.

The other major groups are as follows (Fig. 2,3):

- 1) Public sector, represented by the government and government controlled agencies (other than DOH) with health care capabilities;
  - 2) Private sector, composed of private hospitals, private clinics and private practitioners;
  - 3) Mixed sector, represented by professional, private and other health-related organizations;
- and
- 4) International health organization.

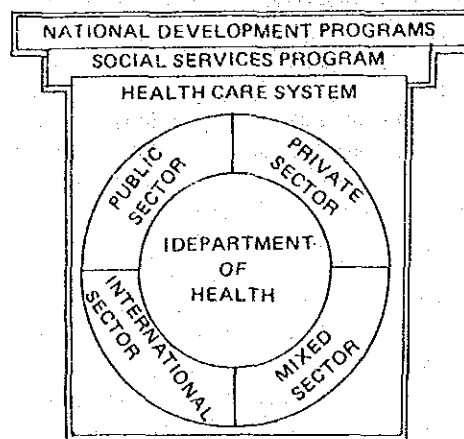


Fig. 2 The Role of the Department of Health

The DOH line units — the Rural Health Units and the Hospitals — are the primary implementing arms of the system providing a range of health care services to the community. The other groups support the Department of Health by providing advisory and health care services mainly in the form of curative care (Fig. 4).

## 2. Different Levels in the Organization

The Department of Health is composed of the different levels of organization. It has 4 bureaus namely the Bureau of Dental Health Services, Bureau of Health and Medical Services, Bureau of Research and Laboratories and the Bureau of Quarantine; and 12 regional health offices all over the country. Under the Office of the Secretary is the undersecretary of Health, Planning Service, Administrative Service, Financial and Management Service, Radia-

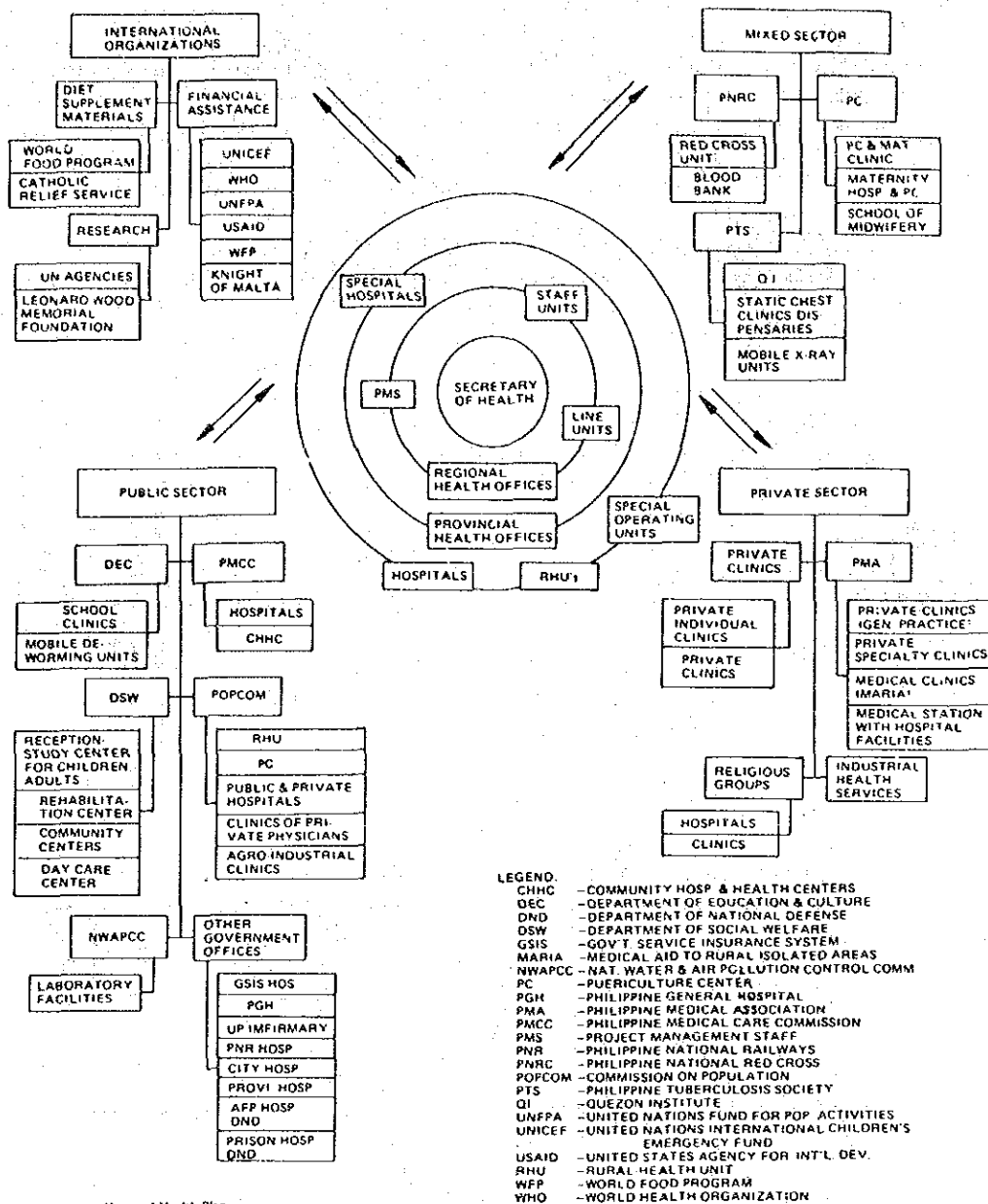


Fig. 3 Philippines Health Care Community

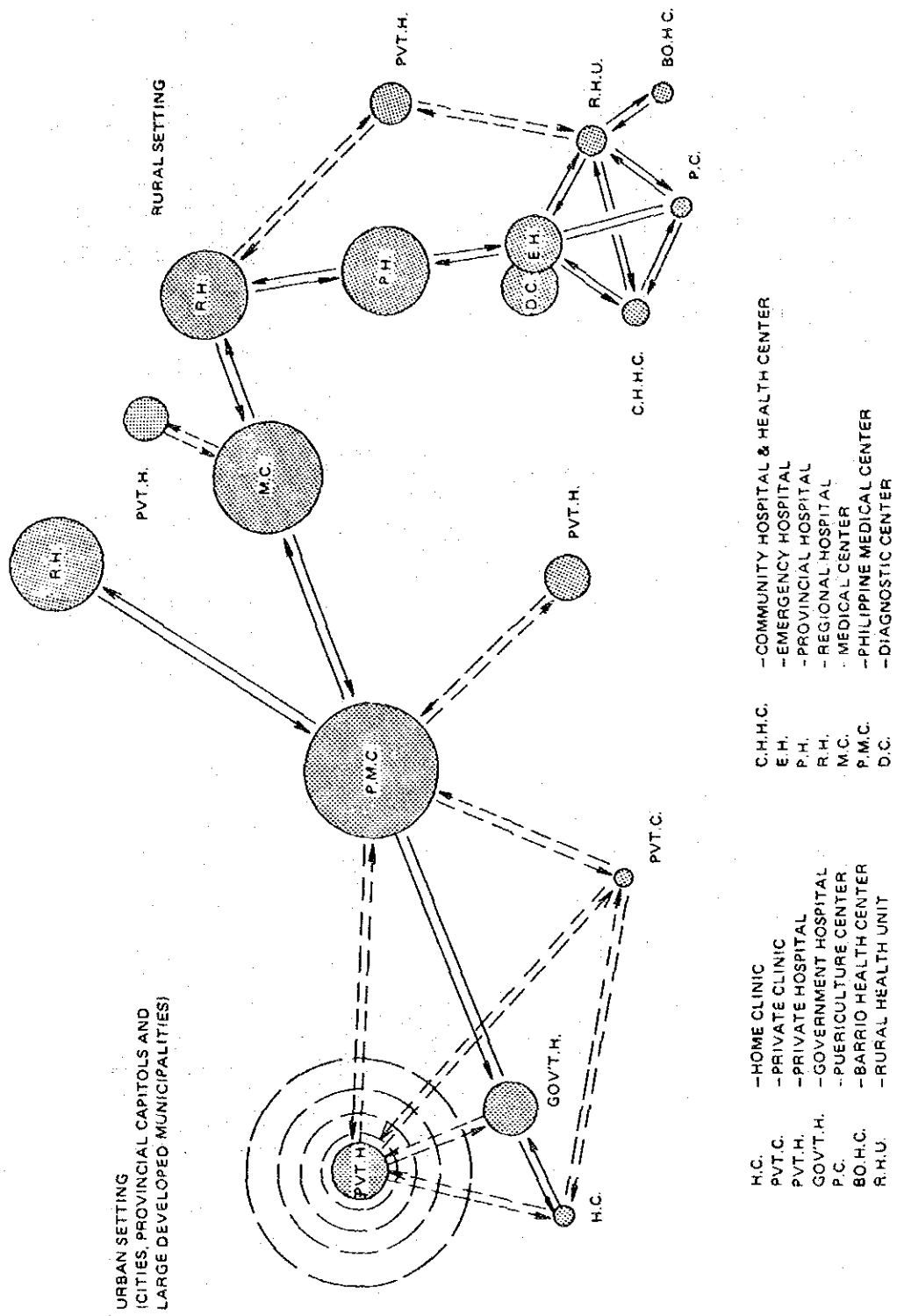


Fig. 4 Philippines Health Care System

tion Health Office, Office of Health Education and Personnel Training, Disease Intelligence Center, Food and Drug Administration, National Nutrition Service, National Family Planning Office, Schistosomiasis Control and Research Center, Malaria Eradication Service, Rural Health Practice Program, Dermatology Research and Training Project, National Cancer Control Center, Project Management Staff and the 5 special hospitals in the country. Fig. 5 shows the organizational chart of the Department of Health.

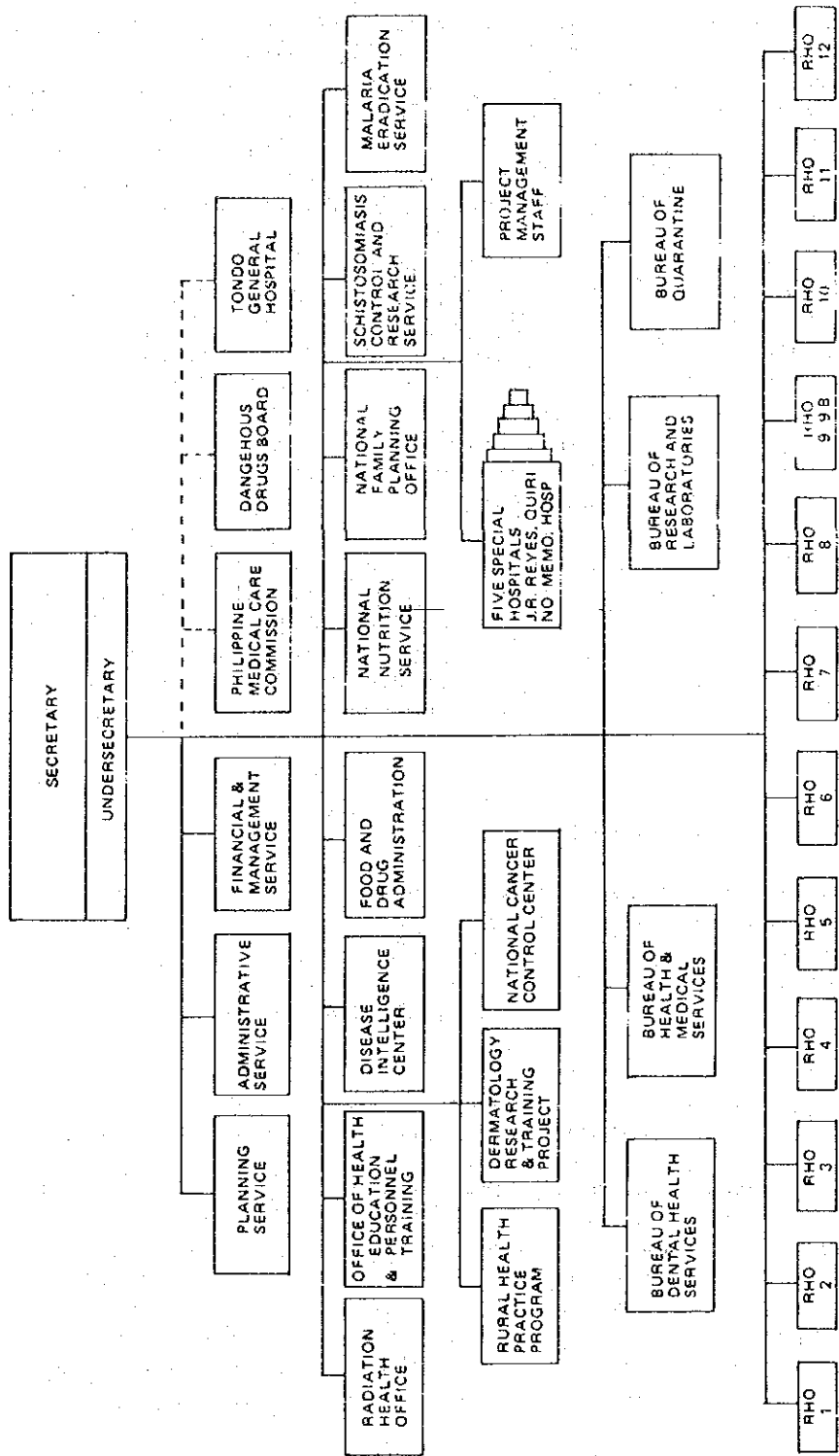
The Regional Health Office is run by the Regional Health Director and under this Office are the Technical Services Division, Regional Health Training Center, Regional Health Laboratory, Budget & Finance Division, and Administrative Division. The Regional Health Office is composed of City Health Offices, Provincial Health Offices and government hospitals. Under the City Health Offices are Urban Health Centers and Social Hygiene Clinics, and under the Provincial Health Office are Rural Health Units and Community Hospitals and health centers (Fig. 6).

The Rural Health Units deliver direct services to the municipalities and barangays. There is a main health center in the poblacion and barangay health stations where primary health care delivery system is delivered to the population. The Rural Health Unit is composed of a doctor, public health nurses, sanitarians and midwives. A midwife covers 5,000 population as its catchment area.

### 3. Infrastructure Program

To make the health service accessible to the population, supportive infrastructure program must be available. The strategy for infrastructure program should include curative, outlet of health service (RHU and BHC vs. hospital), accessibility of health facility by the consumer (road network, population density and location).

To support the health service during the planning period 1976-1985 and 1986-2000 more rural health units and satellite barrio health centers must be available together with diagnostic centers to support the rural health service which is accessible to the 70% of rural population. Because of the shift of pattern of diseases from communicable to non-communicable, the existing hospital beds in a national scale will be adequate to meet the hospital bed needs. However, because of maldistribution of hospital beds especially in depressed areas, hospital expansion/construction shall be undertaken. At the same time all uncompleted hospitals by year 1978 shall be completed by year 1985.



