Human Resource Formation in the Philippines: Problems and Prospects

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C O N T E N T S

T A B L E S

A B S T R A C T

A critical aspect of the future capacity of the Philippine economy to support a rapidly growing population is the quality of its human resources. Recent information in the area of health, nutrition and education point to a disturbing scenario that unless the currently unfavorable trends in these human capital indicators are reversed and placed on a path of sustained improvements, the quality of the labor force would have deteriorated in the 21st century at precisely the time when higher productivity is needed to support a much larger population. An underlying factor affecting the prospects for significant improvements in the quality of human resources is the rate of population growth. Rapid fertility decline can be expected to reduce the pressure of providing basic health, nutrition and educational services, and such reduced pressure can provide opportunities for improving the coverage and quality of such services. Fertility in the Philippines, however, still remain high and very little decline has been noted in the more recent period. The current population policy is not clear about the issue of fertility reduction as a demographic objective. The lack of a strong commitment to fertility reduction by the present government is bound to affect human resource formation in the near and long term.

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I. Introduction

The Philippine population grew from 19 million in 1948 to 48 million in 1980, an increase of 2.5 times in three decades. The unprecedentedly rapid population growth rates in the 1950s and 1960s, averaging 3.0 percent annually, were not significantly moderated in the 1970s. The average annual intercensal growth rate in the 1970s still stood at 2.7 percent. Government projections based on data up to 1980, the latest official projections available, indicate that by 2000, the population will be between 71 and 77 million under alternative fertility assumptions. By 2030, the population is projected to be between 97 and 117 million (NEDA, 1985). A World Bank projection based on data up to 1982 indicate that if replacement fertility is reached by 2010, the population will reach zero growth rate at around 2075 with a total size of 127 million (World Bank, 1984).

The prospects of continued population growth well into the 21st century, irrespective of fertility trends that can be realistically expected, is clear. What is not clear is the long-run capacity of the Philippine economy, not merely in accommodating the additions to the population at current standards of living, but more importantly, in significantly raising such standards for the whole population, particularly in the light of the increase in poverty rates during the past 15 years.*/

A critical aspect of the future capacity of the economy to support a rapidly growing population is the quality of its human resources. Recent information in the area of health, nutrition and education, however, points to a disturbing scenario that unless the currently unfavorable trends in these human capital indicators are reversed and placed on a path of sustained improvements, the quality of the labor force will have deteriorated in the 21st century at precisely the time when higher labor productivity is needed to support a much larger population. Should such a scenario materialize, the

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*/ Official estimates reveal that the poverty rate (the proportion of families falling below a specified threshold income) rose from 49 percent in 1971 to 59 percent in 1985 (NEDA, 1986).

Philippines shall continue to be the slow grower among the dynamic countries in the Asian Pacific rim.

The purpose of this paper is to briefly describe the problems and prospects in human resource formation with attention to health, nutrition and basic education.

II. Health

a. Health status

The most commonly used summary measures of the health situation in a country are the life expectancy at birth and the infant mortality rate. Data on these measures shown in Table 1 generally reveal that the progress towards increasing life expectancy has slowed down during the 1975-1980 period compared to the 1970-1975, or to the 20-year period 1950-1970. In 1980, life expectancy was estimated at 62 years. Some progress, however, appears to have been made in infant mortality reduction in the 1970s. This rate (life table measure) declined from 93 per 1,000 births in 1970 to 58 in 1980, although the latter rate is still high by international standards. More recent information on mortality is unfortunately unavailable, but progress towards mortality reduction in the 1980s is most likely to have slowed down considerably in the light of poor economic performance, increasing poverty incidence, and cutbacks in government expenditures for health and social services (Herrin and Paqueo, 1985).

