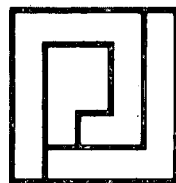


THE PHILIPPINES: POPULATION TRENDS AND DILEMMAS



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ABSTRACT

National and regional variations in population growth rates, age and sex composition, fertility and mortality measures, the numbers in the working age population and population distribution are described and their implications for future development outlined. The prospects for the next 20 years indicate a continuation and even exacerbation of regional imbalances in terms of birth, death and migration rates with the Mindanao area turning out to be the most demographically disadvantaged of the three island groups. The policy makers will have to take account of current and projected numbers of people in the planning process if they wish to improve the welfare of each and every Filipino.

INTRODUCTION

The Philippine population estimated at 53.4 million as of mid-1984 ranks 17th among the world's populations. The present rate of natural increase (births minus deaths) is about 2.4 percent a year, on a par with the rates of natural increase of Burma, Laos and Malaysia in Southeast Asia but relatively lower than those of Bangladesh (3.1 percent) and Pakistan (2.8 percent). Up to the present, net immigration plays no part in Philippine population growth, although emigration to the United States has accelerated since World War II but remains insignificant relative to total population size.

In 1948, following her independence from the United States of America, the Philippines contained 19.2

million people. According to the latest census conducted on 1 May 1980, the figure had more than doubled in the intervening 32 years to 48.1 million persons.

The 1980 Philippine population was up by 11.4 million persons (31 percent) over the 36.7 million enumerated in 1970. The change in population during the 70s was only 4.3 points less than the corresponding change in the 60s (35.4 percent). The average annual rate of population growth had declined slightly from 3.01 percent during 1960-1970 to 2.74 percent in the following decade.

Owing to the high rate of population growth, the Philippines launched a national population program in 1970 under the direction of the Commission on Population (POPCOM).

The Special Committee constituted by President Marcos in 1978 to review the Philippine population program found that the program had remained, to a large extent, a family planning program. Thus, in accord with the Review Committee's recommendations, family planning was re-defined as family planning and welfare in order to emphasize that the ultimate goal of the program is the overall welfare of the family and society and not simply the reduction of fertility. Consequently, the POP-COM reformulated its policies, placing them within the context of family welfare objectives; established consultative arrangements with various major non-governmental organizations concerned with the population program; directed its efforts at integrating and coordinating public and private agencies; and strengthened the organizational and resource dimensions of the program.

POPULATION GROWTH, 1948-1980

Table 1 shows the deceleration in overall national growth since 1948 and the continuing variations in the growth rates for the different regions. Since a relatively inconsiderable number of Filipinos emigrate (just as the volume of people entering the country intending to settle here is relatively modest), the national population growth rate is shaped almost solely by trends in mortality and fertility. However, migration across provincial and regional borders does make a difference in the overall growth rate of certain regions.

National Trend

In the 50s, the total population grew by 3.1 percent annually, a rate that would have doubled the population in less than 23 years. The 60s witnessed a hovering of this growth rate around the three percent level. Since then, a perceptible reduction has been evident with the rate of growth in the first half of the decade registering an annual 2.8 percent and 2.7 percent in the second half of the 70s. At such rates, the doubling time would be around 25 years.

Regional Differences

Between the 50s and the 70s, annual growth rates declined continuously in the National Capital Region and in four other regions (Cagayan Valley, Bicol, Western and Central Mindanao). In Ilocos and Northern Mindanao, the growth rate rose during the 60s before falling to levels lower than those recorded for the 50s. However, in Central Luzon and Southern Tagalog, the reduction in growth rates in the 70s still placed them at levels higher than those evident in the 50s. Both the Central and Eastern Visayas regions exhibited ascending growth rates in these three intercensal periods. Western Visayas and Southern Mindanao growth rates fell during the 50s and 60s but went up in the 70s.

Disregarding the metropolitan Manila area which continues to record high though declining growth rates, the lowest annual growth rate in the 50s was reported for Eastern Visayas (1.3 percent), the highest for Southern Mindanao (8.5 percent). The ele-

Table 1. Population Growth, 1948-1980, and Doubling Times at 1983-1984 Growth Rate: Philippines and Regions

Region	Population				Annual Percentage Increase			Population 1 July 1984 ^d (estimated)	Percent Increase 1983-84 ^d	Doubling Time at 1983-84 Growth Rate
	1 October 1948	15 February 1960	6 May 1970	1 May 1980	1948-60	1960-70	1970-80			
Philippines	19,234,182	27,087,685	36,684,486	48,098,460	3.06	3.01	2.75	5,351,220	2.49	28
NCR Metro Manila	983,906	2,472,829	3,952,615	5,925,884	8.44	4.70	4.13	6,739,525	3.05	23
I. Ilocos	1,944,248 ^a	2,427,581 ^a	2,990,561 ^a	3,540,893	1.97	2.06	1.70	3,827,827	1.96	35
II. Cagayan Valley	775,042	1,202,066	1,691,459	2,215,522	3.93	3.40	2.74	2,459,275	2.52	28
III. Central Luzon	1,854,189	2,493,145	3,564,519	4,802,793	2.64	3.56	3.03	5,324,716	2.48	28
IV. Southern Tagalog	2,652,419	3,103,120	4,522,065	6,118,620	1.39	3.75	3.06	6,594,570	2.85	24
V. Bicol	1,666,459	2,362,707	2,966,881	3,476,982	3.12	2.25	1.60	3,832,139	2.35	29
VI. Western Visayas	2,530,517	3,078,305	3,618,326	4,525,615	1.74	1.59	2.26	4,978,637	2.31	30
VII. Central Visayas	2,119,975	2,522,802	3,032,719	3,787,374	1.54	1.82	2.25	4,112,718	2.01	34
VIII. Eastern Visayas	1,764,103	2,040,966	2,381,409	2,799,534	1.29	1.52	1.63	3,017,721	1.83	38
IX. Western Mindanao	762,767	1,350,731	1,869,014	2,528,506	5.15	3.23	3.07	2,798,151	2.34	30
X. Northern Mindanao	1,032,116	1,462,361	2,211,415	2,758,985	3.11	4.13	2.24	3,094,431	2.74	25
XI. Southern Mindanao	467,714 ^b	1,187,782 ^b	1,942,046 ^b	3,346,803	8.54	4.93	5.59	3,739,887	2.61	27
XII. Central Mindanao	680,727 ^c	1,383,290 ^c	1,941,457 ^c	2,270,949	6.43	3.37	1.58	2,531,602	2.64	26

^aIncludes Pangasinan which formed part of Central Luzon up to 1970.