5-Year Project as of January 30, 1976

Fig. 5 Organization Chart of the Department of Health, the Philippines



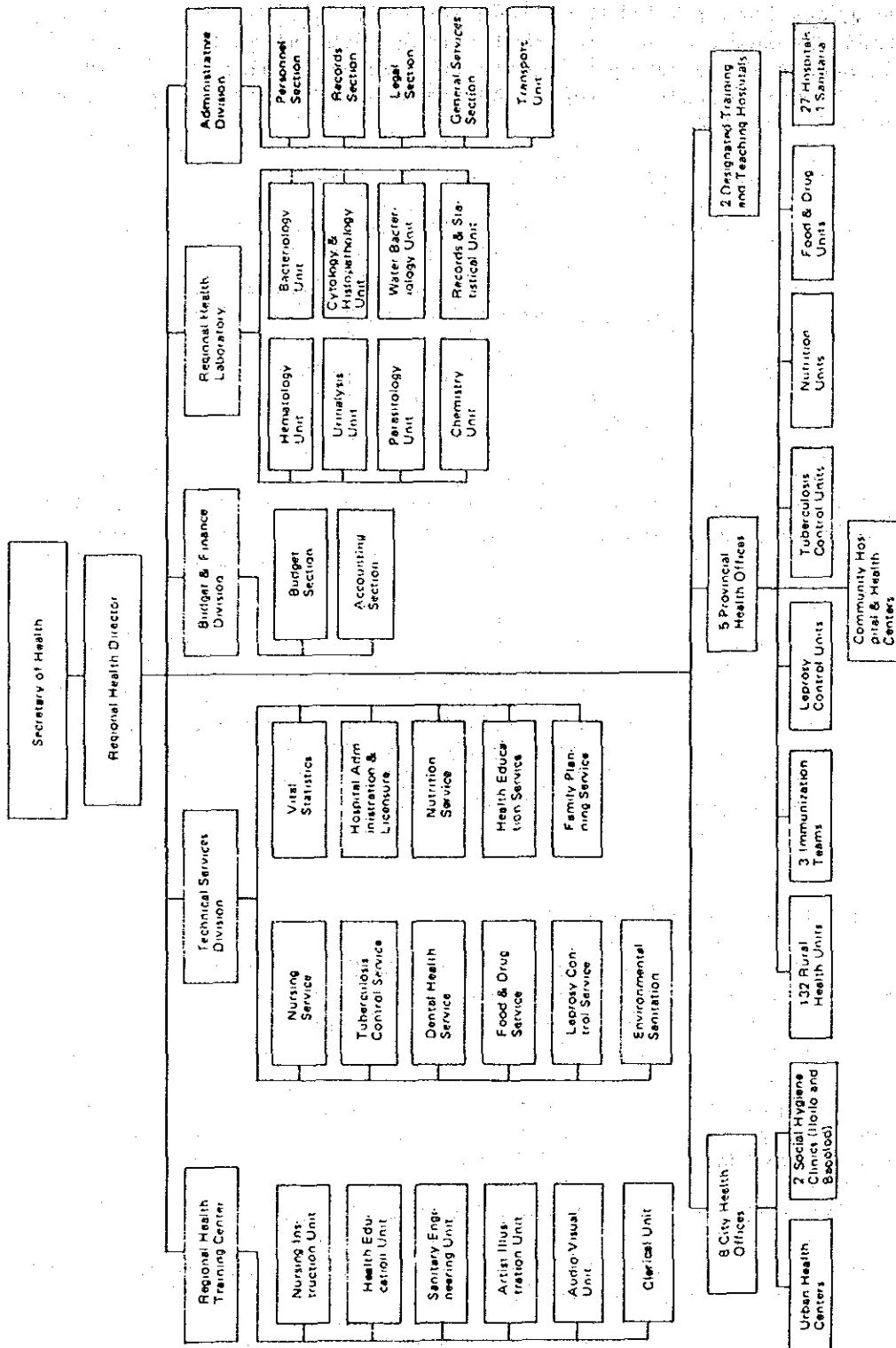


Fig. 6 Organization Chart for the Regional Health Office, the Philippines

After 1985, the establishment and construction of new emergency hospitals shall be put to stop. All existing emergency hospitals shall be updated to increase their diagnostic capability and become the diagnostic center to cover several rural health units, puericulture centers, community hospitals and health centers and private clinics.

Policies on Infrastructure Programs are as follows:

- 1) Hospital
  - (1) Provision of infrastructure buildings to hospitals on operation but without their own buildings.
  - (2) Completion of all hospital infrastructures that have started construction with a bed occupancy rate of at least 70%.
  - (3) Establishment and expansion of new hospitals will depend on project studies which include prefeasibility and feasibility analyses, otherwise there shall be a moratorium in the establishment of new hospitals.
- 2) Provision of office complex infrastructures for all Regional Health Offices of the country.
- 3) Provision of Rural Health Unit infrastructure in Municipalities where the RHU's do not have their own buildings.
- 4) Serum and vaccine laboratory building at Alabang and Food and Drug Laboratory

#### • Health Budget and Finance

The government-operated health services derives its funds from national and local government appropriations, from health insurance funds, from receipts for services, from contributions, from grants-in-aid loans from foreign and international agencies.

The private sector, on the other hand, derives its funds from receipts for services, private financing, health insurance fund and voluntary contributions.

#### 1. National Government Expenditures on Health

The Philippine government spends an estimated 3.4 percent of its total budget for health as of Fiscal year 1973-1974.

The expenditure of health has grown at a moderate pace during the last decade from 112 million in 1963 to 477 million in 1974. This growth, however, has resulted as a consequence of increases in total government expenditures and not as a diversion of a larger share of total government expenditures to health. Thus, the share of health expenditures in total government expenditures has declined from 6.0 percent in 1963 to 3.4 percent in 1974.

Futhermore, increases in total health expenditures were offset by population growth, price increases and the decline in value of the national currency. Per capita expenditure on health, taking prices as constant, has shown irregular growth with a slight increase from P4.76 in 1963 to P5.43 in 1974. The decline in value of the national currency further reduced per capita health expenditures in terms of US Dollar currency from \$1.22 per capita in 1963 to \$0.81 in 1974, at constant prices. The decline in health expenditure, therefore, has resulted in scarcity of important drugs, medical supplies and equipments. To effect improvements in the health services would be difficult if not impossible under such conditions.

Health as a government function has been accorded an increasingly less significant share of the government budget in the Philippines. Developed countries such as the United Kingdom, Australia and the United States spend 9.3, 12.7 and 6.6 percent of their total budget for health, respectively. Asian nations on the other hand, vary as to their health expenditures. Singapore and Malaysia allocate 16.0 percent and 5.8 percent of their expenditures for health, respectively. Other Asian countries including the Philippines, spend less on health in terms of percentage share of the budget and per capita health expenditures.

Health as a government function ranks fifth as revealed in the allocation of government funds. Other government functions such as education, national defense, agriculture and infrastructure receive a much greater share of the budget.

## 2. Department of Health Expenditures

Obviously, the Department of Health has the major share (81.7 percent) in the total health expenditures of the national government. However, its share, except in 1963, has shown a general trend of decline. This may be a result of a slight diversification of health functions to other government agencies such as pollution control which used to be within the sphere of the Department of Health's functions of environmental sanitation but now under the case of another government agency. Similarly, nutrition and population control have been accorded more

resources by other agencies aside from the Department of Health.

### 3. Sources of Funds

The major source of fund for health is the general fund accounted for approximately 89.8 percent of all funds for health in FY1974-75.

The Department of Health is increasingly getting its funding from the general fund in the last few years. The general fund has accounted for 95.7% percent of all sources in 1973 and has increased to 97.1 percent of all funds in 1975. Fiduciary sources have remained insignificant from 1973 to 1975, with special funds giving approximately 3 percent of all sources.

There are not available data at present on the financing of private health care services. However, it is estimated that the amount at least equals if not exceeds the government operating expenditures. These are mainly for financing of medical care services.

### 4. Major Fund Allocation

General hospital services, rural health units and the operation of special hospitals take up approximately three-fourths of the health budget comprising 34.4, 18.3 and 14.3 percent, respectively, of the total Department of Health budget for FY1974-1975. The vital nature of these services gives them priority over the other health programs. There has, however, been a slight decline in the percentage share of total funds allotted for these services from 76.6 in 1973 to 70.0 percent in 1975. Increase went to special projects such as the Malaria Eradication, National Nutrition, Schistosomiasis Control and Family Planning Services.

### 5. Aid From International Agencies

The United States Agency for International Development, the United Nations International Children's Emergency Fund, the World Health Organization and the International Bank for Reconstruction and Development provide substantial amounts for various health activities.

#### • Activities Associated with Health Planning

The National Health Plan was jointly prepared by staffs of the Department of Health and the National Economic and Development

Authority (NEDA). The NEDA is the central superbody of the country's planning network, while the different government agencies and private sectors play an active part in the formulation of the their respective plans to conform with the National Development Plan.

• Method and Procedure for Health Planning

Planning in the Philippines is something that is not new and is familiar to many. Over the years, planning has been input-oriented and aimed on resource requirement of the agency rather than on solution of problems.

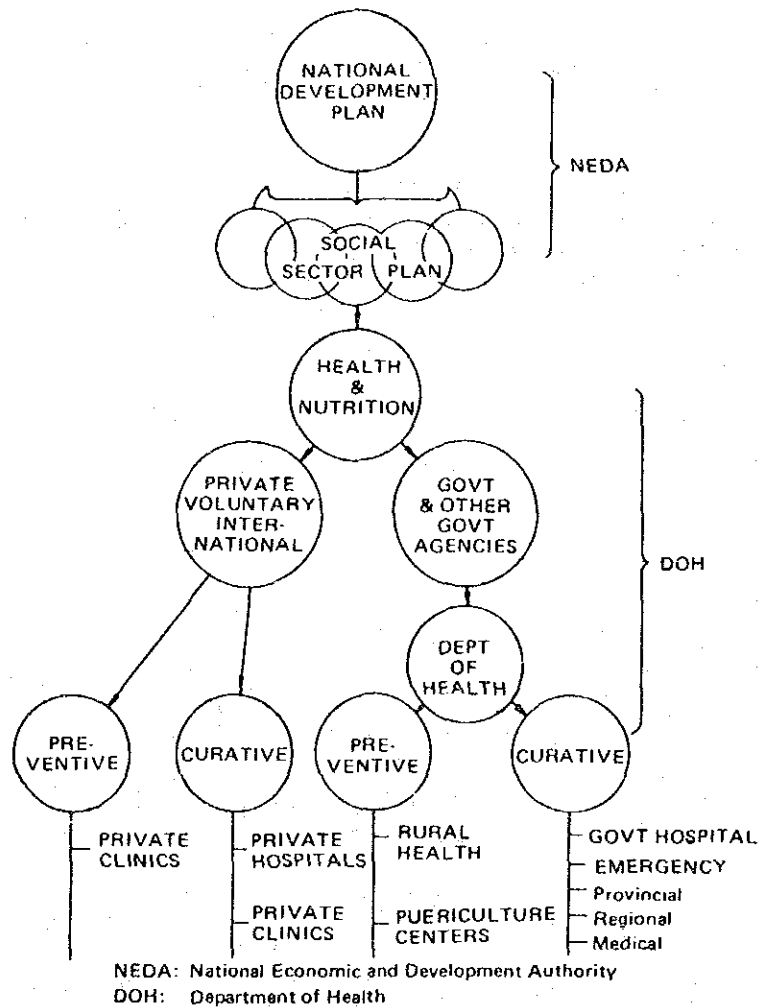


Fig. 7 Levels of Plan in the Philippines Context

At the national level, planning was mainly the function of the NEDA. Planning in the different sectors were fragment and this resulted in competition for resources. Under the Integrated Reorganization Plan, however, planning became scientific i.e., problem-oriented. Planning is decentralized for it to be functional, and planning offices were created in the different executive departments of the government (Fig. 7). At the present stage of development, planning activities have reached down to the lowest level of the organization - in the municipal level. Regional and rural development councils were established to plan for their respective geographic areas.

The planning structure from national to municipal levels has been stratified to provide the planning needs at different levels of administration. Therefore, top to bottom and bottom to top type of planning is achieved. With this situation, plans formulated by the different sectors and geographic areas are more rational, acceptable and implementable and provide equitable distribution of resources.

Planning activities in the Department of Health is the function of the Health Planning Service which was created in 1972. Before the creation of this office, planning was pragmatic; each bureau of office made its own plan in isolation from the other offices. This resulted in keen competition for health resources and in funding

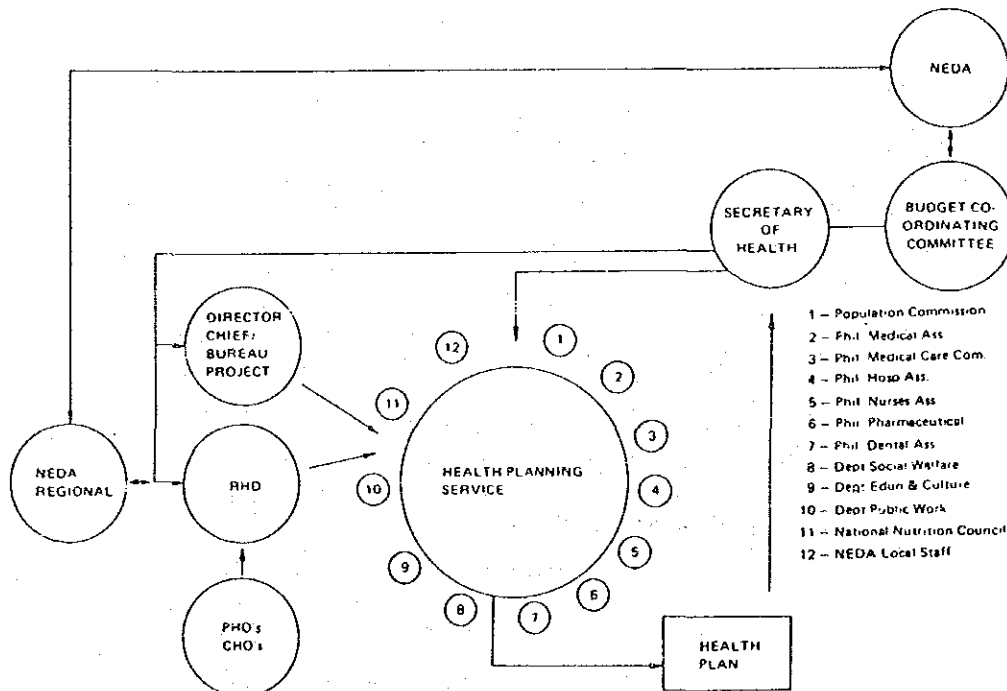


Fig. 8 Health Planning Cycle of the Philippines (Department of Health)

of projects or programs which did not have much impact on the population. With the creation of the Health Planning Service, health planning has been improved to a certain extent, though coordination among the different offices in the department has yet to be achieved (Fig. 8).

In the planning exercise conducted by the Health Planning Service in formulating the national plan as well as regional planning, the following steps of the planning process were set to provide guidelines:

#### 1. Setting of Guidelines

To determine the nature and scope of the planning exercise and the direction to which the process will proceed, and to spell out the technical, legal, administrative and physical boundaries to be observed. The area of coverage, the subject of planning, the time frame, and health resource requirements are specified.

#### 2. Situational Analysis

This step involves the description of the country's health situation which include: population data; analysis of morbidity, and mortality by disease/condition; age and sex distribution; analysis of the environmental condition as it affects the health of the nation; and analysis of the country's health resources which include the organizational structure and its management, facilities, health manpower and the budget for health. It is important to relate the level of socio-economic development of the country.

#### 3. Plan Formulation

In this step, the objectives of the plan are set. Different health strategies for the attainment of the objectives are considered and the appropriate strategy is selected. It is also in this step that decisions must be made on the desired level of health which must be maintained by the health service, considering the available resources and the utilization of the most effective technology available, at a minimum cost.