Significant regional mortality differentials existed as of 1980 and are expected to persist in the 1980s. In 1980, life expectancy at birth varied from a high of 66 years in the National Capital Region to 52 years in Western Mindanao, a difference of 14 years which is more than the difference in life expectancy for the national population between 1960 and 1980. Infant mortality rates likewise ranged from 44 per 1,000 live births in the National Capital Region to 113 per 1,000 births in Western Mindanao and Central Mindanao. Mortality is generally higher in the less developed and rural regions (Cagayan Valley, Bicol, Eastern Visayas and the four Mindanao regions) than in the more developed and urbanized regions (Central Luzon, Southern Tagalog, Western Visayas, Central Visayas and the National Capital

Table 1. Selected Estimates of Mortality, Philippines: 1950-1980

Year	Mortality Estimates						Real per Capita Growth Rate (%)	
	Levels			Average Annual Change				
	CDR[1/]	q_o[2/]	e_o^o[3/]	CDR	q_o	e_o^o	PCE[4/]	GNP[5/]
1948-50	21.6	-	42.5	-	-	-	-	-
1960	12.8	113	52.8	0.80	-	0.93	3.9[6/]	3.4[6/]
1970	10.8	93	55.8	0.20	2.0	0.30	1.5	2.1
1975	8.7	76	59.4	0.42	3.4	0.72	1.6	3.6
1980	8.8	58	61.8	0.02	3.6	0.48	2.3	3.3

1/ CDR = Crude death rate

2/ $_xq_o$ = Life table infant mortality probability

3/ e_o^o = Life expectancy at birth

4/ PCE = Personal Consumption Expenditures

5/ GNP = Gross National Product

6/ Refers to the period 1948-1960

Sources: Mortality estimates for 1948-50 are from Madigan, F.C., 1965, "Some Recent Vital Rates and Trends in the Philippines: Estimates and Evaluation," Demography, 2: 309-316; for 1960, 1970 and 1975 from Flieger, W. et al., 1981, On the Road to Longevity, Cebu City: San Carlos Publications; and for 1980 from Concepcion, M.B. and J.V. Cabigon, 1984, "Levels and Trends of Mortality, Philippines: An Assessment in 1980," University of the Philippines Population Institute.

Region).

Infectious and communicable diseases continue to be the major causes of death for both infants and adults. Infant deaths roughly account for 20 percent of all reported deaths. Among the leading causes of infant mortality, pneumonia appears to be the single most important cause of death with no clear sign of significant decline from 1978 to 1984. In 1984, 24 percent of all infant deaths were due to this disease. Other respiratory diseases accounted for 16 percent of total infant deaths, while diarrhea, nutritional deficiency and measles accounted for another 17 percent. Altogether, these inter-related diseases accounted for more than half (57 percent) of all reported infant deaths (Herrin and Bautista, 1986).

Current levels and trends in both proximate and underlying determinants do not favor rapid improvements in health status in the medium term unless strong and highly focused interventions are implemented. Recent evidence indicates a slowing down in the progress in fertility reduction in the 1975-1980 period compared to the 1970-1975 period, and this lack of progress is likely to have continued in the 1980s in view of the poor contraceptive performance in the early 1980s. Poor environmental sanitation continues to be a problem as revealed by the very high incidence of infectious parasitism among pre-schoolers. In 1982, 69 percent of pre-schoolers examined in a national survey were found to have positive indications for some type of parasitic infection (FNRI, 1984). Data on nutritional status of pre-schoolers based on national surveys reveal high rates of malnutrition which do not appear to show signs of reductions from 1978 to 1985 (data to be discussed later). Breastfeeding, which is a major determinant of the nutritional status and infant mortality risk, has shown declining prevalence as well as duration between 1973 and 1983 (Zablan, 1985). Another proximate factor affecting health status and survival is the utilization of health care. In 1983, only 30 percent of reported deaths had medical attendance (NEDA, 1986b). Government sources estimate that only 30 percent of infants were fully immunized in 1986.

An important underlying factor in mortality, particularly infant and child mortality which influences the above proximate determinants, is the level of education of the mother. Higher education of the mother is believed to enhance the quality of child care. In 1980, only 77 percent of women age 25 years and over were literate, with

very little progress in increasing literacy rates occurring since 1970. Literacy rates for rural women is much lower at 69 percent compared to 90 percent for urban women (NEDA, 1983).

b. The health care system

It is clear from the brief review of indicators of health status and their determinants that the health care system that has evolved from past policies and strategies has not been adequate in dealing effectively with the health needs of the population, particularly the large majority who are poor. The persisting disease pattern called for greater efforts in promotive and preventive health care services which would include family planning, immunization, environmental sanitation and hygiene, nutrition, breastfeeding and maternal care. It also called for wider coverage of basic curative care services in the rural areas, and stronger efforts to counteract ignorance and unfounded beliefs and attitudes about health care associated with the low educational levels among the rural population. However, the health care system that has evolved predominantly involved expensive, hospital-based curative care for which a large majority of the population had limited financial and physical access. The public sector which was expected to correct this imbalance has actually aggravated it. A recently available analysis of public sector expenditure for health revealed that such expenditures have increasingly shifted from preventive to curative care, with an increasing proportion of public health resources being spent to support hospitals. Moreover, in previous times of severe budgetary cutbacks, the public sector had chosen to maintain expenditures on hospital-based curative care at the expense of preventive and promotive health care (INTERCARE, 1987).