^bExcludes Surigao del Sur which was added to Southern Mindanao between 1970 and 1975.

^cDid not exist as a separate region prior to 1975.

^dObtained from the NEDA/NCSSO. 1983. Revised Population Projections for the Philippines and Its Regions: 1980-2030.

Source: Calculated from census reports, various years, published by the Bureau of the Census and Statistics and National Census and Statistics Office.

vated rate for Southern Mindanao was probably due to the influx of settlers under government encouragement or sponsorship as well as the high fertility prevailing among the population. By the 1970s, Southern Mindanao's growth rate had dropped by a third to 5.6 percent (Table 1).

In the 70s, Central Mindanao and the Bicol region posted the lowest rates of growth (1.6 percent) while Southern Mindanao registered the highest (5.6 percent). The latter continued to outrank the National Capital Region with the lead most pronounced in the 1970-1980 period.

Regional differences in growth trends also expose the disparities. Between the 50s and the 70s, the average annual growth rate for Central Mindanao dropped by three-fourths, while that of the Ilocos declined by one-seventh. In the 50s, Bicol was growing twice as fast as the entire Visayas. Two decades later, the former's growth rate was only four-fifths of the latter's.

Absolute numbers tell the same story as growth rates. The country's population grew from 19 million to 48 million, or 150 percent, in the 32 years from 1948 to 1980 (Table 1). Numbers in Luzon gained 108 to 186 percent with the exception of the Ilocos which had a total increase of 82 percent. In Mindanao, the total sizes for the same period expanded from 1-2/3 times in Northern Mindanao to over seven-fold in Southern Mindanao. The numbers in the Visayas fell short of doubling by as high as two-fifths in Eastern Visayas to one-fifth in the

western and central sectors.

Still another measure of the growth differential is "doubling time" or the number of years it would take the population to double in size if the current growth rates were to continue. At their 1983-84 estimated growth rates of 2.5 and 2.6 percent, the Cagayan Valley, Central Luzon, Southern and Central Mindanao would double their populations from 26 to 28 years. On the other hand, the Ilocos with its present 2.0 percent growth rate would take some 35 years to double its population while the nation's capital and the Southern Tagalog region, based on their 1983-84 growth rates, would require 23 to 24 years as doubling time.

AGE AND SEX COMPOSITION

Trends in fertility and in migration in some areas have naturally affected the age distribution of the population in different ways while sex imbalances in mortality have left their mark on the sex composition.

Young Population

As in all developing countries, comparatively high fertility has maintained the large share of youngsters in the Philippine population and has thus preserved the youthfulness of the population.

Nationwide, the proportion of boys and girls below 15 increased from 44.2 percent in 1948 to 45.7 percent in 1960 and 1970, declining thereafter to 42 percent in 1980. The regions did not deviate widely from the national trends. In Central Luzon, the propor-

Table 2. Population Under 10 Years of Age, Philippines by Region, 1960-1980

Region	Census Year					
	1960		1970		1980	
	Number	Percent	Number	Percent	Number	Percent
Philippines	8,941,813	33.0	11,731,437	32.0	14,271,643	29.7
NCR Metro Manila	713,460	29.0	1,102,854	27.8	1,460,554	24.6
I. Ilocos	723,193	29.8	898,811	30.0	990,766	28.0
II. Cagayan Valley	414,984	34.5	577,114	34.1	677,315	30.6
III. Central Luzon	840,901	33.3	1,154,935	31.9	1,404,954	29.2
IV. Southern Tagalog	1,039,267	33.7	1,418,883	31.8	1,822,484	29.8
V. Bicol	812,900	34.4	1,013,947	34.2	1,114,973	32.1
VI. Western Visayas	1,015,081	33.0	1,133,356	31.3	1,341,725	29.6
VII. Central Visayas	806,624	32.0	942,027	31.0	1,081,724	28.1
VIII. Eastern Visayas	682,106	33.4	795,514	33.4	863,664	30.8
IX. Western Mindanao	466,459	34.5	628,500	33.6	816,933	32.3
X. Northern Mindanao	452,593	34.9	659,697	33.8	857,111	31.1
XI. Southern Mindanao	477,510	35.6	744,504	33.8	1,065,615	31.8
XII. Central Mindanao	463,098	33.2	661,295	34.0	773,825	34.1

Source: Calculated from census reports, various years, published by the Bureau of the Census and Statistics and National Census and Statistics Office.

tion of the youth declined from the 1948 level of 45 percent to 43 percent in 1980. The entire Visayas experienced decreases of three percent in the 32-year period. The Bicol region, on the other hand, underwent a one-point change, from 47 percent in 1948 to 46 percent in 1980.

Such current large proportions of the youth (varying from one to two million), imply increasing fractions entering the working age population – a disturbing prospect for planners concerned with providing employment opportunities for all those in the labor market.

Population Under 10

The impact of differential fertility on population age structure is most noticeable when we look at the trends in the share of children aged 0 to 9 years in different regions. The figures for several census years are recorded in Table 2.

As will be observed, the proportion of children aged 0 to 9 to the total population has been decreasing in all regions. In Metro Manila where fertility has been declining significantly, the proportions of young children fell by four percent in two decades (29.0 percent to 24.6 percent). Identical declines were evident in Central Luzon, Southern Tagalog, Central Visayas, Cagayan Valley, Northern and Southern Mindanao.

In Central Mindanao where fertility has remained high among the Moslem population, the proportion under 10 years of age rose by one percent over the 20-year period.

Although the ratio of persons 0-9 years of age to the total population has been declining since 1960, the absolute numbers continued to increase. Still sharper regional differences are revealed by these absolute numbers. In these same two decades, the number of children aged 0 to 9 in Metro Manila grew two-fold. Although both Northern and Southern Mindanao had recorded the same decline in proportions under 10 (four percent), the latter's absolute size expanded by 123 percent while the former added on 89 percent during the period 1960-1980.