#### 4. Plan Implementation

The plan is translated into operational terms, breaking down the national program into regional, provincial and local programs together with operational targets, time periods in the attainment of the targets, resources needed, and other details for the execution of the plan.

## 5. Plan Evaluation

A system of evaluating the efficiency and effectiveness of the different health program and projects will be designed as part of the plan. This includes the setting up of an information system that gathers meaningful service and disease information which is needed for managerial control and decision-making and determination of the degree of reduction of the health problem of concern.

### • Linkage between Health Information and Health Planning

In the Department of Health at present, there is no single coordinating body to handle all information-related activities. The information system in the country is the responsibility of each respective sector and these are collated by the National Census and Statistics Office of the National Economic and Development Authority.

In the health sector, health statistics are collected through the peripheral health unit personnel on a weekly, monthly and yearly basis. This basic data sources are the rural health units and hospitals. At the central level, health statistics are compiled by the Disease Intelligence Center. Administrative statistics are compiled by the different offices, bureaus, projects and programs. Data collection is developed on a per unit or per area of concern basis when actual needs often required several units to use similar data (Fig. 9). With each unit developing a data collection scheme, requests often time overlap. When an information need arises, it is a common practice to immediately design a new form for gathering data and send this directly to the data source. This lack of coordination has resulted in the duplication of reports prepared by the data source units.

For planning, the available statistics on health are not adequate to meet the information needs of the substantial under-registration and this leads to under-estimation/projection of events. To facilitate the planning process, the Health Planning Service set up its own system of data collection, temporarily, to meet its statistical needs.

### • Problems Resulting from Linkage between Health Information and Health Planning

1. Communication barriers between planners and statisticians, due to lack of understanding of each other's skills, knowledge and experience.



2. Inadequate resources for work to be done by planners and statisticians.
3. Lack of appreciation on the part of administrators in establishing a good health information system.
4. Health information system does not meet the needs of the planners.
5. Decision makers do not make use of health information.
6. Very little contact between producers of data and potential users (administrators and policy makers).
7. Lack of adequate training of statisticians.

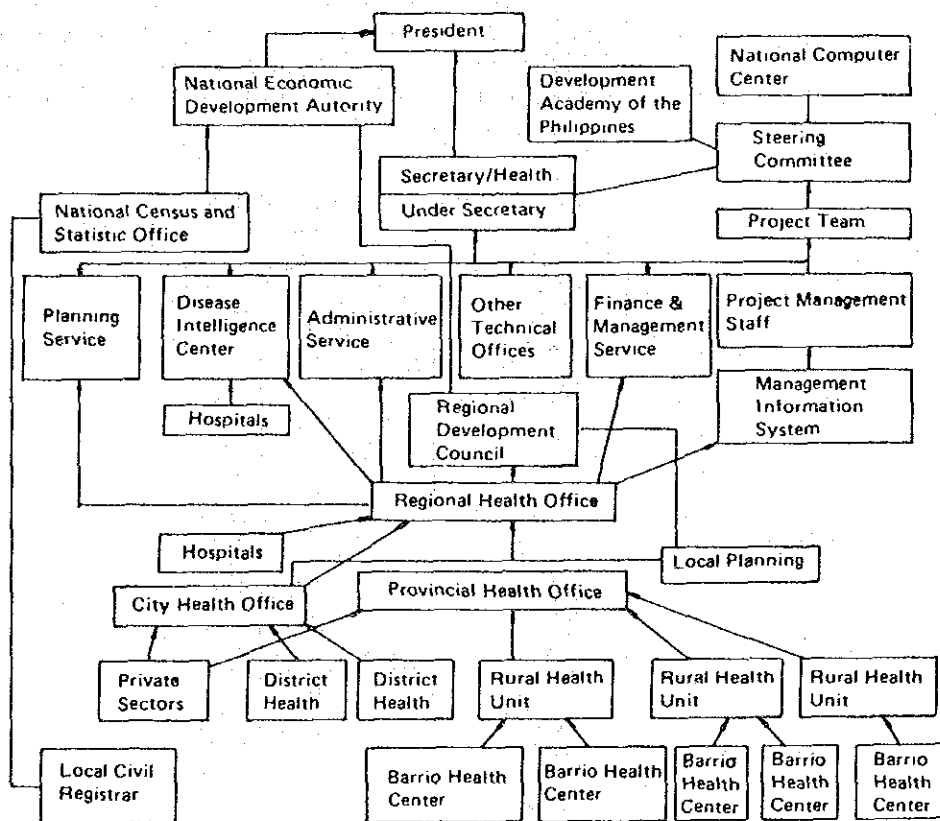


Fig. 9 Philippine Health Information Network

## II-3 THE PRESENT CONDITION OF REGIONAL HEALTH SERVICE

### 1. Present Condition of Medical Demand in Regional Health Service

#### 1) Average life expectancy, death rate and birth rate

##### (1) Life expectancy

The average life expectancy of a Filipino at birth was only 25.2 years for male and 26.1 years for female in 1918. Due to the progress of medical technology and improvement of environmental sanitation, it has been increasing gradually and reached 55.2 years for male and 60.9 years for female as of 1970. These figures correspond to those of around 1948 in Japan. It is expected to reach 60 years for both sexes in 1976. NEDA is planning to increase the target figure to 60.8 years in 1978, 61.2 in 1976, 61.6 in 1980, 62.0 in 1981, 62.4 in 1982 and 64.4 in 1987. The present level of life expectancy for the Filipinos is above the level of other developing countries but it is far below the level attained by the developed countries.

#### \*LIFE EXPECTANCY BY COUNTRY

	CY	MALE	FEMALE
JAPAN	1977	72.69	77.95
EGYPT	1960	51.6	53.8
CANADA	1970~72	69.34	76.36
EL SALVADOR	1960~61	56.56	60.42
PUERTO RICO	1971~73	68.92	76.05
U.S.A.	1975	69.4	77.2
ARGENTINE	1970~75	65.16	71.38
INDIA	1961~60	41.89	40.55
ISRAEL	1974	70.3	73.9
KOREA	1970	63.0	67.0
THAILAND	1960	53.6	58.7
AUSTRIA	1975	67.7	74.9
CZECHOSLOVAKIA	1973	66.53	73.49
DENMARK	1972~73	70.8	76.3
FINLAND	1974	66.90	75.41
FRANCE	1972	68.6	76.4
W. GERMANY	1969~70	68.85	74.19
D.O.R.	1973~75	68.04	74.54
GREECE	1960~62	67.46	70.70
HUNGARY	1974	66.54	72.42
ICELAND	1971~75	71.6	77.5
ITALY	1970~72	68.97	74.88
NETHERLANDS	1971~75	71.2	77.2
NORWAY	1973~74	71.50	77.83
POLAND	1975	67.02	74.26
PORTUGAL	1974	65.29	72.03
SPAIN	1970	69.69	74.96
SWEDEN	1976	72.12	77.90
SWITZERLAND	1968~73	70.29	76.22
ENGLAND-WALES	1970~72	68.9	75.1
YUGOSLAVIA	1971~72	65.59	70.42
AUSTRALIA	1965~67	67.63	74.15
NEW ZEALAND	1970~72	68.55	74.60
U.S.S.R.	1971~72	64.0	74.0
PHILIPPINE	1970	55.2	60.9

SOURCE: Demographic Yearbook 1975 U.N.  
Vital Statistics of the U.S. 1973  
BEFOLKNINGA FORANDRINGAR 1976

### Crude Birth Death and Infant Mortality by Country

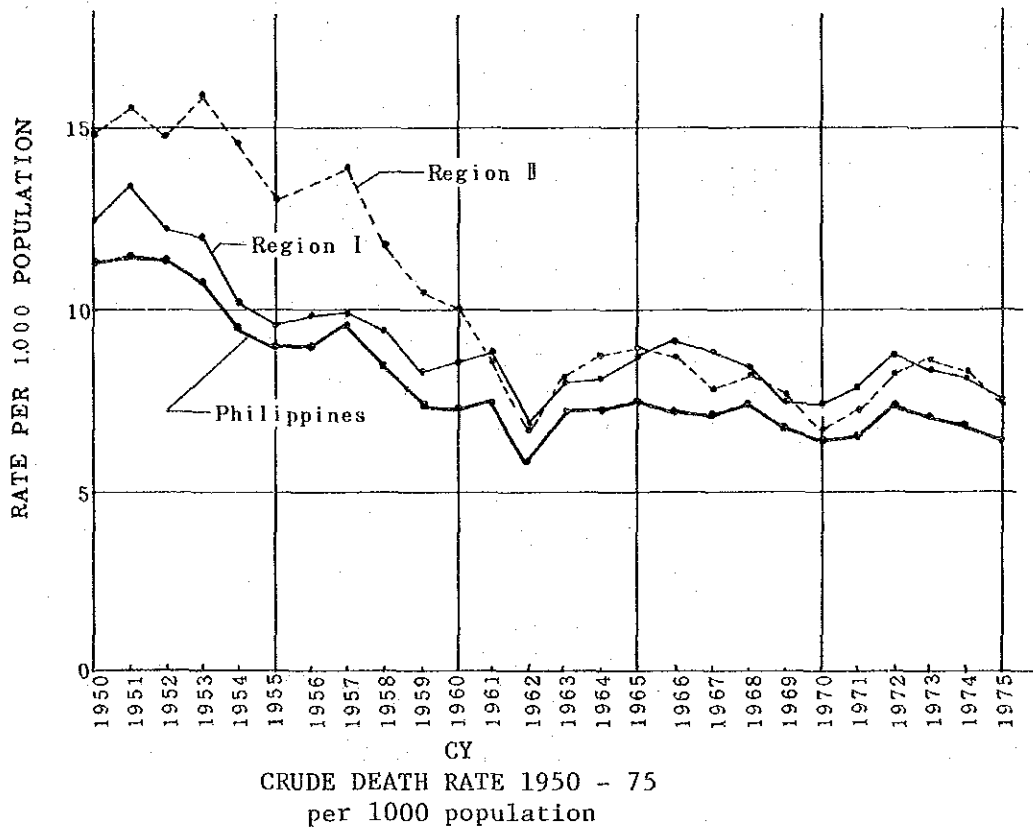
		Population x10 <sup>3</sup>	Crude Birth		Crude Death		Infant mortality	
			Number	Rate/ 10 <sup>3</sup>	Number	Rate/ 10 <sup>3</sup>	Number	Rate/ 10 <sup>3</sup>
JAPAN	C	109,410	2,029,989	18.6	710,510	6.5	21,888	10.8
EGYPT	C	36,420	* 1,292,458	35.5	* 453,199	12.4	129,789	100.4
ARGENTINA	C	25,050	'70) 544,521	22.9	'70) 222,113	9.4	'70) 32,099	58.9
CANADA	C	22,480	* 345,645	15.4	166,794	7.5	5,192	15.0
CHILE	C	10,080	'72) 256,075	25.3	'72) 88,656	8.8	'72)* 19,752	*78.0
COLOMBIA	U	23,950	'73) 733,138	31.6	'73) 280,572	11.2	'73) 72,139	98.4
MEXICO	...	58,118	* 2,523,000	43.4	417,100	7.2	'73) 133,842	52.0
U.S.A.	C	211,389	3,159,958	15.0	1,934,388	9.2	52,778	16.7
VENEZUELA	U	11,632	433,397	38.3	73,555	6.5	19,932	46.0
IRAN	U	32,140	* 1,249,000	38.9	* 150,000	4.7	...	...
ISRAEL	C	2,840	93,166	27.7	24,135	7.1	2,186	23.5
PHILIPPINES	U	41,457	1,078,184	26.1	283,975	8.9	63,491	58.9
SRI LANKA	C	13,680	'72)* 384,066	29.5	'72)* 100,080	7.7	'72)* 17,331	45.1
THAILAND	U	38,762	'73) 1,167,272	29.3	'73) 239,151	6.0	'73) 25,470	21.8
AUSTRALIA	C	7,550	97,430	13.0	94,324	12.6	2,285	23.5
DENMARK	C	5,045	71,327	14.1	51,637	10.2	762	10.7
FINLAND	C	4,691	62,472	13.3	44,674	9.5	645	10.3
FRANCE	C	52,492	801,218	15.3	552,551	10.5	11,764	14.7
E. GERMANY	C	16,925	179,127	10.6	228,955	13.5	2,844	15.9
W. GERMANY	C	62,054	626,373	10.1	727,611	11.7	13,232	21.1
HUNGARY	C	10,480	186,288	17.8	125,816	12.0	6,390	34.3
ICELAND	C	220	4,233	20.4	* 1,495	7.0	50	11.4
IRELAND	C	3,090	68,784	22.3	34,468	11.2	'73) 1,234	18.0
ITALY	C	55,410	871,631	15.7	528,461	9.5	19,685	22.6
NETHERLANDS	C	13,540	185,962	13.7	109,250	8.1	2,104	11.3
NORWAY	C	3,985	59,603	14.1	39,464	9.9	623	10.5
POLAND	C	33,846	621,080	18.4	277,085	8.2	14,610	23.7
PORTUGAL	C	8,780	171,979	19.6	96,928	11.0	6,515	37.9
SPAIN	C	34,829	686,198	19.3	295,469	8.4	13,481	19.6
SWEDEN	C	* 8,160	109,874	13.5	86,316	10.6	1,009	9.2
SWITZERLAND	C	6,440	84,507	13.1	56,403	8.8	1,053	12.5
ENGLAND-WALES	C	49,201	639,885	13.0	585,292	11.9	* 10,500	16.3
NORTH-IRELAND	C	1,547	27,160	17.6	17,327	11.2	567	21.0
SCOTLAND	C	5,226	70,093	13.4	64,740	12.4	1,326	19.0
YUGOSLAVIA	C	21,155	* 379,090	17.9	* 179,481	8.4	15,164	40.4
AUSTRALIA	C	13,338	245,177	18.3	115,833	8.7	3,958	16.1
NEW ZEALAND	C	3,044	59,336	19.6	25,261	8.3	922	15.5
U.S.S.R.	C	252,060	4,546,095	18.0	2,191,395	8.7	125,908	27.8

Note 1) C; Accuracy of data more than 90%  
 U; " less than 90%  
 \*; Temporary number