The following data illustrate the nature of past public choices in health care. Of the total government spending between 1981 and 1985, 57 percent on the average was spent for curative care as opposed to only 33 percent for preventive care. Administrative costs took up 9 percent of government spending, while training activities accounted for the remainder (Table 2). Since 1982, the proportion of total government spending for preventive care has been declining. In 1982, this proportion was 37 percent, falling to 28 percent in 1985. In contrast, the proportion of government spending for curative care rose

Table 2. Use of All Government Health Funds, Philippines: 1981-1985

(Amount in million pesos)

Year	Preventive care		Curative services		Training		Admin. services		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
1981	954.0	34.9	1,503.2	54.9	16.2	0.6	262.9	9.6	2,736.3	100.0
1982	1,212.7	36.6	1,786.4	54.0	14.6	0.4	295.7	8.9	3,309.4	100.0
1983	1,263.0	32.2	2,315.8	59.0	14.0	0.4	328.0	8.4	3,920.8	100.0
1984	1,234.9	34.3	2,017.0	56.1	14.1	0.4	330.4	9.2	3,596.4	100.0
1985	1,071.1	28.3	2,389.3	63.2	14.4	0.4	304.3	8.1	3,779.1	100.0
Average	1,147.1	33.3	2,002.3	57.4	14.7	0.4	304.3	8.8	3,468.4	100.0

Note: Includes national and local government data.

Sources: General Appropriations Act, Republic of the Philippines, 1981-1985, and Annual Financial Report (local government), Commission on Audit, 1981-1985 as reported in INTERCARE, Health Care Financing in the Philippines: A Country Study, 1987.

from 54 percent in 1982 to 63 percent in 1985. Note also that cutbacks in government health expenditures occurred in 1984 and 1985 compared to the 1983 level. But in such cutbacks, the expenditures for curative services were roughly maintained but the expenditures for preventive care were reduced. A large part of public spending on curative care went to support public hospitals. Public hospital expenditures constituted 55 percent of total Department of Health (DOH) expenditures in 1981. This increased to 71 percent in 1985. In absolute terms, DOH expenditures for public hospitals rose from 990 million pesos in 1981 to 1.7 billion pesos in 1985. The DOH accounted for 65 percent of total government expenditures on the average between 1981 and 1985.

c. Current reforms

The current government recognizes the imbalance between the existing health care structure and the health needs of the large majority of the population and has adopted policies and strategies for the medium term 1987-1992 to address this basic problem. The major features of current policies and strategies are (a) the improved provision and utilization of basic health services especially for the poor, unserved, underserved and high risk groups; (b) a greater emphasis on, and more vigorous implementation of, preventive and promotive health measures; and (c) increased government resource allocation to the health sector and its proper and efficient allocation (NEDA, 1986).

To implement such policies, the DOH immediately directed its efforts towards (a) increasing budgetary resources for health; (b) reversal of the declining share of DOH expenditures on preventive care vis-a-vis curative care; and (c) the more efficient management of resources. First, in 1986, the DOH succeeded in having 527 million of its reserves released and made available for additional financing of its operating costs and purchase of drugs. Moreover, in 1987, the share of the DOH budget in total government expenditures rose to 5.3 percent from 3.7 percent in 1986. Secondly, the share of the DOH budget for preventive care in 1987 rose to 31 percent from only 14 percent in 1985. This 1987 share for preventive care is higher than the average share during the 1981-1985 period which was 22 percent. Finally, the DOH has improved its drug procurement practices, resulting in at least 30 percent savings in drug purchases. Such savings were used to expand service capacity.

While the recent initiatives of the DOH are in the right direction, many problems and constraints still remain concerning restructuring the health care system toward greater efficiency and equity. Among such constraints is the still relatively low level of public resources allocated to health to implement the needed reforms. Public expenditures for health account only for 0.6 percent of GNP in 1987.