It is worth noting that the number of children in the Southern Tagalog region in 1960 exceeded that of Metro Manila by 46 percent; two decades later, this excess had been reduced to one quarter. In 1960, Western Visayas, Central Luzon, Bicol, and Central Visayas had populations under 10 which outnumbered those of Metro Manila. Twenty years later, Central Luzon's child population was four percent less than that counted in the nation's capital while Western Visayas' 0-9 population dropped below that of Metro Manila by eight percent.

The decline in numbers of young people in other regions relative to those dwelling in the primate city poses a problem of concern to the decision-makers. Since this sector of the population will compose the potential leaders of the nation, the dominance of Metro Manila in national affairs will be increasingly felt over time.

Comparing the growth in numbers

of this age group during the two decades, it will be seen that the increase in the entire island of Mindanao was 89 percent, that of the Metro Manila area plus the contiguous Southern Tagalog region, 87 percent, while the corresponding growth in the Visayas was only 31 percent. If the present trend continues, Mindanao will pose a challenge to the National Capital Region and its adjacent areas, in terms of determining much of the future character of Philippine society.

Masculinity Ratios

Males constituted more than half (50.2 percent) of the total population in 1980. In fact, the slight edge of males over females in the Philippines was manifest in all previous enumerations except for 1970 when the masculinity ratio (ratio of males to total population) dipped to 49.8 percent. However, an analysis of the census enumeration in that year revealed irregularities in the age-sex data, particularly at ages 15-24, where there was a deficit of about 214,000 males as compared to females (NCSO: 1974). Adjusting for this deficiency, the proportion of males in the total population would thus have exceeded 50 percent.

Masculinity ratios by age group indicate a surplus or deficit of males which may be due to enumeration errors or to the effects of mortality or migration, acting singly or in combination. To illustrate, a comparison of the 20-29 age group (1940-50 birth cohort) with the next older age group (1930-40 birth cohort) by region as

enumerated in 1970 revealed the higher masculinity ratios for the earlier born cohorts residing in Metro Manila, Bicol, Eastern Visayas, and the whole of Mindanao (Table 3). It will be noted that Mindanao had an excess of males aged 30-39 resulting from the predominant male immigration to its frontier areas. The lower masculinity ratio among Metro Manilans aged 20-29 years relative to those 30-39 years of age denotes the age and sex selectivity of migrants to the nation's capital. Perez (1983) had been struck by the prominent metropolitan drift of young females in their twenties. Moreover, her analysis of the sex ratios (males per 100 females) of migrant streams indicated that the out-migration to Metro Manila from Bicol, Eastern Visayas and Mindanao was female-dominated.

A comparison of the masculinity ratios for the total population by region as listed in Table 3 reveals the inconsistency of the 1970 enumeration with the preceding and subsequent censuses. In addition, the regions where a deficit of males was recorded in the 1960, 1970 and 1980 censuses (Metro Manila, Ilocos and Central Visayas) denote population movements dominated by one sex. For example, the female-dominant flows into the primate city and to some extent into Metro Cebu in the Central Visayas would account for the masculinity ratios below 50. On the other hand, the predominance of male Ilocano emigrants over time would show up in unfavorable masculinity ratios. In all other regions, the mas-

Table 3. Percentage of Males in Total Population and Selected Age Groups, Philippines by Region, 1960-1980

Region	1960		1970		1980	
	Total	Total	20-29	30-39	Total	40-49
Philippines	50.4	49.8	48.4	49.1	50.2	50.1
NCR Metro Manila	48.5	48.4	46.6	49.5	48.2	49.2
I. Ilocos	49.5	49.2	48.5	46.6	49.7	48.0
II. Cagayan Valley	50.8	50.5	49.2	49.0	51.0	51.2
III. Central Luzon	50.0	49.5	49.8	47.8	50.1	49.5
IV. Southern Tagalog	50.6	49.9	49.2	48.8	50.6	50.3
V. Bicol	51.1	50.4	48.7	49.3	50.8	49.8
VI. Western Visayas	50.2	49.2	47.9	46.7	50.1	48.8
VII. Central Visayas	49.4	49.0	47.5	47.5	49.7	48.1
VIII. Eastern Visayas	50.7	50.4	49.0	49.2	50.9	50.0
IX. Western Mindanao	51.6	49.9	47.3	51.2	50.7	51.4
X. Northern Mindanao	51.2	50.4	49.8	51.2	50.8	51.7
XI. Southern Mindanao	52.3	51.1	50.6	53.1	51.2	53.6
XII. Central Mindanao	52.8	51.0	48.2	53.5	50.6	53.2

Source: Computed from census reports, various years, published by the Bureau of the Census and Statistics and National Census and Statistics Office.

culinity ratios exceeded 50 percent although for the most part, the male surplus was on the wane by 1980.

FERTILITY

The "demographic transition theory" postulates that as a country develops its industrial base and urban patterns of life prevail, and as educational attainment rises (for women especially), then the crude birth rate, total fertility rate, and other measures of natality will diminish. Numerous studies point to a declining fertility level in the Philippines arising most likely from changes in the reproductive behavior of Filipinos in the past two decades and the adoption by government of a national population policy and the formulation of supporting programs in 1970.

Fertility Trends

It appears that the crude birth rate which hovered above 50 per thousand population during the first half of the century dropped to about 35 per thousand in 1975. Thereafter, preliminary estimates show that the birth rate had reached a level of around 33.6 per thousand by 1983 (UPPI, 1984).

The crude birth rates for the different Philippine regions are not as readily available as those at the national level. Whatever regional estimates are available start from 1960.

The crude birth rates enumerated in Table 4 are not to be accepted at face value but utilized mainly to indicate orders of magnitude and possibly to discern changing patterns over time. Given this caution, it will be

noted from this table that in general, the birth rates dropped over the 20-year period. In 1980, Western and Central Mindanao still continued to show birth rates higher than the rest of the country. As expected, the National Capital Region manifested the lowest birth rate in 1980 with Central Luzon, Central Visayas and the Ilocos region not far behind.

The total fertility rate (TFR) delineates more clearly the trends and differences in Philippine fertility because, unlike the crude birth rate, it is not influenced by population age and sex structure. The TFR connotes the average number of children women aged 15-44 would have altogether if the age-specific fertility rates of a specified year prevailed throughout their childbearing years. This measure is more commonly referred to as the average completed family size.