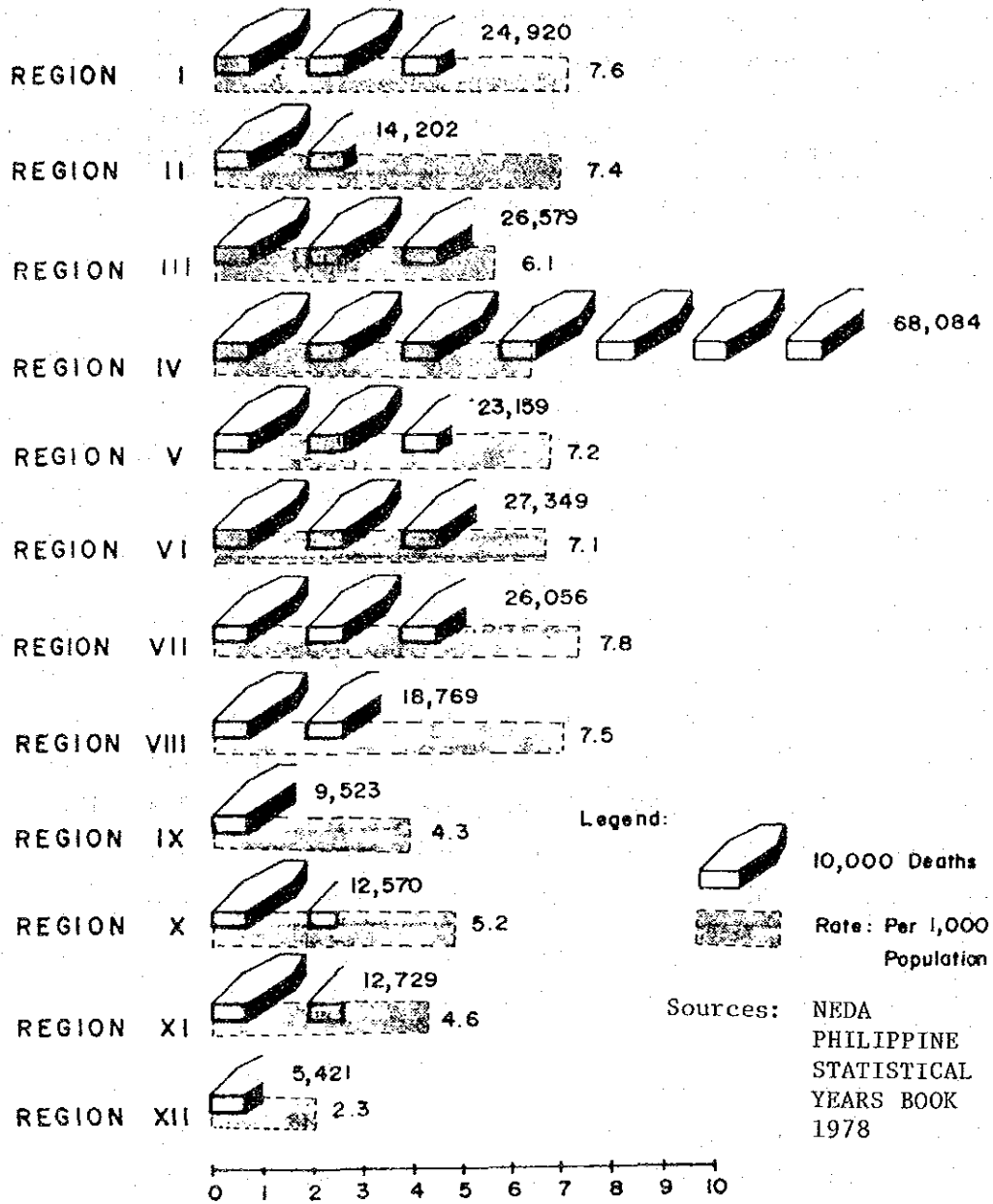
Source: World Health Statistics Annual 1973-1977 Vol. 1  
 Demographic Yearbook 1975.

(2) Crude death rate

The crude death rate of the Philippines was 18.9 percent per 1,000 population during the period from 1921 to 1925, and decreased to 6.9 percent in 1974. Since the crude death rate per se is not sufficient as an indicator for the position of health and sanitation of the country or the region, the extent of improvement in mortality without considering the effects of increasing elderly group has to be studied based upon the annual change in the revised death rate. Unfortunately it was not possible to obtain necessary data to calculate the revised death rate in our field study, but it appears that the Philippines left the stage of being a developing country in which the crude death rate is the only yardstick to measure the improvement of health and sanitary conditions, and has already reached a higher stage where the revised death rate should be employed to carry out the similar exercise in detail. Study by region indicates that Region I and II are higher than the national average by 1 to 1.5 percent, showing a high death rate. It should be noted, however, that the crude death rate of Region II has been rapidly declining since 1950.



NUMBER OF DEATHS AND RATE BY REGION: CY 1975



MORTALITY: ALL CAUSES BY AGE AND SEX, NUMBER,  
 PERCENTAGE DISTRIBUTION AND RATE: CY 1975  
 (Rate per 1,000 population)

Age	Number of deaths			Percent distribution			Rate		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
ALL AGES	269,361	152,451	116,910	100.0	100.0	100.0	6.3	7.2	5.5
Under 1 year	56,743	33,019	23,724	21.1	21.7	20.3	37.0	42.6	31.2
1- 4 years	41,522	22,240	19,282	15.4	14.6	16.5	7.4	7.7	7.0
5- 9 years	10,624	5,884	4,740	3.9	3.9	4.1	1.8	1.9	1.6
10-14 years	5,036	2,910	2,126	1.9	1.9	1.8	1.0	1.1	0.9
15-19 years	6,437	3,839	2,598	2.4	2.5	2.2	1.5	1.8	1.2
20-24 years	7,740	4,898	2,842	2.9	3.2	2.4	2.1	2.8	1.4
25-29 years	7,269	4,493	2,776	2.7	2.9	2.4	2.2	2.9	1.6
30-34 years	6,909	4,124	2,785	2.6	2.7	2.4	2.5	3.0	2.1
35-39 years	8,564	5,128	3,436	3.2	3.4	2.9	3.9	4.6	3.2
40-44 years	8,408	5,120	3,288	3.1	3.4	2.8	4.7	5.7	3.7
45-49 years	9,179	5,686	3,493	3.4	3.7	3.0	6.3	8.1	4.7
50-54 years	9,591	5,910	3,681	3.6	3.8	3.1	7.6	10.2	5.4
55-59 years	10,381	6,306	4,075	3.8	4.1	3.5	9.9	12.7	7.4
60-64 years	13,198	7,877	5,321	4.9	5.2	4.6	15.0	19.3	11.2
65-69 years	12,752	7,259	5,493	4.7	4.8	4.7	21.2	25.0	17.7
70 years and over	53,215	26,661	2,655	19.7	17.5	22.7	62.5	63.4	61.7
Not stated	1,793	1,097	696	0.7	0.7	0.6	-	-	-

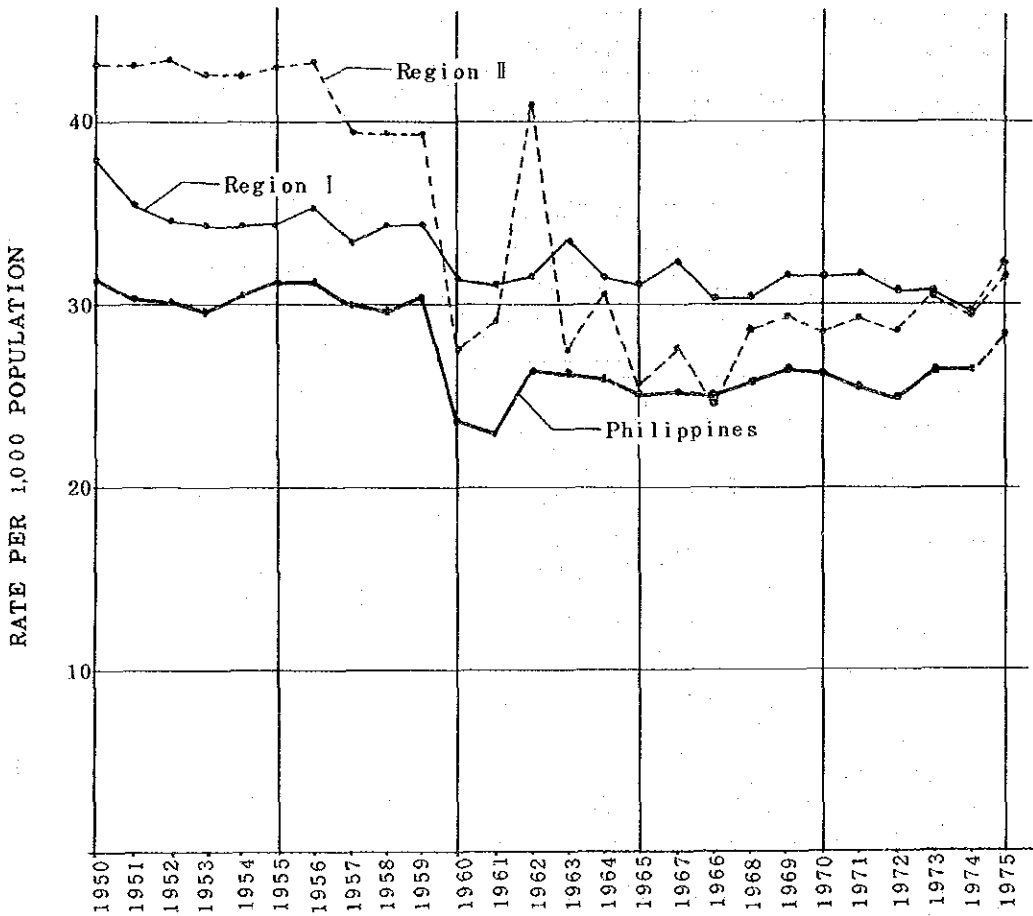
<sup>P</sup>Preliminary.

<sup>1</sup>Medium assumption used.

Source of data: Disease Intelligence Center, Department of Health.

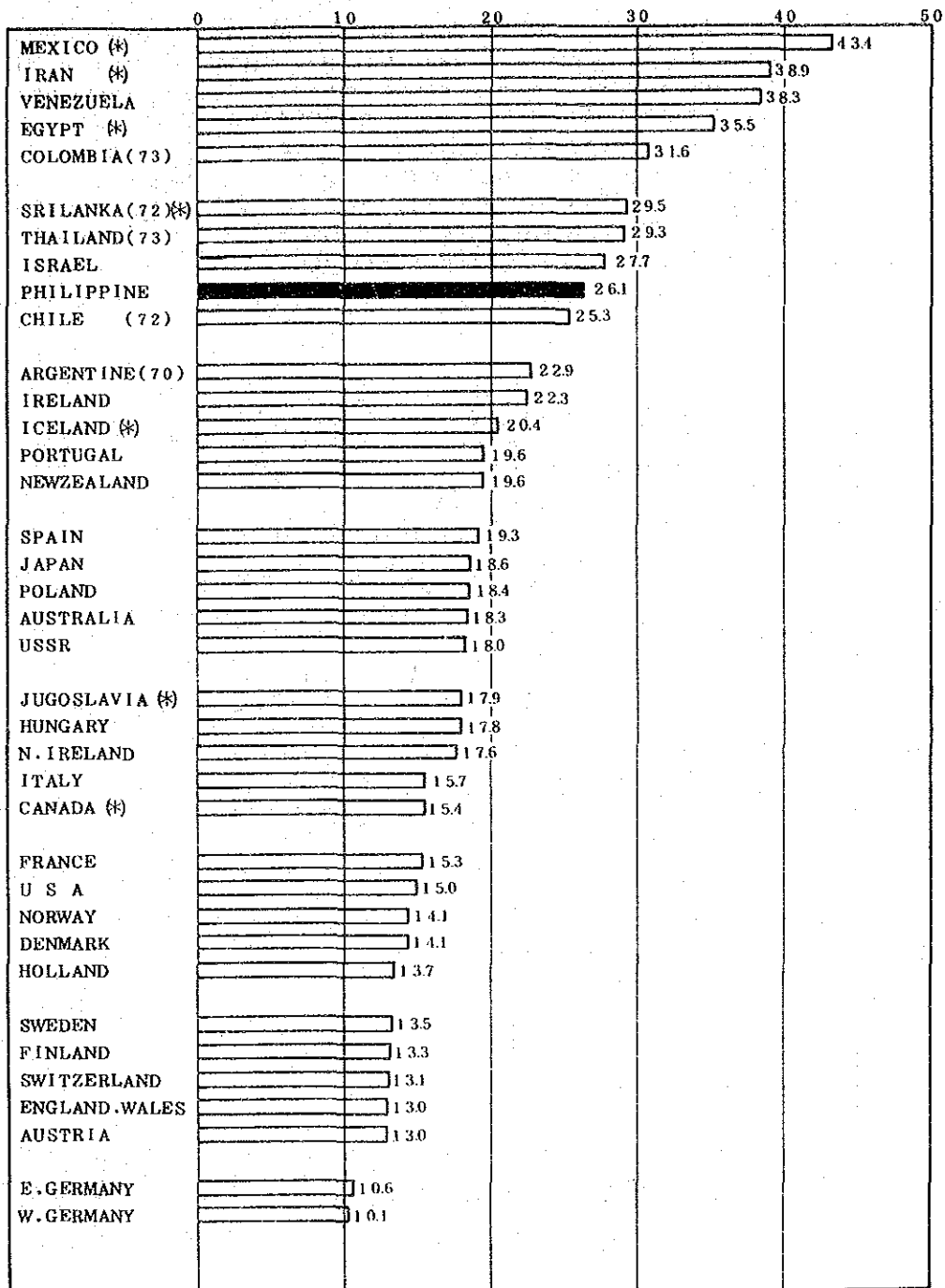
(3) Crude birth rate

The birth rate of the Philippines is internationally speaking, high. It was 26.1 per 1,000 population in 1974 and has remained virtually constant since around 1962. In terms of region, it was 43.4 percent and 38.0 percent respectively in Region I and II, which are ranked first and second among the 12 regions, but declined to 29.6 percent and 29.2 percent respectively in 1974. Though they are still high, they have come to be close to the national average.



CY  
 CRUDE BIRTH RATE 1950 - 75  
 per 1,000 population

CRUDE BIRTH RATE: PER 1000 POPULATION: CY 1974

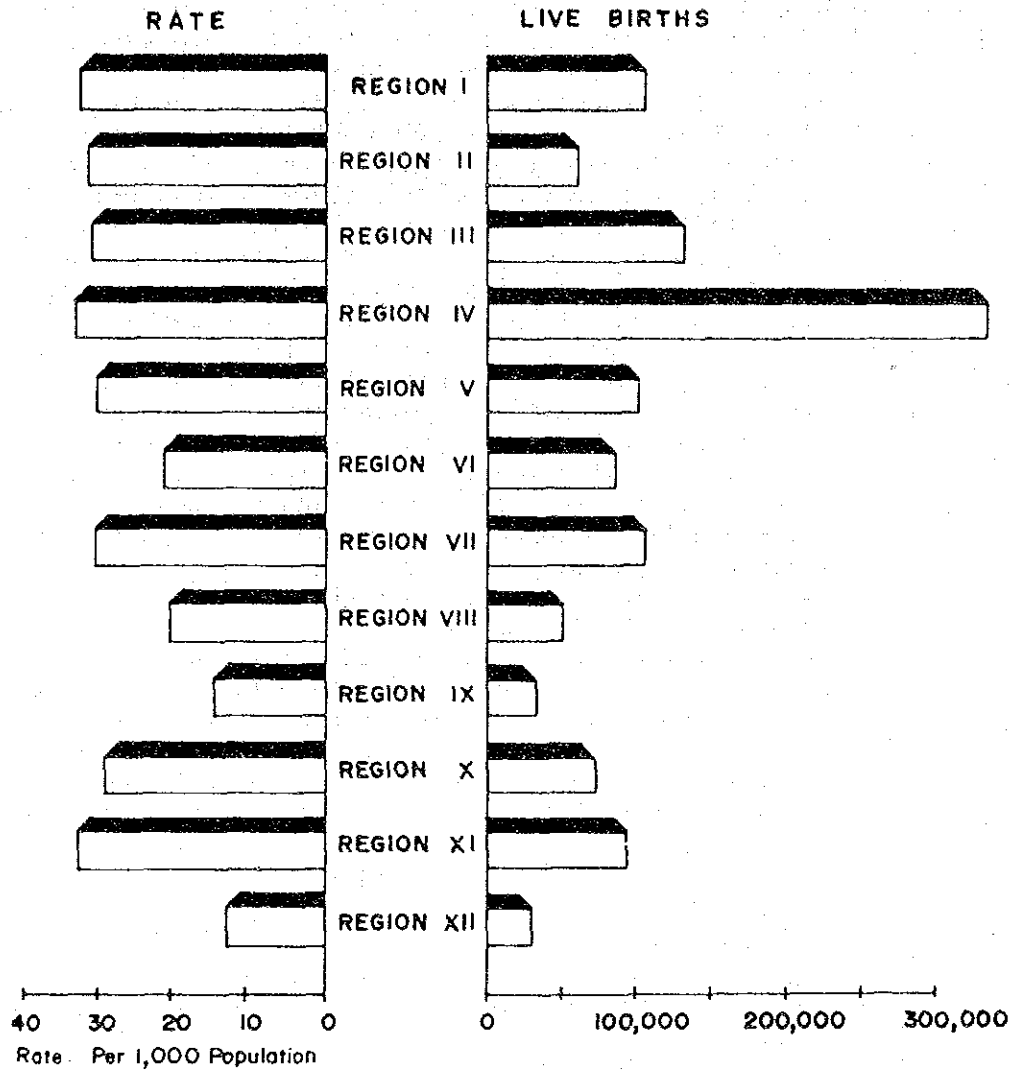


SOURCES: WORLD HEALTH STATISTICS ANNUAL VOL. 1. 1973-77

\* NOT FINAL DATA.