III. Nutrition

The problems of nutrition in the Philippines are primarily those of dietary/nutrient inadequacies among low income groups and stunted growth among pre-school children. Available national data indicate that some progress has been achieved in improving the nutritional status of the population between 1978 and 1982; however, such progress appears to have been reversed by 1985, particularly among pre-school children.

Data on energy and protein intake obtained from the Food and Nutrition Research Institute (FNRI) surveys show that the percentage of households with energy intakes less than 80 percent of RDA declined from 38 percent in 1978 to 34 percent in 1982, while the percentage of households with protein intakes less than 70 percent of RDA declined from 16 percent in 1978 to 14 percent in 1982 (Table 3).

Data on mean one-day per capita nutrient intake show large variations between social groups in 1982. Nutrient intake inadequacy by type of nutrient is generally lower among low-income households; among farm workers, fishermen, semi-skilled and unskilled workers; among households with low education of the meal planner; and among households with a larger number of members (FNRI, 1984).

National data on food consumption and nutrient intake based on the 1986 FNRI survey are not yet available. However, FNRI surveys in Metro Manila conducted in 1984 and 1985 suggest a deterioration in dietary/nutrient adequacy, particularly among the poorer segment of the city. The data show that for the Metro Manila sample (same areas as those surveyed in 1982), the adequacy levels in per capita energy intake declined from 88 percent in 1982, to 86 percent in 1984, and to 85 percent in 1985; for protein intake, adequacy levels declined from 101 percent in 1982, to 97 percent in 1984, and to 95 percent in 1985. For the depressed area sample, energy adequacy levels declined from 86 percent in 1984 to 82 percent in 1985, while protein intake adequacy levels declined from 97 percent in 1984 to 90 percent in 1985 (Villavieja, et al., 1985). This deterioration in nutritional status has been related to the impact of the economic crisis during the 1984-1985 period.

The nutrition problem that has generated much concern is the malnutrition among pre-school children. Pre-school children age 0-6

Table 3. Comparison of Percentage Distribution of Households by Levels of Energy and Protein Adequacy, Philippines, 1978 and 1982

Nutrient Level of Adequacy[1/]	Philippines		Urban		Rural	
	1978	1982	1978	1982	1978	1982
Energy[2/]						
Less than 80%	38.4	33.6	38.7	32.1	38.2	34.3
80-99%	39.1	44.2	37.0	44.4	40.1	44.3
100% and over	22.5	22.1	24.3	23.5	21.7	21.4
Total	100.0	99.9	100.0	100.0	100.0	100.0
Protein[3/]						
Less than 70%	16.4	14.2	12.0	11.1	18.5	15.6
70-119%	55.6	61.5	54.5	59.1	56.2	62.6
120% and over	28.0	24.3	33.5	29.6	25.3	21.6
Total	100.0	100.0	100.0	99.8	100.0	99.8

1/ Percent of nutrient intake over recommended allowance.

2/ Less than 80% energy adequacy level is an arbitrary cut-off point set as marginal level of energy adequacy based on the coefficient of variation of energy expenditure from various occupational groups which is about 29%.

3/ Less than 70% protein adequacy level--an arbitrary cut-off set as marginal level of protein adequacy which takes into account 30% margin of safety.

Source: FNRI, Second Nationwide Nutrition Survey, Philippines, 1982, 1984 as reported in UPLB Agricultural Policy Working Group, Policy Issues on Nutrition and Welfare, 1987.

years constitute about 20 percent of the population. National data based on anthropometric measurements conducted by FNRI reveal that the prevalance of malnourished children declined between 1978 and 1972. This trend, however, appears to have been reversed by 1985 as data from the National Nutrition Surveillance System (NNSS) of the National Nutrition Council (NNC) suggest. In 1978, the proportion of children below weight-for-height standards was 14 percent. This declined to around 10 percent in 1982. In 1985, the proportion rose back to 14 percent (Table 4).