For the country as a whole, the TFR dropped from a level of 6.5 births per woman in 1960 to 4.7 two decades later – a decline of 28 percent (Table 5). Again, the national figures conceal the variations in the regional rates. The most recent estimates (1980) disclosed the TFR moving from a low of 3.0 children per woman in Metro Manila who had reached her 45th birthday to 5.8 children for her Bicol counterpart. These rates are all well above the two children per woman required to replace the population in the long run. In fact, except for the nation's capital which in 1980 had an excess of one child over that required for replacement, the TFRs in the other

Table 4. Crude Birth Rates, 1960-1980:
Philippines by Region (Per Thousand)

Region	Year		
	1960	1970	1980
Philippines	46.0	39.3	33.6
NCR Metro Manila	43.1 ^a	33.6 ^a	28.9
I. Ilocos	42.0 ^b	34.8 ^b	31.5
II. Cagayan Valley	49.1	35.8	34.6
III. Central Luzon	42.9 ^c	37.3 ^c	31.0
IV. Southern Tagalog	43.0	35.3	33.0
V. Bicol	43.4	37.5	36.2
VI. Western Visayas	43.1	38.3	35.6
VII. Central Visayas	41.9	38.1	31.3
VIII. Eastern Visayas	44.9	42.6	34.3
IX. Western Mindanao	55.8 ^d	55.9 ^d	38.1
X. Northern Mindanao	52.8 ^e	49.0 ^e	36.6
XI. Southern Mindanao	51.2 ^f	47.4 ^f	36.7
XII. Central Mindanao	g	g	38.5

^a Does not include Muntinlupa, Metro Manila.

^b Does not include Pangasinan.

^c Includes Pangasinan.

^d Excludes Basilan and Tawi-Tawi.

^e Includes Lanao del Norte, Lanao del Sur, and Surigao del Sur.

^f Excludes Surigao del Sur but includes Cotabato.

^g Some provinces were still combined with other Mindanao regions as stated in d to f and the other provinces constituting this region had not been created at the time.

Source: Cabigon, Josefina V. 1983. Trends and differentials in fertility, Table 6.6. In *Population of the Philippines: current perspectives and future prospects*. Mercedes B. Concepcion, ed. Metropolitan Manila: National Economic and Development Authority/Population Development Planning and Research Project.

regions go well beyond the replacement level. Thus, in terms of the replacement fertility goal by the year 2000, only Metro Manila is projected to be on target with an estimated TFR of 2.2 children.

Table 5. Total Fertility Rates, 1960-1980, Philippines by Region

Region	Year				
	1960	1965	1970	1975	1980
Philippines	6.5	6.3	6.3	5.2	4.7
NCR Metro Manila	5.1	4.4	4.0	3.2	3.0
I. Ilocos	6.4	5.8	5.5	4.9	4.7
II. Cagayan Valley	7.1	7.8	6.6	5.4 ^b	5.2
III. Central Luzon	6.4	6.2	5.8	4.6	4.3
IV. Southern Tagalog	6.3	6.3	5.7	5.1	4.7
V. Bicol	6.9	7.0	6.2	6.0	5.8
VI. Western Visayas	6.3	5.8	5.8	5.6	5.3
VII. Central Visayas	6.0	5.8	5.6	4.7	4.5
VIII. Eastern Visayas	6.9	7.4	7.7	5.8	5.6
IX. Western Mindanao	7.9	6.9	6.7	5.0 ^b	5.6
X. Northern Mindanao	6.9	7.7	7.4	6.1	5.4
XI. Southern Mindanao	7.4	7.3	6.9	5.7	5.4
XII. Central Mindanao	a	a	a	5.4 ^b	5.6

^aIncluded in Northern and Southern Mindanao in 1970 and in Northeastern and Southwestern Mindanao prior to 1970.

^bEstimate subject to underestimation due to small sample size.

Sources: For 1960 to 1975: Cabigon, Josefina V. Trends and differentials in fertility, Table 6.7. Mercedes B. Concepcion, ed. 1983. For 1980: Revised Population Projections for the Philippines and its Regions, 1980-2030.

Determinants of Regional Fertility Differences

The underlying causes of regional fertility differences range from diverse levels of urbanization, woman's education and employment to traditional emphasis on large families and proportions married.

In Central Luzon and Southern Tagalog, the urbanized share of the 1980 population as presented in Table 6 was 42 percent and 37 percent, respectively. Among the regions in Mindanao, the corresponding shares varied from 17 percent (Western Mindanao) to 34 percent (Southern Mindanao). Ten years earlier, the proportion urban in Central Luzon was 30 per-

cent; in Southern Luzon, 31 percent. For Mindanao, the fraction urban in 1960 ranged from 16 percent (Western and Central Mindanao) to 27 percent (Southern Mindanao). For the nation's urban places, the mean number of children born per woman as reported in the 1978 Republic of the Philippines Fertility Survey was four compared to five among rural dwellers. However, when the reproductive performance of married women 45 to 49 years was analyzed, the average number of children born to Metro Manila residents was reported to be six, that of other urban places, 6.4. Their village counterparts bore one child more, on the average.

**Table 6. Percentage Urban, Philippines by Region:
1970, 1975 and 1980
(1970 Definition of Urban)**

Region	Year		
	1970	1975	1980
Philippines	31.8	33.4	37.3
NCR Metro Manila	100.0	100.0	100.0
I. Ilocos	19.4	21.0	23.8
II. Cagayan Valley	14.1	13.4	15.5
III. Central Luzon	30.2	33.9	41.8
IV. Southern Tagalog	30.6	31.8	36.9
V. Bicol	19.2	18.4	21.5
VI. Western Visayas	26.7	26.7	28.3
VII. Central Visayas	27.9	28.9	32.0
VIII. Eastern Visayas	19.4	18.7	21.8
IX. Western Mindanao	15.7	14.9	17.1
X. Northern Mindanao	20.9	23.2	26.6
XI. Southern Mindanao	26.6	26.7	33.6
XII. Central Mindanao	15.6	15.5	18.8

Source: Computed on the basis of census reports, various years, published by the National Census and Statistics Office.