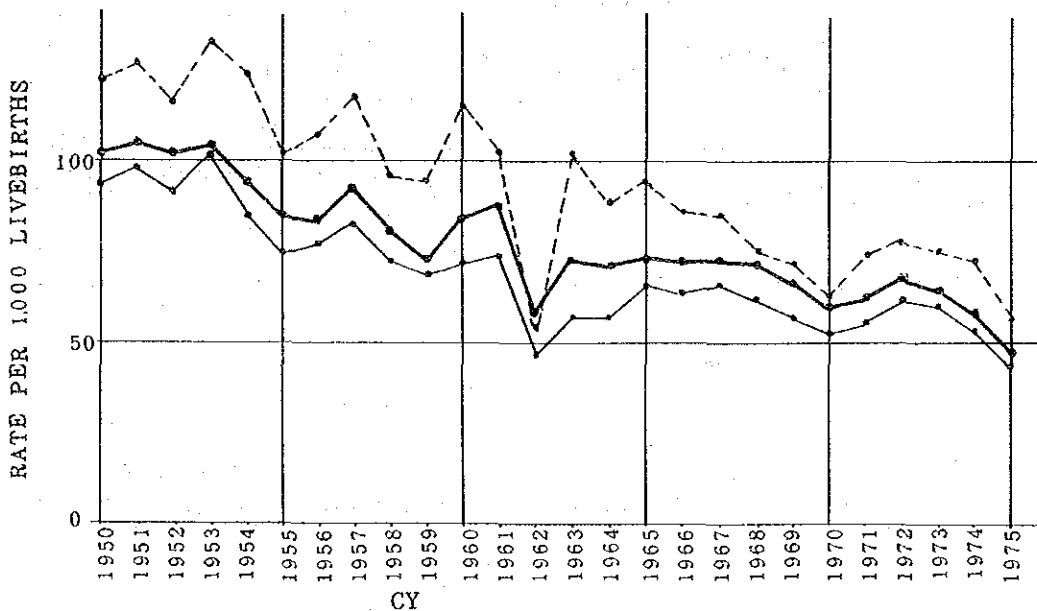
NUMBER OF LIVE BIRTHS AND RATE BY REGION: CY 1975



SOURCES: PHILIPPINE STATISTICAL YEAR BOOK 1978 NEDA

(4) Infant mortality rate

The infant mortality rate of the Philippines has been decreasing steadily from 101.6 per 1,000 in 1950 to 84.6 in 1960, 72.9 in 1965, 60.0 in 1970 and 58.9 in 1974. In spite of the rapid improvement in this aspect, it is nevertheless still higher than the international average. The infant mortality rate is a serious social problem in the country, and the 1975 data reveals that the mortality rate of less than one year old infants is 21.1 percent of the total deaths, that of 1-4 yr. olds 15.4 percent of the total deaths and that of 5-9 yr. olds 3.9 percent. This means more than 40 percent of the mortality is occupied by the age groups of one to nine year old infants and small children. The above figures are as same as those of other countries having a similar level of GNP per capita and the mortality is caused by malnutrition and communicable diseases. According to the region-wise study, the rate of Region I and II accounts for 94.29 and 121.90 respectively in 1950. The latter is extremely high while the former is below the national average. This trend remains unchanged even in 1974. In general, the infant mortality rate is a good indicator for reflecting sanitary conditions and living standards in the region, since there is a close linkage between the survival of infants health of their mothers, and their conditions of nurturance. These factors also illustrate Region II's being below the level of Region I.



INFANT MORTALITY RATE 1950-75  
(UNDER AGE 1 YEAR)

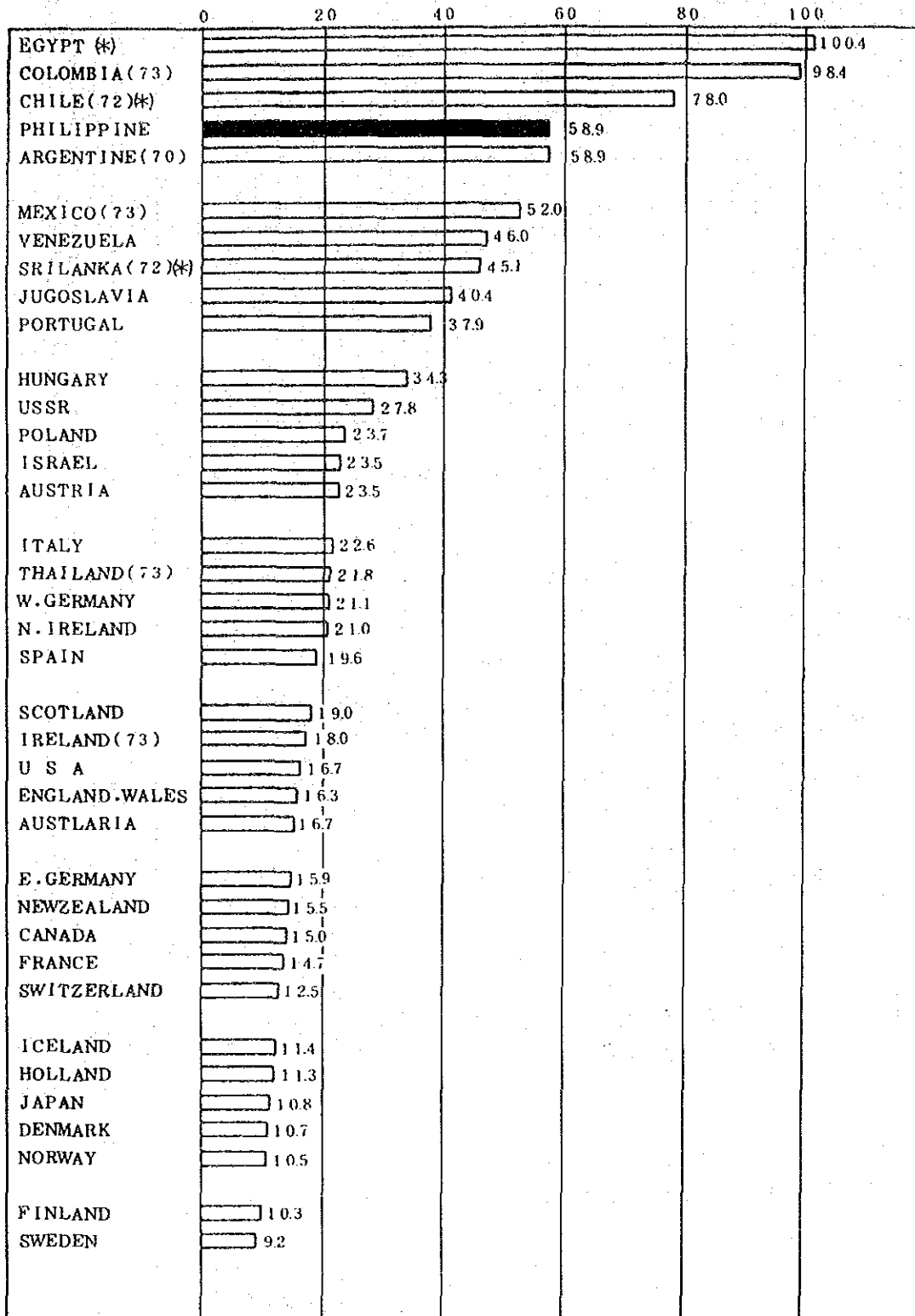
INTERNATIONAL COMPARISON OF LIVE BIRTHS ...

	Year	Neonatal mortality										
		1940	1950	1960	1965	1970	1973	1974	1975	1970	1973	1974
Japan	90.0	60.1	30.7	18.5	13.1	11.3	10.8	10.0	8.7	7.4	7.1	6.8
Canada	56.4	41.5	27.3	23.6	18.1	15.5	15.0	...	13.6	10.7	...	...
USA	47.0	29.2	26.0	24.7	20.0	17.7	16.7	* 16.1	15.1	13.0	12.3	...
Argentina	90.2	68.2	62.4	60.7	58.9	...	...	...	24.5	...	...	...
Chile	217.2	139.4	125.1	107.1	77.1	65.2	63.3	...	31.5	26.9	25.8	...
Colombia	140.9	123.9	99.8	82.4	...	98.4	...	...	...	...	...	...
Guatemala	108.9	106.8	91.9	94.6	87.1	81.2	...	...	30.8	...	...	...
Sri Lanka	148.9	81.6	56.8	53.2	...	...	...	...	...	...	...	...
Austria	74.2	66.1	37.5	28.3	25.9	23.8	23.4	20.5	19.0	17.9	17.1	15.4
Czechoslovakia	98.8	77.7	23.5	25.5	22.1	21.2	*20.4	20.9	15.7	16.0	15.4	...
Denmark	50.2	30.7	21.5	18.7	14.2	11.5	10.7	10.3	10.9	8.7	8.0	8.0
France	95.3	52.0	27.4	22.1	18.2	15.5	14.7	...	9.5	7.8	7.5	...
W. Germany	64.1	55.6	33.8	23.9	23.6	22.9	* 21.1	...	18.4	16.5	15.3	...
Hungary	130.1	85.7	47.6	38.8	35.9	33.8	34.3	32.9	28.5	27.5	28.4	26.8
Italy	102.7	63.8	43.9	35.6	29.5	26.2	22.6	...	20.3	19.4	16.9	...
Netherlands	39.1	25.2	17.9	14.4	12.7	11.5	11.3	10.6	9.4	8.5	8.0	7.6
Poland	...	108.0	56.8	41.8	33.2	25.8	23.7	24.9	19.5	16.4	15.6	15.9
Portugal	126.1	94.1	77.5	64.9	58.0	44.8	37.9	39.3	25.4	21.1	20.9	22.3
Spain	113.7	69.8	43.7	37.3	27.9	15.1	19.6	...	...	...	...	...
Sweden	39.2	21.0	16.6	13.3	11.0	9.9	9.2	8.6	9.1	7.8	7.1	6.4
Switzerland	46.2	31.2	21.1	17.8	15.1	13.2	12.5	10.7	10.8	9.4	8.4	7.4
England-Wales	57.4	30.0	21.8	19.0	18.1	16.9	16.3	16.0	12.3	11.1	11.0	10.7
Yugoslavia	...	118.4	87.7	71.5	55.5	44.2	* 40.4	* 40.5	23.4	20.6	...	...
Australia	38.4	24.5	20.2	18.5	17.9	16.5	16.2	...	12.9	11.8	11.6	...
New Zealand	...	27.6	22.6	19.5	16.7	16.2	15.6	...	10.3	9.8	9.4	...
USSR	...	81	35	27.6	24.4	26.4	27.8	...	...	...	...	...
Philippines	...	101.6	84.6	72.9	60.0	64.7	58.7	47.6	...	...	...	...

Note: In the case of "1" infants dying before the birth is registered are excluded.  
 References: 1940 Demographic Yearbook (UN: 1953 printing) 1950 Demographic Yearbook (UN: 1959 printing)  
 1960 " " (UN: 1964) 1965 " " (UN: 1967)  
 The figures for 1970-40 were taken from the 1973 Demographic Yearbook, 1974 World Health Statistics Annual, and Population Dynamic's Statistics 1970-72, 1973-77 (Japan Ministry of Public Health)

Philippine Disease Intelligence Center, DOH

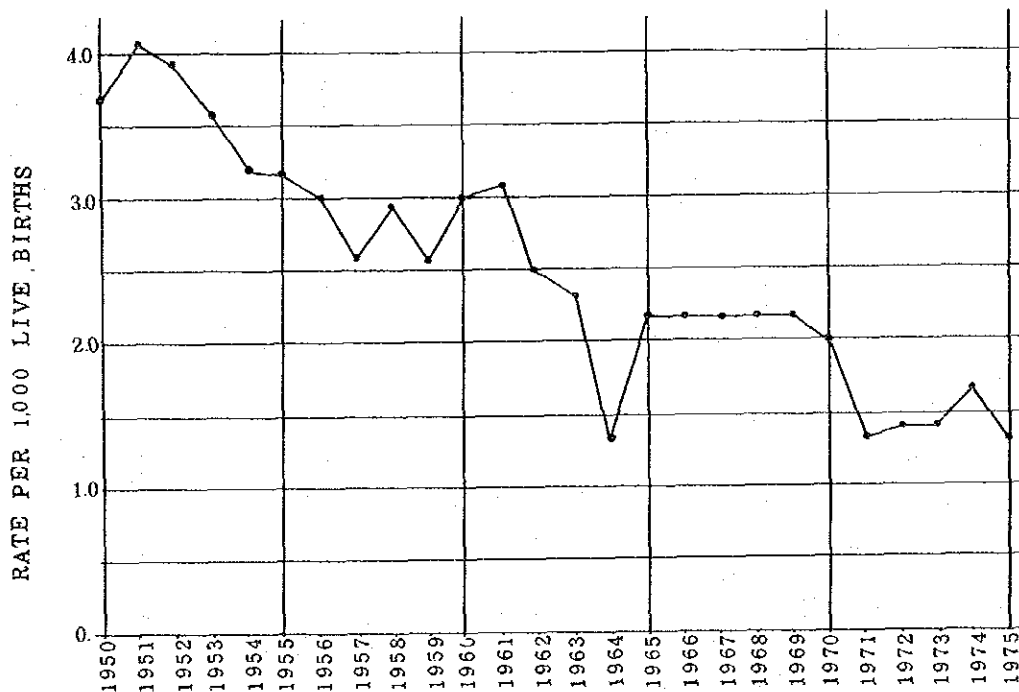
INFANT MORTALITY RATE: PER 1,000 LIVE BIRTHS. CY 1974  
(UNDER AGE 1 YEARS)



SOURCES: World Health Statistics Annual 1973-77 Vol. 1.

(5) The Maternal death rate

The maternal death rate per 1,000 Live births was 7.2 during the period from 1931 to 1935, but the figure went down to 4.2 in 1947 after the war and kept up the downward trend to reach 1 around 1971. The maternal death rate is still high in the Philippines where delivery is made at home. Further, the high rate is also contributed by such factors as the poor sanitary conditions of the region and the individual home, ignorance in respect to pregnancy and delivery, and traditional social customs which are far from scientific. However, health education, particularly energetic activities by midwives in the mountainous and rural areas, together with the increasing delivery practice at the hospital, attribute to the decline of this rate. According to the 1971 data, the ratio between home and hospital delivery was 75.6 percent to 24.4 percent. Further, in respect to the cases of maternal death, 57.2 percent were examined, 37.4 percent were attended, and 5.4 percent were simply reported. If cases which were not reported are included with those cases "simply reported", the rate of maternal deaths where medical services were not received would be higher than the statistics indicates.