Several interrelated factors proximately influence the poor nutritional status of pre-schoolers. These include the low quantity and poor quality of their diet (Florentino, et al., 1986); intra-household differences in dietary intake with the children being more disadvantaged than adults (Barba and Pandes, 1987); the declining prevalence and duration of breastfeeding noted earlier as well as poor health status of children. Underlying these proximate factors are socioeconomic factors such as increasing incidence of poverty, slow

Table 4. Comparison of Trends in Weight-for-Health, Height-for-Age and Weight-for-Age of Undernourished 0-6 Years Old Children, FNRI and NNSS Results, Philippines

Year and Source	No. of Subjects	Weight-for-Height		Height-for-Age		Weight-for-Age	
		< 85%	≧85%	< 90%	≧90%	≦ 75%	> 75%
1978 (FNRI)	3400	13.8	86.2	n.a.		22.2	78.8
1982 (FNRI)	3615	9.5	90.5	20.6	79.4	17.2	82.8
1984 (NNSS)	3440	13.3	86.7	25.2	74.8	20.5	79.5
1985 (NNSS)	3243	14.3	85.7	24.8	75.2	22.0	78.0

Source: 1978 and 1982 Nationwide Nutrition Surveys, FNRI (1981, 1984) and National Nutrition Council, Management Information Services Division as reported in UPLB Agricultural Policy Working Group, Policy Issues on Nutrition and Welfare, 1987.

improvements in education, slow decline in fertility, poor environmental sanitation, and poor access to health care services.

a. Nutrition programs

The Food and Nutrition Program (FNP) consists of a large number and variety of activities implemented by a host of government and private agencies. This basic feature of the FNP is in line with the government strategy to address the multiple factors affecting nutritional status. In the latest FNP (1987-1992), program activities are divided into five major components. The major component of the FNP called the Nutrition Intervention Program is composed of four direct interventions, namely (a) food assistance, (b) nutrition and nutrition-related health services, (c) incremental food production, and (d) growth monitoring. Other components of the FNP include (a) nutrition information, education and advocacy; (b) integration of nutrition factors into development plans and programs; (c) support services which include policy analysis, manpower development, data collection and research, and resource mobilization; and (c) overall planning, coordination and monitoring.

The NNC is the central agency responsible for policy formulation, program planning, monitoring and coordination of the FNP. The member agencies of the NNC now includes 9 cabinet departments, the NEDA, and three representatives from the private sector.

While the past and current FNP consists of a variety of interventions designed to address the multiple factors affecting nutritional status, the coverage and nutritional impacts of each intervention have not been adequately assessed. Moreover, there is little activity being planned for the systematic evaluation of the various project components of the FNP. As such, it is possible that the continued use of scarce resources on a wide range of activities, some of which might have limited nutritional impacts, may not be the best approach to the nutrition problem. Experiences of nutrition projects in different parts of the world point to the idea that substantial nutritional impacts can be achieved by a program with a limited number of components that can be successfully delivered to a well defined and clearly identified target groups (Berg, 1987).

Achieving maximum nutritional impact from specific interventions,

given available resources, requires a clear definition of the target population and an effective system for identifying such population. In the case where different agencies or groups are implementing specific activities, it is important to have common targets and priorities. It has often been lamented that in the past, different agencies or groups had their own targets and priorities, making co-ordination difficult (Aguillon, 1986).

A review of the planned food assistance activity of FNP (1987-1992) raises questions regarding the adequacy of its targeting procedures as well as its priorities. On the one hand, while moderate and severely malnourished pre-schoolers are given the highest priority in food assistance, only half of the estimated 2.3 million pre-schoolers are targeted for pre-school food assistance in 1987. Or the other hand, about 8 percent of pre-schoolers (or about 900,000), regardless of nutritional status, are expected to receive food assistance from some agencies or groups in 1987. Such a situation necessarily leads to undercoverage of the most needy population and unnecessary coverage of the less needy.

For children age 7-14 years, which was estimated at 8.5 million in 1987, 1.9 million or 23 percent was estimated by the Department of Education, Culture and Sports (DECS) to be moderately or severely malnourished based on weight-for-age measures. Planned coverage of these children for the school feeding program is almost complete, i.e. about 95 percent. Nutrition experts analyzing the 1982 FNRI data suggested that the apparent undernutrition among school children was most likely to be due to stunting rather than to wasting or acute malnutrition. As such they note that the current supplementary feeding program in schools are likely to be less useful than nutrition education and long-term approaches, together with measures to improve nutrition before school age (Florentino, et at., 1986).