About two-fifths of the women aged 25-44 years were engaged in economic activity in 1973; the comparable figure for 1978 was nearly one-half. Urban labor force participation rates for women exceeded those of rural by 19 percent in the age group 25-34; by 11 percent in the next older age group, 35-44 (Concepcion and Feranil, 1983). But in the rural areas, this activity is concentrated in farm activities and in retail trade where women open up small shops in their premises catering to the daily house-keeping needs of the immediate neighborhood. Such employment enables them to tend to homemaking and child care chores while keeping an eye on the shop. In cities and towns, women who work outside the home are able to combine the roles of

mother and worker by relegating child care to surrogates, usually a younger sister, mother or elderly aunt. In the absence of relatives, the "surrogate" is a full-time household helper. Although day care centers are increasing in number, their use by working mothers is still low.

Average fertility rates are maintained high by the low proportions never marrying. In fact, only six percent of all women aged 45-49 in 1975 remained single. The corresponding proportion in 1948 was one point higher (de Guzman, 1983). Thus, marriage in the Philippines remains almost universal. The percentages single by age are much more sensitive indexes of the timing of marriage than the mean age at marriage. De Guzman (1983) reported that in 1970, the proportions single at age 20-24 were quite high for Metro Manila (64 percent) but low in the Cagayan Valley (36 percent) and in Eastern Visayas (40 percent). Similar fractions for these regions were evident in 1975 except for Cagayan Valley which reported 40 percent.

The substantive effect of contraceptive use on marital fertility was disclosed by Cabigon (1982), utilizing the Coale and Trussell index of fertility, *m*, which indicates whether or not any married female population's fertility behavior is natural or is the outcome of voluntary control. By this index, Metro Manila wives ranked first in contraceptive practice in 1980 with married women in Central Luzon and Southern Tagalog placing second and third. Married women in Bicol

recorded the lowest value of *m* implying a low level of contraceptive use.

WORKING AGE POPULATION

The problem of rising annual increments in the working age population confronts planners in the eighties. As the net result of past demographic trends — gradual decreases in the crude birth rate and recent curb in reductions of death rates — the administration will have to cope with an abundant supply of manpower, with an ever-increasing number of new workers entering the labor market.

Manpower Supply

Table 7 demonstrates that in the present decade, the net increase in the population of men and women in the working ages 15-64, will be 9.2 million (4.4 million during the first half of the 1980s and 4.8 in the second half). During the 1970s, the estimated increase was 7.4 million, a fifth less than that expected for this decade.

The outlook for the regions is portentous. In the Ilocos area, the working age population is anticipated to increase by two-thirds between 1980 and 1985 and to double by the last quinquennium of this century. The same is true for the Bicol and Western Visayas. But the picture emerging in Central Mindanao is even more ominous. In the first half of this decade, the population 15-64 years of age is projected to increase almost two-fold (93 percent) and 10 years hence will nearly triple in number.

The situation in Metro Manila and in Western and Southern Mindanao is less vulnerable. Decreases in the population 15-64 of about 10 to 20 percent are foreseen for this decade. Even then, the situation reverses in the 90s when additions of 14 and 18 percent are anticipated for the nation's capital while the corresponding growth in Western and Southern Mindanao is in the order of five percent.

A high 95 percent of the working age population were employed in the third quarter of 1982, according to the definition utilized by the NCSO. However, this rate is inflated as anyone working an hour in the preceding three months was considered employed. Moreover, employment was expanded to include such activities as home gardening and raising poultry as long as there was a harvest. These changes effectively increased the numerator of the employment rates. The 1983-87 Development Plan states:

"To improve the welfare of every Filipino, there is a need to expand productive employment and better income-generating opportunities thus bringing down the present under-employment rates of 15 to 20 percent of the entire work force. A sustained growth will raise employment and, consequently, bid up wages through a more natural process."

MORTALITY

Rapid reductions in mortality observed since World War II have occurred without much change in

Table 7. Projected Working Age Population, 15-64 Years, Philippines and Regions, 1980-2000 (In Thousands)

	1980 ^a	1985	1990	1995	2000
Philippines, 15-64	26,241	30,740	35,597	41,116	46,669
Net increase in preceding five years	3,866	4,380	4,857	5,519	5,553
Index, 1975-1980 = 100	100	113	126	143	144
NCR Metro Manila	3,727	4,393	5,052	5,854	6,685
Net increase in preceding five years	706	655	659	802	831
Index, 1975-1980 = 100	100	93	93	114	118
I. Ilocos	1,910	2,174	2,466	2,781	3,110
Net increase in preceding five years	166	276	292	315	329
Index, 1975-1980 = 100	100	166	176	190	198
II. Cagayan Valley	1,186	1,389	1,623	1,887	2,144
Net increase in preceding five years	180	205	234	264	257
Index, 1975-1980 = 100	100	114	130	147	143
III. Central Luzon	2,614	3,097	3,619	4,202	4,756
Net increase in preceding five years	384	487	522	583	554
Index, 1975-1980 = 100	100	127	136	152	144
IV. Southern Tagalog	3,326	3,966	4,701	5,554	6,400
Net increase in preceding five years	559	644	735	853	846
Index, 1975-1980 = 100	100	115	131	153	151
V. Bicol	1,760	2,060	2,392	2,768	3,142
Net increase in preceding five years	182	308	332	376	374
Index, 1975-1980 = 100	100	169	182	207	205
VI. Western Visayas	2,431	2,770	3,169	3,611	4,091
Net increase in preceding five years	248	350	399	442	480
Index, 1975-1980 = 100	100	141	161	178	194
VII. Central Visayas	2,069	2,336	2,653	3,019	3,372
Net increase in preceding five years	281	276	317	366	353
Index, 1975-1980 = 100	100	98	113	130	126
VIII. Eastern Visayas	1,447	1,647	1,877	2,109	2,338
Net increase in preceding five years	131	209	230	232	229
Index, 1975-1980 = 100	100	160	176	177	175
IX. Western Mindanao	1,329	1,569	1,810	2,084	2,352
Net increase in preceding five years	260	205	241	274	268
Index, 1975-1980 = 100	100	79	93	105	103
X. Northern Mindanao	1,474	1,773	2,076	2,422	2,779
Net increase in preceding five years	260	256	303	346	357
Index, 1975-1980 = 100	100	98	117	133	137
XI. Southern Mindanao	1,793	2,142	2,492	2,887	3,289
Net increase in preceding five years	379	303	350	395	402
Index, 1975-1980 = 100	100	80	92	104	106
XII. Central Mindanao	1,176	1,426	1,667	1,941	2,216
Net increase in preceding five years	107	206	241	274	275
Index, 1975-1980 = 100	100	193	225	256	257

^a Figures are based on census enumerations, not on mid-year populations.