CY  
MATERNAL DEATH RATE: 1950-75  
per 1,000 Live Births

(6) Infant mortality rate by disease

Though showing a declining trend (0.2%), pneumonia is ranked first followed by gastro-enteritis and colitis. The third rank is occupied by congenital deformity, which is slightly decreasing (0.6 percent), avitaminosis and other nutritional deficiencies which are ranked fourth are slightly increased (0.1 percent), anoxia and hypoxia are rapidly increasing (1.9 percent), acute bronchitis is also increasing rapidly (2.5 percent), measles shows a slight increase (0.3 percent) and meningitis a nominal increase (0.1 percent). The structure of the 10 leading diseases in 1974 is as follows:

Infectious (Type A)	48.1%
Maternal (Type C)	9.7%
Others (Type E)	6.2%

The above also indicates the high rate of infectious diseases.

INFANT MORTALITY: TEN(10) LEADING CAUSES, NUMBER AND  
 RATE PER 1,000 LIVE BIRTHS AND PERCENTAGE  
 DISTRIBUTION: CY 1969-73 AND 1974

Cause	5-Year Average 1969-73			1974		
	Number	Rate	Per Cent. of Infant Deaths	Number	Rate	Per Cent of Infant Deaths
Pneumonia	A 17,274	17.3	26.3	16,549	15.3	26.1
Gastro-Enteritis	A 5,623	5.6	8.6	5,448	5.0	8.6
Congenital Anomalies	C 1,960	2.0	3.0	1,520	1.4	2.4
Avitaminosis & other Nutri- tional Deficiency	E 4,039	4.0	6.1	3,942	3.6	6.2
Anoxia & Hypoxia Conditions Not Elsewhere classified	C 3,546	3.5	5.4	4,659	4.3	7.3
Bronchitis, Emphysema & Asthma	A+E 4,109	4.1	6.3	2,301	2.1	3.6
Tetanus	A 2,612	2.6	4.0	2,820	2.6	4.4
Acute Respiratory Infections	A 346	0.3	0.5	1,888	1.7	3.0
Measles	A 670	0.7	1.0	842	0.8	1.3
Meningitis	A 646	0.6	1.0	717	0.7	1.1

Source: Disease Intelligence Center, Department of Health.

(7) Maternal Death Rate by Disease

<u>Main Cause</u>	<u>Maternal Mortality Rate</u>	
	<u>5-Year Average</u>	
	<u>(1970-1974)</u>	<u>1975</u>
<u>All Causes</u>	<u>1.5</u>	<u>1.4</u>
Toxemias of Pregnancy and Puerperium	0.2	0.3
Haemorrhage of Pregnancy and Childbirth	0.9	0.8
Abortion	0.1	0.1
Sepsis of Pregnancy, Childbirth and the Puerperium	0.07	0.09
Other Complication of Pregnancy, Childbirth & the Puerperium & Delivery without mention of complication	0.2	0.2

(8) Communicable diseases

As was mentioned in the preceding chapters, measures to wipe out communicable diseases should receive top priority in the health service in the Philippines. In spite of the fact that the 57 percent of the total deaths in 1947 has declined to 47 percent in 1974, its high occurrence, numerically or relatively to other diseases remains unchanged. During the same period, degenerative diseases increased from 2.0 percent to 12.7 percent. This reversed position of disease structure will further necessitate the establishment of functional coordination between preventive and curative care. Moreover, malnutrition and poor environmental sanitation, etc., contributing to the rampage of communicable diseases are further complicated by socio-economic factors which are beyond the scope of medicine alone. At the present moment, strengthening of the organizational set-up connecting regional health services, provincial health offices and rural health units is taking place with the assistance of the World Bank in order to promote preventive care activities. Improvement of regional hospitals, which is about to be initiated as the next stage, would be highly meaningful.



and valuable for wiping out communicable diseases. Under these circumstances, the following aspects may have to be reviewed:

- a. Is vaccination implemented in an appropriate manner?
- b. Is sanitary education given in an appropriate manner?
- c. Are testing and chemotherapy provided properly in accordance with the type of communicable disease?

The field survey we have conducted this time suggests that regional hospitals incorporate preventive care activities into their normal functions. In particular, regional hospitals with a sizeable scale, which are isolated from each other in such regions as Region II, should not only possess vaccines for preventive care but also function as a core regional hospital having testing capacity. In order to promote this Immunization Programme, however, the supply of electricity and water to regional hospitals under planning is a crucial issue.

Colera Patients in Leading attached Area  
(1972 ~ 76)

	1972	1973	1974	1975	1976
Total	81,166	109,553	99,141	87,475	66,804
Asia	74,228	100,399	88,774	80,877	64,077
Bangladesh	1,059	1,969	5,614	4,888	957
Burma	61	253	2,149	2,895	1,152
India	20,453	40,722	30,903	20,714	17,217
Indonesia	44,383	52,042	41,474	48,387	41,264
Maleisia	860	390	349	110	246
Nepal	1	7	8	260	185
Philippine	5,601	2,075	1,918	680	1,258
Thailand	-	844	1,495	1,335	6
Sri Lanka	-	190	4,566	1,453	728
Viet Nam	184	1,495	139	5	16
Others	1,626	412	159	150	1,048
Africa	6,891	8,850	7,877	5,586	2,711
Europe	4	303	2,483	1,012	16
Others	43	1	7	-	-

Note: Imported case is also included

Sources: Weekly Epidemiological Record, WHO

After the seventh wave of cholera attack in 1961 on international scale, it started to abate temporarily since 1964. But it has again shown an upward trend from 1967 and as many as 130,000 cholera patients were found in the world in 1971 which was the highest on record for the past 10 years. It again showed a decreasing trend but has been prevailing in the South-East Asia region. Fortunately the Philippines is located off the center of the high incidence region, though her figure is still high.

(9) Malnutrition

The major issue of malnutrition is Protein Energy Malnutrition (PEM) which is mainly caused by insufficient intake of proteins and calories. Further it is also added by avitaminosis and other nutritional deficiencies (specifically vitamin A and B2, iron and iodine). According to the survey conducted in May 1977, it was found that 30.6 percent of 4.4 million pre-school children suffered from either medium or high levels of malnutrition. As this trend has not shown any sign of abatement, it is hoped to take immediate and effective measures to combat this disease. It is suggested that regional hospitals under the guidance of the National Nutrition Council tackle this problem more aggressively. It may be true that social customs and poverty as was found in Quirino or Ifugao Region prevent patients from visiting the hospital for the cure of malnutrition, but it should be recognized that the principle function of regional hospitals cover not only curative care but also preventive care aspects as well.



Mortality in Selected Foreign Nations -- Actual No. and Rate Per 100,000 Pop., by Cause of Death

International Classification Type (number)	Cause of Death	Japan 1976	Canada 1973	Mexico 1973	USA 1974	Chile 1971	Colombia 1970	Austria 1974	Czechoslovakia 1973	Denmark 1973	France 1970	G. Germany 1972	Hungary 1974	Italy 1972	Netherlands 1972	Norway 1973	Poland 1974	Portugal 1973	Sweden 1973	Switzerland 1973	England Wales 1973	Australia 1973	New Zealand 1973	Philippines 1974	
	Total No. of Deaths	703,270	164,039	458,915	1,934,388	83,456	134,894	94,324	168,196	50,526	539,679	731,264	125,816	523,828	113,576	39,958	277,085	95,435	85,632	56,990	587,478	110,822	25,290	283,975	
	Rate per 100,000 Pop.	625.6	741.4	817.1	915.1	844.7	638.8	1,250.2	1,155.2	1,006.1	1,063.0	1,185.7	1,200.7	962.7	852.0	1,008.9	822.4	1,114.3	1,052.4	897.5	1,194.7	843.9	853.6	687.6	
A B1	Cholera	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8
A B2	Enteric fever	0.0	0.0	5.1	0.0	0.6	0.9	-	0.0	-	0.1	0.0	0.0	0.1	-	-	0.0	0.3	-	-	-	-	-	-	1.4
A B3	Bacillary and amoebic dysentery	0.0	0.0	5.2	0.0	0.2	2.7	-	0.1	-	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	-	-	1.6
A B4	Enteritis and other diarrhetic diseases	2.3	1.2	103.8	1.1	36.7	59.8	0.1	0.3	0.9	1.1	0.9	1.7	3.9	1.3	1.7	0.9	24.9	0.2	0.7	1.0	2.2	1.2	-	9.6
A B5, B6 B5 B6	All TB	8.5	1.8	15.8	1.6	21.4	12.5	8.1	7.0	2.6	8.2	6.8	15.6	6.2	1.5	2.5	13.8	12.4	4.5	5.7	2.7	0.9	3.0	-	75.1
	PTB	8.1	1.2	14.2	1.3	19.7	10.9	6.9	6.5	1.2	7.1	5.5	11.6	5.5	0.8	0.6	13.0	11.3	2.8	4.8	1.7	0.6	1.1	-	69.3
	Other types of TB (sequelae included)	0.4	0.6	1.6	0.3	1.7	1.6	1.2	0.5	1.4	1.1	1.3	0.4	0.7	0.7	1.9	0.8	1.1	1.7	0.9	1.0	0.3	1.9	-	5.8
A B7	Plague	-	-	-	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A B8	Diphtheria	0.0	0.0	0.2	0.0	0.6	0.8	-	-	-	0.0	-	-	-	0.0	-	-	-	0.3	-	-	0.0	-	-	1.3
A B9	Pertussis	0.0	0.0	6.4	0.0	0.6	3.0	0.0	-	0.1	0.1	0.0	0.0	0.1	-	-	0.0	0.1	-	-	0.0	0.0	-	-	0.1
A B10	Streptococcal pharyngitis and scarlet fever	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	-	0.0	0.0	-	0.0	0.0	-	-	-	0.0
A B11	Infectious meningococcus	0.0	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.3	0.2	0.2	0.1	0.3	0.3	0.7	0.1	1.9	0.1	0.3	0.4	0.2	1.2	-	0.4
A B12	Acute poliomyelitis	-	-	0.3	0.0	0.2	0.7	0.0	-	-	0.0	0.0	-	-	-	-	0.0	-	-	-	-	-	-	-	-
A B13	Small pox	-	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-
A B14	Rubeola	0.2	0.0	4.6	0.0	6.3	10.2	0.0	0.1	-	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	-	8.6
A B15	Typhoid and other rickettsiosis	-	-	0.0	0.0	0.0	1.1	-	-	-	0.0	-	-	-	0.0	-	0.0	0.0	-	0.0	0.0	-	-	-	0.0
A B16	Malaria	0.0	-	0.0	0.0	-	2.9	-	-	0.0	0.0	0.0	-	0.0	-	0.0	-	0.0	0.0	0.0	0.0	-	-	-	2.3
A B17	Syphilis and subsequent complications	0.3	0.1	0.5	0.0	0.4	0.4	0.5	0.3	0.1	0.3	0.4	0.4	0.4	0.3	0.4	0.3	0.3	0.2	0.5	0.3	0.1	0.2	-	0.0
A B18	Other infectious and parasitic diseases	2.3	1.7	21.0	4.3	14.6	19.7	1.6	2.3	1.8	5.5	3.2	2.5	3.2	2.7	2.5	3.9	5.0	2.5	3.7	1.9	2.4	2.7	-	26.7
B B19	Malignant growths	125.3	149.5	35.5	170.5	101.7	42.4	258.3	225.7	231.9	207.4	233.7	239.6	187.0	197.5	187.5	149.6	137.1	228.5	208.1	244.1	147.7	159.6	-	30.0
B B20	Benign or unidentified growths	5.8	1.3	1.8	2.4	2.7	4.4	4.9	3.1	3.4	8.4	11.8	4.9	6.1	7.9	7.7	4.8	0.7	3.5	3.2	2.5	1.6	0.8	-	1.3
E E21	Diabetes	8.2	14.8	13.8	17.7	10.5	6.6	15.7	16.7	12.6	15.7	32.6	4.1	21.3	11.7	6.8	4.1	10.6	16.2	26.1	10.4	13.6	15.8	-	2.7
E E22	Avitaminosis and other malnutrition	0.5	0.8	11.6	1.2	14.0	21.5	0.4	0.1	0.1	7.8	0.5	0.1	0.0	0.2	0.3	0.1	3.9	0.1	0.5	0.5	0.7	0.4	-	30.3
E E23	Anemia	1.4	1.5	9.4	1.6	1.8	11.4	2.0	1.1	1.3	1.7	2.2	1.1	1.4	1.4	1.6	0.7	0.7	1.1	2.0	3.3	1.6	1.5	-	3.7
E E24	Meningitis	0.7	0.6	3.4	0.7	6.4	6.8	1.6	1.1	0.7	1.5	1.1	1.6	0.9	0.9	1.0	1.1	2.8	0.9	0.7	0.7	0.7	0.9	-	6.2
B B25	Active rheumatic fever	0.3	0.1	0.6	0.1	0.4	0.9	0.1	0.0	-	0.2	0.1	0.0	0.1	0.1	0.1	0.5	0.2	0.1	0.1	0.1	0.1	0.1	-	0.2
B B26, B28, B29 B26	Coronary disease	92.2	251.0	72.6	343.4	105.1	75.9	350.3	13.5	196.8	311.0	304.5	251.8	254.7	323.2	174.5	154.7	407.8	228.0	379.9	291.5	268.5	268.5	-	54.6
	Coronary rheumatic disease	3.3	5.4	2.6	6.2	5.8	2.7	10.6	13.5	4.0	6.9	9.1	9.3	8.1	13.7	8.1	4.3	11.2	2.9	12.4	5.9	7.2	5.0	-	5.0
B B28	Ischemic coronary disease	39.7	228.5	20.1	314.5	63.3	32.1	249.8	270.4	324.2	80.9	190.8	236.9	136.6	190.2	270.2	69.5	91.9	378.1	107.4	308.9	251.2	240.1	-	26.8
B B29	Other heart disease	49.3	17.1	49.9	22.7	36.0	41.1	89.9	20.3	25.2	111.9	113.3	58.5	105.9	56.4	39.3	96.9	58.5	18.5	117.7	58.6	34.4	21.2	-	22.8
B B27	High blood pressure related disease	17.6	7.4	3.7	9.0	6.0	9.8	23.1	10.3	5.7	11.9	20.7	61.3	24.9	9.2	14.1	18.6	5.0	5.1	19.8	17.8	11.1	14.4	-	18.3
B B30	Cerebral vascular disease	154.5	73.3	24.1	98.1	61.7	27.8	189.2	187.6	99.5	147.2	171.9	166.1	129.7	97.9	155.5	47.7	288.7	112.9	105.2	163.9	121.3	118.6	-	11.6
A B31	Influenza	2.4	2.6	12.8	1.0	9.0	6.0	2.5	6.9	2.0	14.3	3.5	3.3	3.3	4.9	2.6	1.3	9.2	2.3	10.3	6.4	1.1	2.3	-	7.1
A B32	Pneumonia	26.6	22.8	107.4	24.9	101.2	50.8	37.5	36.5	22.0	17.7	24.9	11.4	31.6	24.3	64.9	22.2	59.7	24.0	18.9	95.1	19.9	31.6	-	111.2
A B33	Bronchitis	11.7	15.5	14.2	12.7	10.1	30.4	21.9	69.9	27.3	30.5	37.2	26.6	34.2	23.6	15.0	23.3	36.5	16.1	21.4	36.5	31.4	37.7	-	17.1
E E34	Pulmonary emphysema	5.6	3.8	4.8	3.3	3.5	4.0	9.1	6.2	6.4	3.7	6.6	8.7	7.6	6.8	1.1	4.8	4.7	5.4	7.1	11.4	6.3	8.3	-	10.5
E E35	Appendicitis	2.3	0.3	1.0	0.4	0.7	0.9	2.1	1.2	0.9	0.9	2.2	1.7	1.1	0.7	0.6	1.1	0.7	0.8	1.4	0.7	0.6	0.4	-	0.9
E E36	Ileus and hernia	2.3	3.1	4.7	3.1	4.1	3.2	6.9	5.6	2.9	8.8	7.5	6.6	6.5	4.4	4.6	4.2	4.2	5.2	4.0	5.2	3.0	2.8	-	3.8
E E37	Hepatocholelithiasis	13.8	11.3	20.5	15.8	35.5	3.0	32.6	16.9	10.9	33.4	25.2	16.2	31.8	4.2	4.0	9.7	31.7	10.4	13.8	3.7	7.1	4.8	-	4.1
E E38	Nephritis and nephrosis	6.1	2.7	8.2	3.8	5.4	6.1	4.8	7.2	1.6	4.1	3.8	6.9	5.4	3.4	3.5	7.5	13.2	3.7	4.5	5.3	5.5	4.9	-	8.9
E E39	Prostatomegaly	1.3	9.2	9.9	5.8	...	...	35.4	36.9	28.1	30.1	56.9	32.5	39.4	38.7	28.6	18.6	14.4	23.2	39.8	16.8	15.4	20.6	-	...
C C40, B41	Pregnancy, delivery and post-natal complications	0.8	0.3	11.2	13.8	6.7	10.0	18.5	12.7	2.8	0.5	0.9	36.1	1.5	0.3	3.3	16.9	2.3	2.7	16.1	0.3	0.4	23.1	-	137.8
B B40	Miscarriages	0.0	0.0	0.7	0.0	2.3	1.2	...	0.0	-	0.5	0.1	0.1	0.2	-	-	0.0	0.3	-	0.1	0.0	0.0	-	-	...
B B41	Other pregn. deliv. and post-deliv. complic. and normal deliveries	0.8	0.3	10.5	13.8	4.4	8.8	18.5	12.7	2.8	0.0	0.8	36.0	1.3	0.3	3.3	16.9	2.0	2.7	16.0	0.3	0.4	23.1	-	137.8
C C42	Congenital abnormalities	5.1	7.7	6.9	6.4	9.6	6.5	7.2	8.8	7.3	6.8	6.5	10.9	7.6	7.6	6.2	10.1	8.5	6.8	7.9	8.3	9.1	11.5	-	4.7
C C43	Injuries at birth, difficult deliv. and other anoxia, hypoxia	180.9	374.5	298.1	505.5	901.6	...	712.3	607.9	422.8	379.1	624.1	1,638.3	635.9	380.1	192.8	623.6	398.7	336.5	397.6	447.5	242.3	284.9	-	465.5
C C44	Other childbirth-related causes of death	281.9	388.2	620.2	405.4	776.3	...	575.8	581.7	196.1	292.8	770.2	669.9	919.3	242.8	408.4	472.9	734.7	197.0	262.8	305.2	624.2	415.0	-	1,223.7
E E45	Symptoms and diagnosis unclear	33.0	6.3	101.3																					