Source: NEDA/NCSO, 1983. *Revised Population Projections for the Philippines and Its Regions, 1980-2030.*

the social and economic conditions. Such decreases were brought about by the application of technological advances in disease prevention and control and in the expansion of public health and medical services. The sluggish trend of mortality decline in the 70s suggests that efforts to reduce mortality may have peaked at prematurely higher levels than those achieved by the more developed nations (Ruzicka and Hansluwka, 1982).

The crude death rate estimated by Flieger et. al. (1981) on the basis of the 1970 census was 11.5 male deaths per 1,000 males and 10.2 female deaths per 1,000 females, resulting in a death rate of 10.8 per 1,000 for both sexes combined. When these estimates are compared with those for 1960 when they stood at 13.7 and 11.8 for males and females, respectively, an overall mortality decline of 15 percent during the 60s. is indicated. Flieger et. al., applying the same techniques to the 1975 census, estimated the crude death rate to be 8.7 per 1,000, suggesting a drop in mortality of some 19 percent during the first half of the 70s. Current estimates (1984) of the death rate place it at about eight deaths per thousand, reinforcing the oft-repeated observation of a slowdown in the pace of decline in the recent past.

The average mortality situation during the last 20 years hides local mortality variations. Unfortunately, dependable estimates of the crude death rate by region are not available prior to 1970. Measures calculated for

Table 8. Crude Death Rates (Per Thousand Population), 1970-1980, Philippines by Region

	1970	1980
Philippines	10.8	8.7
NCR Metro Manila	-	5.7
I. Ilocos	11.5	9.9
II. Cagayan Valley	12.5	10.6
III. Central Luzon	9.1	7.1
IV. Southern Tagalog	8.7 ^a	7.6
V. Bicol	11.3	9.2
VI. Western Visayas	10.5	9.0
VII. Central Visayas	10.2	8.7
VIII. Eastern Visayas	12.8	10.9
IX. Western Mindanao	13.3	14.3
X. Northern Mindanao	12.5	12.3
XI. Southern Mindanao	13.0	12.6
XII. Central Mindanao	13.4	14.3

^aIncludes Metropolitan Manila.

Sources: The 1970 death rates were computed from Flieger et. al. 1981. *On the road to longevity*. Cebu City. San Carlos Publications. For 1980, death rates were obtained from the computer print-out of the NEDA/NCSO, 1983. *Revised Population Projections for the Philippines and its Regions. 1980-2030*.

every region underscore the far from satisfactory situation existing at the sub-national level. Regional mortality differences in 1970 were substantial (Table 8). Crude death rates ranged from a high of 13 deaths per 1,000 in Western and Central Mindanao to a low of nine deaths per 1,000 in Central and Southern Luzon. It must be pointed out that no separate estimate was made for the Metro Manila area which was included in what is termed Southern Luzon in 1970. In 1980, Central Luzon, Southern Tagalog and Metro Manila were character-

ized by low mortality. While death rates diminished in all of Luzon and Visayas, the Mindanao region continued to manifest unchanging or even rising mortality. Worth noting were the mortality levels in the Western and Central portions of this island (14.3 deaths per 1,000).

Crude death rates are influenced by the age structure of a population. To obtain mortality estimates relatively unaffected by age factors, life expectancy at birth values offer an alternative. According to Flieger et. al. (1981), the average life expectancy at birth in the country had increased approximately 10 years during the period 1948-1960. From then on, the pace decelerated amounting to some five years for the period 1960 to 1975. The principal factor behind this increase in life expectancy was the rapidly declining infant mortality. In 1960, some 126 male babies out of every 1,000 born alive died before their first birthday; the comparable figure for female babies was around 100. In 1975, the corresponding infant mortality rates were 85 and 67, respectively. The rates imply a decline of over 30 percent in the 15-year period.

Survival to older ages was also affected by the improvement in mortality levels. The proportion of Filipino males who could expect to reach age 65 rose from less than 43 percent in 1960 to more than 51 percent in 1975. The matching female proportions were 48 percent for 1960 and 61 percent in 1975. These fractions imply increments of eight percent

for males and 13 percent for females, a total of 4.4 million in 1975.

Reasons for Slackening Mortality Decline

The unwavering proportions of all deaths claimed by infants and the aged during the 70s, the perseverance of major health problems and causes of death plus the adverse medical personnel/population ratios are some of the factors underlying the subsiding death rate declines. The annual number of persons who die depends to a large extent on the composition of the population by age. Deaths tend to occur in greater numbers at infancy and at older ages. In the Philippines, infant mortality accounted for about a quarter of all deaths in 1970. Turning to the other extreme, about 22 percent of all deaths occurred among the elderly, those 65 years and older. An examination of the registered deaths in 1968, 1973 and 1978 revealed that the proportion of deaths at infancy remained almost constant (24 percent) during this 10-year period. Over a fifth (22 percent) of all deaths were accounted for by the elderly in 1968 and 1973. A slightly higher proportion, 24 percent, was recorded in 1978. Since these two age groups accounted for nearly half of all the deaths during the decade 1968-1978, it is not surprising that the death rates have shown very little change during the 70s.

The country's major health problems as viewed by national health administrations (Hansluwka and

Ruzicka, 1982) show relatively little change over the 1955-1975 period. In the mid-50s, malaria, TB, malnutrition, and sanitation were cited by Filipino health administrators as the major health problems. Twenty years later, only TB was deleted from this list but schistosomiasis and drug abuse were added.

An understanding of the major determinants of the trend in mortality can be indirectly obtained through the analysis of causes of death. Prior to 1920, the country was beset by severe epidemics which caused the death rate to soar upwards. Since then, major epidemics have ceased to occur although communicable diseases still continue to appear among the leading causes of death.

The proportional distribution of all deaths by broad causes for each

sex separately in the period, 1968 to 1978, is listed in Table 9. The data disclose that communicable diseases continued to claim the greater fraction of all deaths for both sexes (40 to 44 percent). Cardiovascular diseases became more prominent as a killer of men and women alike over time. Accidental deaths tripled during the decade but claimed three times more male victims than females. On the other hand, malignant neoplasms proved more fatal for women than for men although the proportion of deaths due to this cause in 1978 had been kept down to a third of its 1968 level.

The growth of medical personnel and facilities since 1964 was gradual. From a 1:1,149 bed/population ratio in 1964, the corresponding ratio improved to 1:650 14 years later. The most advantaged region was Southern

Table 9. Percent Distribution of All Deaths by Broad Causes by Sex: Philippines, 1968 to 1978

Causes of Death	Males			Females		
	1968	1973	1978	1968	1973	1978
All Causes	100.0	100.0	100.0	100.0	100.0	100.0
Communicable Diseases ^a	43.8	39.5	39.0	44.2	40.8	41.4
Malignant Neoplasms ^b	12.5	3.0	3.9	13.4	3.6	4.4
Cardiovascular Diseases ^c	6.5	12.9	15.7	7.3	13.6	16.7
Accidents ^d	2.1	4.6	7.4	0.9	1.9	2.6
Others	35.1	40.0	34.0	34.2	40.1	34.9

^aCommunicable diseases include those classified under the International Disease Classification, IDC # 000-153; 470-493.

^bMalignant neoplasms include those classified under ICD # 154-239.

^cCardio-vascular diseases include those classified under ICD # 393-466.

^dAccidents include those classified under ICD # E810-E999.

Source: NCSO/NEDA, *Philippine Vital Statistics Reports for 1968, 1973 and 1978*, Manila.

Tagalog (including what now comprises the Metropolitan Manila area) which reported one hospital bed for every 341 persons in 1978. The worst off was Northern Mindanao where there was one bed for every 1,426 people. With the concentration of medical facilities in urban areas, health personnel also tend to flock to these areas. A study of physician and nurse manpower conducted by the Philippine Association of Medical Colleges in 1970 revealed that 70 percent of the physicians were located in Luzon and 34 percent were concentrated in Metro Manila. The study also disclosed that the physician/population ratio at the time was 1:2,800. By 1977, the ratio had advanced narrowly to 1:2,556. Physician/population ratios were somewhat better than midwife/population ratios. In 1975, there was one physician for every 2,611 persons but only one midwife per 3,972 persons. Two years later, the corresponding ratios were 1:2,556 and 1:2,843, respectively (Concepcion and Mortezo, 1982). Physician/nurse ratios were in the order of 1:2.

In recognition of the maldistribution and insufficiency of medical facilities and health manpower, the 1983-87 Philippine Development Plan attempted to remedy the situation as indicated below:

"In support of the policy of universal access to health and nutrition services, the following approaches and strategies will be pursued:

- (a) **Institutionalization of Primary Health Care (PHC);**

- (b) **Expansion of Medical Care Insurance;**
- (c) **Easier access to food and nutrition;**
- (d) **Intensification of regional distribution of resources."**

Despite these emphases, the proportion of the national budget devoted to health needs has been declining from about six percent in the early 70s to around four percent in 1984.

POPULATION DISTRIBUTION

The Philippines remains a predominantly rural country. The urban share of the population advanced to 37 percent in 1980 from about 30 percent 20 years earlier. The rise was gradual up to 1975 after which the pace accelerated to 1980. The growth of the urban population, unlike that of the total population, has not displayed any trend over the years as evident in the following average annual rates of growth:

Sector	1948-1960	1960-1970 ^a	1970-1975	1975-1980
Philippines	3.06	3.01	2.78	2.71
Urban	3.97	4.01	3.76	5.02
Rural	2.70	2.56	2.30	1.48
Tempo (urban-rural difference)	1.27	1.45	1.46	3.54

^aFor the 1960-1970 growth rates, the 1963 definition was applied to the 1970 population for comparability. For the period 1970-1975, the 1970 definition was used for both censuses.

In fact, the sudden spurt exhibited by the urban sector in the 1975-1980 intercensal period suggests a reversal of the sluggish urbanization trend previously observed by Pernia and Paderanga (1980) as measured by

the urban-rural growth difference.

Owing to changing definitions of urban, the percent urban by region can only be compared for the three last enumerations, 1970, 1975 and 1980 (see Table 6). Apart from the primate city which was entirely urban over the period under consideration, only Central Luzon started to surpass the national average by 1975. The Southern Tagalog region only caught up with the Philippine level in 1980.

It will be noted from the same table that Western Visayas, Southern and Central Mindanao did not increase their urban share until after 1975 while the Cagayan Valley, Bicol, Eastern Visayas and Western Mindanao decreased their urban fractions in 1975 but recovered substantially in 1980. The remaining regions reported steadily rising urban proportions.

Inter-Regional Migration

Since 1960, every seventh Filipino alive in 1970 had transferred his residence across municipal boundaries (NCSO: 1976). About one in 50 persons five years of age or older, had moved from one region to another during the interval 1970-1975 and the corresponding figure for 1975-1980 was three out of a hundred.

The nation's capital attracted more migrants than repulsed them. This was true for all three intercensal periods. Between 1960 and 1970, one out of 20 intercensal migrants had moved to the city of Manila (NCSO, 1976). Between 1970 to 1975, three in 10 inter-regional migrants flowed into the Metro Manila area. For the period 1975-80, the comparable fraction was one in three. On the other hand, 22 percent of all out-migration

Table 10. Net Migration Rates (Per Thousand) by Region:
Philippines, 1960-1970, 1970-1975 and 1975-1980

Region	1960-1970	1970-1975	1975-1980
NCR Metro Manila	127.1	15.1	32.4
I. Ilocos	-32.6	-16.9	-14.6
II. Cagayan Valley	15.7	- 2.3	- 1.4
III. Central Luzon	-27.9	5.9	- 0.4
IV. Southern Tagalog	8.7	4.2	12.3
V. Bicol	-17.0	-10.3	-18.4
VI. Western Visayas	-64.2	- 4.1	-16.5
VII. Central Visayas	-96.2	-12.1	-17.4
VIII. Eastern Visayas	-86.3	- 2.0	-25.7
IX. Western Mindanao	43.0	-11.7	- 3.9
X. Northern Mindanao	71.2	15.9	14.1
XI. Southern Mindanao	-159.2	11.8	9.0
XII. Central Mindanao	2.0	- 9.3	8.1

Source: Computed from special tabulations provided by the National Census and Statistics Office.

between regions came from the National Capital Region in the first half of the 70s. The proportion for the latter half of the decade was 18 percent (Concepcion, 1983).