Medical Demands in Region I & II (actual)

	Province	Area km <sup>2</sup>	Population Person/10 <sup>3</sup>	Population Density Person/km <sup>2</sup>	Crude Birth Rate Person/10 <sup>3</sup>	Crude Death Rate Person/10 <sup>3</sup>	Population Increase Rate (%)	Annual Patient Patient/year	Patient per Population/10 <sup>3</sup>	Annual OPD Attendance Patient/year	Annual New Admission Patient/year	Number of Delivery		Leading Disease	Leading causes of Death	
												In hospital (%)	Case/year			
Region I	Ilocos Norte	3,386	394	116.3	28.4	8.8	1.71					5.0	7,200	URTI PTB Bronchitis	Heart Disease Pneumonia PTB	
	Ilocos Sur	2,580	427	165.5	27.2	8.7	1.02					11.4	11,400	Influenza Gastro-Ent. Bronchitis	C.V.A. Pneumonia PTB	
	Abra	3,976	173	43.5	24.2	6.3	2.22	28,600	165	16,500	12,100	4.9	3,465	Influenza Gastro-Ent. Bronchitis	Pneumonia PTB Cardio Vascular	
	La Union	1,373	441	321.2	29.4	8.7						10.0	13,900	Bronchitis Influenza Gastro-Ent.	Dis. Cir. System Pneumonia Senility	
	Mountain Province	2,347	102	43.5	16.7	5.6		Public only 20,319	199	13,960	6,359		744	Gastro-Ent. Influenza	Senility Pneumonia Gastro-Ent.	
	Benguet	2,655	329	123.9	32.8	5.7	3.60						7,500	Upper Resp. Infect. Diarrhea Influenza	Pneumonia PTB Senility	
	Pangasinan	5,368	1,621	301.9	36.6	11.4										
	Sub-Total	21,685	3,487	160.8	27.9	7.9										
Region II	Batanes	209	12	57.4	31.8	8.7										
	Cagayan	9,003	707	78.5	28.9	8.0							26,500	Bronchitis Influenza Malaria	Pneumonia TB Cardio Vascular	
	Kalinga-Apayao	6,808	167	24.5	18.8	6.1	2.80	Public only 10,800	65	2,200	8,600		3,100	Gastro-Ent. Influenza Malaria	Pneumonia Senility Bronchitis	
	Isabela	10,665	807	75.7	30.2	8.2										
	Quirino	1,877	76	24.7	44.9	7.0	3.08									
	Ifugao	2,518	112	44.5	13.0	3.2	2.60						1,575	Bronchitis Influenza Gastro-Ent.	Pneumonia Senility TB	
	Nueva Vizcaya	2,690	241	89.6	28.8	5.9	4.75	12,900	54				4,515	Bronchitis Influenza Gastro-Ent.	Senility Pneumonia Bronchitis	
	Sub-Total	33,770	2,122	62.8	28.1	6.7										
Philippines	300,000	42 Mil. (1975)	140.0	26.1 (1974)	6.9 (1974)	2.9 (1975)										

Note) 1. 1 ~ 5 Data from DOH 1975  
2. 7 ~ 13 DOH, Field Operations Report 1975

The Medical Supplies Situation in Regions I and II

	Province	No. of Hospitals		No. of Beds (author.)			No. of Physicians			No. of Nurses			Yearly admissions	Bed use rate (%)	Special health care equipment and facilities
		Gov't	Gov't and Priv.	Gov't	Gov't and Priv.	Beds per Capita	Gov't	Gov't and Priv.	Phys. per Capita	Gov't	Gov't and Priv.	Nurses per Capita			
Region I	Ilocos Norte	5	14	375	679	1/580									
	Ilocos Sur	6	13	275	409	1/1,044	51	123	1/3,471	77	129	1/3,310			
	Abra	2	8	125	321	1/539	$\frac{8}{22}$	$\frac{13}{43}$	1/4,023	$\frac{18}{44}$	$\frac{25}{60}$	1/2,833	5.7	62.1	
	La Union	7	13	360	611	1/722	$\frac{50}{66}$	$\frac{82}{133}$	1/3,316	$\frac{81}{104}$	$\frac{158}{270}$	1/1,633			
	Mountain Province	4	7	225	271	1/376	$\frac{11}{13}$	$\frac{17}{17}$	1/6,000	$\frac{21}{32}$	$\frac{39}{39}$	1/2,615		100.0	
	Benguet	3	16	475	996	1/330	$\frac{18}{18}$	$\frac{38}{38}$	1/8,658	$\frac{30}{30}$	$\frac{52}{52}$	1/6,327			
	Pangasinan	9	31	605	1,547	1/1,048									
	Sub-Total	36	102	2,440	4,834	1/721									
Region II	Batanes	2	2	100	100	1/120									
	Cagayan	9	19	475	612	1/1,155	$\frac{40}{88}$	$\frac{143}{143}$	1/4,944	$\frac{76}{113}$	$\frac{130}{130}$	1/5,438			
	Kalinga-Apayao	7	12	250	329	1/508	$\frac{18}{22}$	$\frac{34}{34}$	1/4,912	$\frac{34}{45}$	$\frac{62}{62}$	1/2,694	5.8	60.2	
	Isabela	7	22	325	568	1/1,420									
	Quirino	3	4	150	175	1/434	$\frac{9}{9}$	$\frac{13}{13}$	1/5,846	$\frac{21}{21}$	$\frac{21}{21}$	1/3,619			
	Ifugao	4	7	150	185	1/605	$\frac{5}{9}$	$\frac{9}{14}$	1/8,000	$\frac{22}{28}$	$\frac{30}{38}$	1/2,947	6.4	54.9	
	Nueva Vizcaya	2	5	250	300	1/803	$\frac{15}{23}$	$\frac{36}{46}$	1/5,239	$\frac{33}{44}$	$\frac{53}{71}$	1/3,394	6.0	65.0	
	Sub-Total	34	71	1,700	2,269	1/935									
Total	367 (1975)	1,038 (1975)	45,177 (1975)	76,230 (1975)	1/551 (1975)			1/3,222 (1973)			1/3,849				

- Note) 1. The figures under headings 1 and 2 are from DOH provided information. 1975.  
 2. Those under headings 3 and 6 are according to a DOH Field Operations Report. 1975  
 3. The upper lines in the columns under headings 3 and 4 are for hospitals only, while the lower lines include all health care facilities.



## 2) Kinds of diseases and number of patients

The position of the health service of the Philippines is closely linked to communicable diseases, malnutrition, poor environmental sanitation, incurable diseases (malaria, schistosomiasis japonica) as well as the rapid growth of population. Against the background of these diseases, there are such factors as topography, climate, economy, society, communication, education, culture, etc. of the respective regions which contribute to the formulation of different types of regional health care conditions. This may be taken as a sort of vicious cycle, and various organizations headed by the Department of Health in cooperation with local and foreign bodies are fighting day and night to break this cycle. Among them, the Department of Health is paying its utmost efforts to both prevention of diseases and its cure, but there is still a lot of room for improvement. We won't deal with the aspects of growing population and poor environmental sanitation in this chapter since other chapters take care of them. Before discussing individual diseases, it is necessary to identify the general structure of diseases and structural changes now taking place in the Philippines.

### (1) Morbidity Rate

Communicable diseases such as influenza, gastroenteritis and colitis, tuberculosis (all forms), pneumonia and malaria which fill the top 5 places are always ranked high. With the exception of influenza, their routes of contagion and ways of prevention are already well known, which explains why they are the major concerns of the health service of this country. Among the ten leading causes of diseases, only malignant neoplasms is an exception in that it is not communicable. The ratio of communicable diseases in the total of 10 leading diseases is extremely high and accounts for 98.8 percent during the period of 1969 and 1972 and 98.6 percent in 1974. Although TB has shown a clear downward tendency in the five years between 1969 and 1974, it still occupies the third rank. Whereas gastroenteritis and colitis (typhoid, paratyphoid, cholera, etc.) have been increasing gradually and timely action is called for.



MORBIDITY: TEN(10) LEADING CAUSES, NUMBER AND CRUDE  
DEATH RATES, CY 1969-72 AND 1974

Cause		5-Year Average 1969-72		1974	
		Number	Rate <sup>1</sup>	Number	Rate <sup>1</sup>
Influenza	A	302,354	790.6	297,474	717.5
Malignant neoplasms	B	10,124	26.5	12,757	30.8
Gastro-enteritis and colitis	A	225,362	589.3	245,813	592.9
Tuberculosis (all forms)	A	141,914	371.1	142,250	343.1
Pneumonia	A	88,677	231.9	93,050	224.4
Measles	A	23,251	60.8	22,999	55.5
Malaria	A	28,955	75.7	27,420	66.1
Whooping cough	A	23,255	60.8	22,042	53.2
Infectious Hepatitis	A	4,653	12.2	5,977	14.4
Dysentery (all forms)	A	18,424	48.2	23,552	56.8

<sup>1</sup>Per 100,000 population.

Source: 1974 Philippines Health Statistics, Disease Intelligence Center,  
Department of Health.

The morbidity Rate by Province are given in the following:

MOUNTAIN PROV.

MORBIDITY (Per 1,000 popul.)		1976	
	CAUSES	NUMBER	RATE
1	Gastro-enteritis	4859	45.56
2	Influenza	4328	40.57
3	Tuberculosis	1644	15.41
4	Malaria	643	6.03
5	Pneumonia	622	5.83
6	Dysentery	525	4.92
7	Measles	202	1.89
8	Whooping Cough	189	1.77
9	Varicella	58	0.54
10	Nepatitis	35	0.33

MORTALITY (Per 1,000 popul.)		1976	
1	Senility	61	0.57
2	Pneumonia	56	0.52
3	Gastro-enteritis	44	0.41
4	Tuberculosis	35	0.33
5	Heart Disease	34	0.32
6	Bronchitis	22	0.21
7	Influenza	19	0.18
8	Peptic Ulcer	13	0.12
9	Measles	9	0.08
10			

INFANT MORTALITY (Per 1,000 LIVE BIRTH)			
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MATERNAL MORTALITY (Per 1,000 LIVE BIRTH)			
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NEONATAL MORTALITY			
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BENGUET

MORBIDITY (Per 1,000 Popul.)		1976	
	CAUSES	NUMBER	RATE
1	Upper respiratory Infection	8093	86.61
2	Parasitism	7973	38.17
3	Anemia	4057	19.42
4	Wounds	3681	17.62
5	Diarrhea	2062	9.87
6	Influenza	1074	5.14
7	Scabies	860	4.12
8	Bronchitis	709	3.39
9	Gastro-enteritis	335	1.60
10	Pneumonia	151	0.72

MORTALITY (Per 1,000 Popul.)		1976	
1	Pneumonia	109	0.52
2	Accident	29	0.14
3	PTB	25	0.12
4	Gastro enteritis	25	0.12
5	Cardia respiratory arest	22	0.11
6	Anemia	16	0.08
7	Asphyxia Neoratum	13	0.06
8	Prematurity	11	0.05
9	Senility	10	0.05
10	Congenital Atelectasis	9	0.04

INFANT MORTALITY (Per 1,000 LIVE BIRTH)		1976	
1	Pneumonia	39	
2	Prematurity	14	
3	Gastro-enteritis	11	
4	Septicomia	8	
5	Congenital atelectasis	6	
6	Still birth	5	
7	P.T.B.	4	
8	Asphyxia Neoratum	3	
9	Toxemia	3	
10		2	

MATERNAL MORTALITY (Per 1,000 LIVE BIRTH)		1976	
1	Post partum	1	
2	Severe Anemia	1	
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NEONATAL MORTALITY			
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LA UNION

MORBIDITY (Per 1,00 Popul.)		1976	
CAUSES	NUMBER	RATE	
1	Bronchitis	3929	9.21
2	Influenza	2210	5.18
3	Gastro Enteritis	1991	4.66
4	Pneumonias	1040	2.44
5	Tuberculosis	957	2.24
6	Pertusis	372	0.87
7	Measles	88	0.21
8	Gonorrhea	87	0.20
9	Typhoid Fever	86	0.20
10	Neoplasm	85	0.20

MORTALITY (Per 1,000 popul.)		1976	
1	Dis. Cir. System	573	1.34
2	Pneumonias	478	1.12
3	Senility	444	1.04
4	Tuberculosis	293	0.69
5	Accidents	177	0.41
6	Cong. Debility	157	0.37
7	Gastro Enteritis	118	0.27
8	Bronchitis	115	0.27
9	Neoplasm	85	0.20
10	Malnutrition	83	0.19

INFANT MORTALITY (Per 1,000 LIVE BIRTH)		1976	
1	Congenital Debility	152	24.96
2	Pneumonias	132	21.67
3	Prematurity	82	13.46
4	Bronchitis	71	11.66
5	Gastro Enteritis	30	4.93
6	Rep. Failure	23	3.78
7	Malnutrition	20	3.28
8	Pest Asphyxia	20	3.28
9	Tetanus	19	3.12
10	Meningitis	16	2.63

MATERNAL MORTALITY (Per 1,000 LIVE BIRTH)		1976	
1	Postpartum Hemorrhage	7	1.15
2	Placenta Pravia	3	0.49
3	Ecclampsis	2	0.33
4	Retained Placenta	1	0.16
5	Abortion	1	0.16
6			

NEONATAL MORTALITY			
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ABRA

MORBIDITY (Per 1,000 popul.)		1976	
	CAUSES	NUMBER	RATE
1	Influenza	1919	11.48
2	Gastro-Enteritis	1695	10.14
3	PTB (All Types)	974	5.83
4	Bronchitis	905	5.41
5	Pneumonia	178	1.06
6	Pertussis	81	0.48
7	Measles	47	0.28
8	Malaria	32	0.19
9	Mumps	30	0.11
10	Beri-beri	3	0.03

MORTALITY (Per 1,000 popul.)		1976	
1	Pneumonia	210	12.57
2	PTB (All Types)	140	8.38
3	Cardio Vascular Diseases	97	5.81
4	Bronchitis	69	4.13
5	Cardio-Vascular Accidents	41	2.45
6	Malignancy	39	2.33
7	Gastro-Enteritis	33	1.98
8	Beri-beri	24	1.44
9	Homicide	16	0.96
10	Senility		

INFANT MORTALITY (per 1,000 LIVE BIRTH)		1976	
1	Bronchitis	38	10.96
2	Pneumonia	30	8.65
3	Premature Birth	13	3.75
4	Beri-beri	11	3.17
5	Cong. Debility	11	3.17
6	Gastro-Enteritis	8	2.30
7	Tet. Neonatorum	6	1.73
8	Cong. Heart Dis.	6	1.73
9	A Neonatorum	5	1.44
10	Malnutrition	4	1.15

MATERNAL MORTALITY (Per 1,000 LIVE BIRTH)			
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NEONATAL MORTALITY (Per 1,000 LIVE BIRTH)		1976	
1	Pneumonias	14	4.04
2	Premature Births	11	3.17
3	Tet. Neonatorum	6	1.73
4	Cong. Debility	5	1.44
5		4	1.15

ILOCOS SUR

MORBIDITY (Per 1,000 popul.)		1976	
	CAUSES	NUMBER	RATE
1	Influenza	4800	11.63
2	Gastro-Enteritis	4600	11.18
3	Bronchitis	2523	6.12
4	Tuberculosis, all form	1862	4.51
5	Pneumonia	986	1.90
6	Whooping Cough	156	0.38
7	Measles	43	0.35
8	Malignant Neoplasm	38	0.09
9	Mumps	22	0.05
10	Beri-beri	14	0.03

MORTALITY (Per 1,000 popul.)		1976	
1	C.V.A	702	1.70
2	Pneumonia	549	1.33
3	Tuberculosis	338	0.82
4	Malnutrition	157	0.38
5	Malignant Neoplasm	145	0.35
6	Bronchitis	118	0.29
7	Gastro-Enteritis	100	0.24
8	Ill-defined diseases, Early Infancy	79	0.19
9	Prematurity	57	0.14
10	Nephritis	51	0.12

INFANT MORTALITY (Per 1,000 LIVE BIRTH)		1976	
1	Pneumonia	118	
2	Ill-defined diseases Early Infancy	79	
3	Bronchitis	58	
4	Prematurity	57	
5	Umbilical Sepsis	38	
6	Gastro-Enteritis	27	
7	Postnatal Asphyxia	15	
8	Beri-beri	10	
9	Malnutrition	7	
10			

MATERNAL MORTALITY (Per 1,000 LIVE BIRTH)		1976	
1	Retained Placenta	4	
2	Eclampsia	4	
3	Postpartum Hemorrhage	3	
4	Placenta Previa	1	
5	Abortion	1	
6	Miscarriage	1	

NEONATAL MORTALITY			
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ILOCOS NORTE

MORBIDITY (Per 1,000 popul.)		1976	
	CAUSES	NUMBER	RATE
1	URTI	11198	35.26
2	P.T.B.	10443	
3	Bronchitis	3988	12.59
4	Gast Enteritis	3490	11.02
5	Influenza	3469	10.95
6	Anemias	2633	8.31
7	Parasitism	2154	6.80
8	Leprosy	1710	5.39
9	Hypertension	990	3.12
10	Malaria	656	2.07

\* Old and new cases included

MORTALITY (Per 1,000 popul.)		1976	
1	Heart Disease	233	0.73
2	Pneumonias	193	0.61
3	P.T.B.	146	0.46
4	Cer. Vas Accid.	144	0.45
5	Accid. Pois. & Viol.	94	0.30
6	Bronchitis	73	0.23
7	Beri beri. & Other Nutritional Def. States	71	0.22
8	Neoplasms	61	0.19
9	Cong Debility	41	0.13
10	Tetanus	38	0.12

INFANT MORTALITY (Per 1,000 LIVE BIRTH)		1976	
1	Broncho-Pneumonia	52	7.22
2	Bronchitis	49	6.80
3	Beri-beri & Other Nut. Def. States	44	6.10
4	Tetanus Neon	37	5.13
5	Immaturity	33	4.58
6	Cong Debility	33	4.58
7	Sepsis. Neon	14	1.94
8	Card. Resp. Arrest.	10	1.38
9	Gstro. Ent.	9	1.25
10	Asphyxia Neon	7	0.97

MATERNAL MORTALITY (Per 1,000 LIVE BIRTH)			
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NEONATAL MORTALITY			
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CAGAYAN

MORBIDITY (Per 1,000 popul.)		1975	
	CAUSES	NUMBER	RATE
1	Bronchitis	6334	306
2	Influenza	3672	247
3	Malaria	2933	179
4	Diarrhea-enteritis	2600	153
5	Pneumonia	2141	128
6	Tuberculosis	1902	144
7	Dysentery	264	91
8	Beri-beri	229	89
9	Pertussis	229	33
10	Measles	175	30

MORTALITY (Per 1,000 popul.)		1975	
1	Pneumonia	1078	1.64
2	Tuberculosis	495	7.51
3	Cardio Vascular	468	7.10
4	Bronchitis	440	6.67
5	Senility	411	6.23
6	Ill-defined diseases	354	5.43
7	Acc. & assaults	261	3.96
8	Nut. deficiency	244	3.70
9	Malaria	161	2.44
10	Diarrhea-enteritis	131	2.08

INFANT MORTALITY (Per 1,000 LIVE BIRTH)		1975	
1	Pneumonia	306	13.82
2	Bronchitis	247	11.08
3	Ill-defined dis.	179	8.03
4	Prematurity	153	6.86
5	Umbilical sepsis	128	5.74
6	Avitaminasi Nut. def.	144	5.11
7	Tetanus	91	4.08
8	Postnatal asphyxia	89	3.99
9	Diarrhea enteritis	33	1.49
10	Congenital heart dis.	30	1.35

MATERNAL MORTALITY (per 1,000 LIVE BIRTH)		1975	
1	Postpartum hemorrhage	28	1.26
2	Abortion	7	0.31
3	Retained Placenta	7	0.31
4	Placenta Previa	6	0.27
5	Eclampsia of Pregnancy	4	0.18
6	Ruptured uterus	1	0.05

NEONATAL MORTALITY		
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KALINGA-APAYAO

MORBIDITY (Per 1,000 popul.)		1976	
	CAUSES	NUMBER	RATE
1	Gastro-enteritis	4953	30.83
2	Influenza	4171	25.96
3	Malaria	2536	15.78
4	Bronchitis	2314	14.40
5	Tuberculosis	2179	13.56
6	Pneumonia	1006	6.26
7	Pertussis	634	3.97
8	Dysentery	621	3.87
9	Measles	422	2.63
10	Mumps	77	0.48

MORTALITY (Per 1,000 popul.)		1976	
1	Pneumonia	147	0.92
2	Senility & Ill-defined	130	0.81
3	Bronchitis	97	0.45
4	Tuberculosis	71	0.44
5	Accidents	56	0.34
6	Heart Diseases	36	0.22
7	Gastro-enteritis	31	0.19
8	Malaria	27	0.16
9	Prematurity	23	0.14
10	Tetanus	9	0.05

INFANT MORTALITY (Per 1,000 LIVE BIRTH)		1976	
1	Bronchitis	52	17.05
2	Pneumonia	43	14.10
3	Ill-defined cause	31	10.16
4	Prematurity	24	7.06
5	Tetanus	13	4.26
6	Asphyxia Necnatum	9	2.95
7	Gastro-enteritis	8	2.62
8	Heart Diseases	8	2.62
9	Accidents	7	2.30
10	Avitaminosis	5	1.64

MATERNAL MORTALITY (per 1,000 LIVE BIRTH)		1976	
1	Postpartum Haemorrhage	3	0.98
2	Abortions	2	0.66
3	Placenta Praevia	1	0.33
4	Placenta Retention	1	0.33
5	Delivery W/complications	1	0.33
6			

NEONATAL MORTALITY			
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IFUGAO

MORBIDITY (Per 1,000 popul.)		1977	
	CAUSES	NUMBER	RATE
1	Bronchitis	1116	10.66
2	Influenza	740	7.07
3	Gastro Enteritis	417	3.96
4	Dysebtery all forms	407	3.89
5	Malaria	349	3.33
6	Diarrhea	282	2.69
7	Pneumonia all forms	193	1.84
8	P.T.B.	167	1.59
9	Measles	83	0.79
10	Chicken pox	16	0.15

MORTALITY (Per 1,000 popul.)		1977	
1	Pneumonia all kinds	51	0.49
2	Senility	40	0.38
3	P.T.B.	38	0.36
4	Gastro Entiritis	17	0.16
5	Beri-beri	14	0.13
6	Permaturity	14	0.13
7	Accident	13	0.12
8	Shock & Hemorrhage	13	0.12
9	Foetal Death	11	0.11
10			

INFANT MORTALITY (Per 1,000 LIVE BIRTH)		1977	
1	Prematurity	14	8.84
2	Pneumonia all kinds	12	7.61
3	Unknown	12	7.61
4	Foetal	11	6.98
5	Infantile Beri-beri	10	6.34
6	Tetanus Neonaturum	4	2.54
7	Malnutrition	3	1.90
8	Meningitis	2	1.26
9	Bronchitis	2	1.26
10	Gastro	2	1.26

MATERNAL MORTALITY (Per 1,000 LIVE BIRTH)			
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NEONATAL MORTALITY			
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NUEVA VIZCAYA

MORBIDITY (Per 1,000 popul.)		1976	
	CAUSES	NUMBER	RATE
1	Bronchitis	16330	75.07
2	Influenza	13500	62.06
3	Gastro-entritis	6290	28.92
4	Pulmonary Tuberculosis	2100	9.65
5	Pneumonia	1390	6.39
6	Malaria	1060	4.87
7	Beri-beri	343	1.58
8	Measles	302	1.39
9	Dysentery	171	0.79
10	Mumps	120	0.55

MORTALITY (PER 1,000 popul.)		1976	
1	Prematurity	3224	14.82
2	Senility	118	0.54
3	Broncho Pneumonia	106	0.49
4	Bronchitis	45	0.21
5	Pneumonia	41	0.19
6	Hypertension	38	0.17
7	Beri-Beri	18	0.08
8	Gastro-entritis	17	0.08
9	Pulmonary Tuberculosis	16	0.07
10			

INFANT MORTALITY (Per 1,000 LIVE BIRTH)		1976	
1	Prematurity	24	
2	Broncho Pneumonia	21	
3	Bronchitis	14	
4	Infantile Beri-beri	12	
5	Ill-defined Disease Peculiar to early Infancy	9	
6	Cardiac Respiratory Arrest	8	
7	Severe Diarrhea	6	
8	Asphyxia	5	
9	Intestinal Obstruction	4	
10			

MATERNAL MORTALITY (Per 1,000 LIVE BIRTH)		1976	
1	Post-partum Hemmorage	3	
2	Placenta Previa	3	
3	Retained Placenta	1	
4	Shock due to inverted uterus	1	
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NEONATAL MORTALITY			
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(2) Mortality by disease

Pneumonia is ranked first which is followed by TB and heart diseases. The death rate caused by communicable diseases (Type A) accounts for 42 percent of all deaths in 1974 which indicates an overwhelmingly high rate of communicable diseases. Pneumonia is decreasing slightly (0.8 percent), while TB in all forms shows a slight upward trend (0.2 percent). Heart diseases are on the steady increase (2.4 percent), gastro-enteritis and colitis increase by absolute figure but decrease in terms of ratio (1.3 percent), malnutrition decreases by 0.2 percent, diseases relating to circulatory organs increase (0.2 percent), malignant neoplasms increase drastically by 0.7 percent, accidents decrease by 1.2 percent, bronchitis also decreases (0.8 percent) and tetanus increases (0.3 percent).

The structure of 10 leading diseases in 1975 is classified as follows:

Communicable	(Type A)	33.6%
Degenerative	(Type B)	18.5%
Maternal	(Type C)	0%
External Cause	(Type D)	3.0%
Others	(Type E)	4.1%

In this connection, we may note that degenerative diseases have been increasing considerably. Though the elimination of this type of disease may be a future task which should come after the annihilation of communicable diseases, it is advised to work out the strategy even at this stage in order to take a long perspectives as medical facilities have to be planned to take this aspect into account.

MORTALITY: TEN (10) LEADING CAUSES, NUMBER AND CRUDE  
 DEATH RATES: CY 1970-74 AND 1975  
 (Crude death rate per 10,000 population)

Cause	5-Year Average 1970-74				1975 <sup>1</sup>		
	Number	Rate	Per Cent of Total Deaths	Number	Rate	Per Cent of Total Deaths	
Pneumonia	A	45,380	116.0	16.8	43,099	101.4	16.0
Tuberculosis all Forms	A	28,924	74.0	10.7	29,265	68.8	10.9
Diseases of the Heart	B	17,559	44.9	6.5	23,908	56.2	8.9
Gastro-Enteritis & Colitis	A	10,116	38.7	5.6	16,693	27.5	4.3
Avitaminosis & other Nutritional	E						
Deficiency		11,682	29.9	4.3	10,967	25.8	4.1
Diseases of the Vascular System	B	13,105	33.5	4.8	13,489	31.7	5.0
Malignant Neoplasms	B	10,638	27.2	3.9	12,422	29.2	4.6
Accidents	D	11,375	29.1	4.2	8,094	19.0	3.0
Bronchitis, Emphysema & Asthma Tetanus	A+E	8,712	22.3	3.2	6,422	15.1	2.4
Tetanus	A	3,590	9.2	1.3	4,210	9.9	1.6

<sup>P</sup>Preliminary.

<sup>1</sup>Medium assumption used.

Source: Disease Intelligence Center, Department of Health.