The direction of movement in the three quinquennial periods is illustrated in Table 10. The regions which had consistently drawn in migrants were Metro Manila, Southern Tagalog, Northern and Southern Mindanao. The areas of heavy out-migration during the 60s and 70s were the Ilocos, Bicol and the entire Visayas. Notable were the shifts in direction expressed in the 1975 census. These were Central Luzon which changed from a sending into a receiving area during the period 1970-1975 and Central Mindanao where the reverse was true. Prior to 1970-1975, two regions of destination were the Cagayan Valley and Western Mindanao. In the case of Central Luzon, the Export Processing Zone went into high gear during the early 70s attracting jobseekers initially. Cagayan Valley was the focus of many resettlement schemes during the 60s but the schemes apparently failed to hold and attract additional settlers. Western Mindanao, as a receiving region, lost out to the northern and southern portions of the island during the 70s.

FUTURE PROSPECTS

What lies ahead for the regions in the remaining 15 years of this century? Will the decline in the total fertility rate continue and even accelerate? Will the slackening trend in mortality rate reduction reverse? Will

the Filipino predilection to migrate in search of a better life remain undiminished?

Population projections based on the 1980 age and sex distribution assume a net reproduction rate of unity by the year 2010, a quarter of a century hence. But the attainment of replacement fertility at the national level by 2010 does not mean that all the regions are likely to follow suit. Based on the still high average completed family sizes of the Mindanao regions, it is unlikely that replacement growth in these regions will be achieved much before 2030.

In Table 8, it was shown that the Cagayan Valley, Eastern Visayas and the island of Mindanao had crude death rates of at least 11 per 1,000. The projections for the remaining years of this century assume average annual increases of 0.3 year in the life expectation at birth. One exception was Metro Manila where mortality was already at a low level in 1980 such that further declines would be minimal.

Table 8 also highlighted the relatively unfavorable mortality conditions obtaining in Mindanao. The 1983-1987 Philippine Development Plan accented the full-scale implementation of primary health care nationwide, thus signifying the nation's commitment "to make basic health care universally accessible at a cost affordable and acceptable to everyone." In line with this commitment, mortality in Mindanao was assumed to fall at a faster pace. Hence, the expectation of life at birth was

Table 11. Population Projections, 1980-2000, Philippines by Region.

Region	Total Population			Increase in Preceding 10 Years			Annual Rates of Natural Increase Percent		
	1980	1990	2000	1980 ^a	1990	2000	1980	1990	2000
	(Numbers in Thousands)								
Philippines	48,317	61,480	75,224	11,414	13,163	13,744	2.5	2.3	1.8
NCR Metro Manila	5,970	7,974	9,895	1,973	2,004	1,921	2.3	2.0	1.3
I. Ilocos	3,543	4,292	5,073	550	749	781	2.2	2.0	1.7
II. Cagayan Valley	2,227	2,845	3,518	524	618	673	2.4	2.3	1.8
III. Central Luzon	4,827	6,142	7,529	1,238	1,315	1,387	2.4	2.2	1.7
IV. Southern Tagalog	6,155	8,105	10,188	1,597	1,950	2,083	2.5	2.2	1.8
V. Bicol	3,489	4,388	5,355	510	899	967	2.7	2.5	2.1
VI. Western Visayas	4,538	5,672	6,800	907	1,134	1,128	2.6	2.3	1.8
VII. Central Visayas	3,796	4,616	5,441	755	820	825	2.3	2.0	1.7
VIII. Eastern Visayas	2,805	3,360	3,973	418	555	613	2.3	2.2	1.9
IX. Western Mindanao	2,547	3,195	3,874	659	648	679	2.4	2.1	1.7
X. Northern Mindanao	2,773	3,616	4,540	548	843	924	2.4	2.1	1.8
XI. Southern Mindanao	3,368	4,334	5,364	1,405	966	1,030	2.4	2.1	1.7
XII. Central Mindanao	2,278	2,942	3,675	329	664	733	2.4	2.1	1.8

^aIncrease based on 1970 and 1980 censuses and not on midyear populations.

Source: Computed from census reports, 1970 and 1980, and the NEDA/NCSO, 1983, *Revised Population Projections for the Philippines and Its Regions (1980-2030)*.

presumed to increase at an average annual 0.4 year (rather than the above-mentioned 0.3 year) over the next two decades. The provision of universal low-cost basic health care in Mindanao would imply 182,500 persons more than would be anticipated under a moderate reduction in death rates. A significant portion of these survivors would be infants and children five years old and below.

An instructive summary measure of the consequences of demographic processes is the rate of natural increase (births minus deaths). Table 11 shows these rates as projected for the country as a whole and its regions over the remainder of the century. The lowest projected rate is expectedly that of the National Capital Region, the highest, that of Bicol. However, except for these two extremes, the expected natural increase of the other regions by century's end will vary between 1.7 and 1.8 percent (Eastern Visayas by 1.9 percent). Thus, the interplay between fertility and mortality, irrespective of levels, is anticipated to produce a uniform rate of increase by the year 2000. Therefore, inter-regional transfers of population will assume a more prominent role in contributing to widening the differences among regions.

The projected inter-regional migration streams preserve the pattern and direction observed during the period, 1975-1980. However, the rate of migration was assumed to decline very gradually to zero by 2080. Movements over long distances will continue to prevail, with female-

dominated migration to the nation's capital and its neighboring region, Southern Luzon, replacing the predominantly male flows to the frontier areas of Northern and Southern Mindanao. Such patterns raise questions concerning balanced regional development. Present trends contribute to the perpetuation of a demographic and economic concentration in the primate city thus promoting further disequilibrium.

Philippine planners must seriously consider the policy implications of these differentials. However, measures that may be initiated now to modify and narrow these differences will make most of their impact only in the next century. To illustrate, if Filipina women were suddenly to produce half as many babies in 1985, the survivors of this cohort will be less than half of the number of projected new entrants into the labor market at the turn of the century, and considerably less than half of the eligible population who would be contracting marriage in 2010. Meanwhile, children under 10 in Mindanao are expected to be a sizeable proportion of all children that age in the year 2000. As adults, they are apt to bear children in greater numbers than their counterparts in Central Luzon or Southern Tagalog. Thus, the regional imbalances, sketched above are likely to be exacerbated in the future. Should policy makers agree with this conclusion, they will have to be devoting considerably greater attention to demographic issues than heretofore.

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