In view of the foregoing, the prospects for significant improvements in nutritional status particularly of children are not likely to materialize from the impact of current nutrition interventions. There is a need to review the wide range of interventions to determine which package of specific interventions can have maximum impact given limited resources. Moreover, there is a need to review targets and priorities and to evolve a mechanism for defining and identifying common targets and priorities so that the individual efforts of

participating agencies or groups can effectively cumulate towards producing maximum nutritional impacts.

IV. Education

The rapid growth of population over the past three decades meant continual large increases of school-age children. Data on enrollment rates, growth of the number of schools and school teachers in the elementary and secondary levels suggest that on the whole, the educational system has been reasonably able to accommodate the rapidly increasing school-age children, at least quantitatively. There are indications, however, that the quality of education has been deteriorating, particularly in the more recent period.

Literacy rates based on census data for both sexes age 15 years and over rose from 72 percent in 1960 to 83 percent in 1970. However, no significant improvements occurred in the 1970s so that in 1980, the literacy rate still remained at 83 percent (NEDA, 1983). Several other indicators point to poor educational performance in basic education, i.e. elementary and secondary education. The cohort survival rates in 1986 (i.e. the proportion of enrollees in the beginning grade or year who reached the final grade or year at the end of the required number of years of study) was estimated at 67 percent for elementary education and 79 percent for secondary education (NEDA, 1986). These rates represent no significant improvements over previous years since 1976-1977. The achievement level (i.e. the mean percentage scores attained in achievement tests administered to elementary and secondary students) was estimated at 52 percent for elementary students and 49 percent for secondary students in 1986 (NEDA, 1986). The performance of secondary students in the National Collegiate Entrance Examination (NCEE) is not very encouraging either. In 1982-1983 and 1983-1984, only 55 percent of examinees passed at the 45 percentile cut off score (NEDA, 1985).

Since about 96 percent of elementary schools and 63 percent of secondary schools are public, overall performance in the elementary and secondary education is heavily influenced by the amount of public resources devoted to education. Data over the period 1960 to 1985 reveal a declining share of the DECS budget in the national budget

from 28 percent in 1960 to 25 percent in 1970 and to only 11 percent in 1985. In real terms (1972 prices), the DECS budget grew by 5.7 percent annually between 1960 and 1970, but only by 1.2 percent annually between 1970 and 1985. In fact between 1981 and 1983, the DECS budget declined by 2.8 percent annually (Paderanga, 1987). This declining budgetary commitment to public education in the 1970s and early 1980s in the face of increasing numbers of school age children and with a policy of keeping enrollment high, could only result in a deterioration in the quality of the public educational system by reducing quality investments per student.

A recent study on elementary schools revealed a large difference exists in the quality of public and private schools. Quality was measured in terms of mean scores of students in standard tests (Mathematics, English and Pilipino). A major factor affecting the quality of schools is the way resources are allocated between personnel salaries and physical inputs. Compared to public schools, private schools tend to spend more on physical inputs than on personnel salaries (Paderanga, 1987). It would appear that with the reduced budgetary support per pupil, maintaining teachers to keep enrollments high meant a reduction in expenditures for those physical inputs that have a strong influence on schooling achievement, i.e. learning aids, textbooks, science, kits, etc.

The prospects for significantly improving the quality of public education in the elementary and secondary levels in the near future do not appear bright in spite of the recent increases in budgetary allotments for education. Such increases were earmarked for the implementation of the current policy to provide for free high school education. Moreover, given severe resource constraints, the continued rapid growth of school age children as a result of continued high fertility limits opportunities for improving quality while keeping enrollments high. A thorough review of public education in the elementary and secondary levels and the identification of viable options for improving quality is urgently needed.

V. Fertility and Population Growth

One factor affecting the prospects for significant improvements

in the future quality of human resources is the rate of population growth. Rapid fertility decline can be expected to reduce the pressure for providing basic health, nutrition and educational services, and such reduced pressure can provide opportunities for improving the quality of such services.

The latest available official population projection for the Philippines up to 2030 are those undertaken by the National Census and Statistics Office (NCSO) based on the 1980 census. The population in 2000 is projected to be 71 million under the low variant, 75 million under the medium variant, and 77 million under the high variant. In 2030, the population is projected to be 97 million, 107 million, and 117 million, according to each respective variant.

While the most recent development plan (1987-1992) was based on the medium variant, it is commonly believed that the high variant is more realistic in view of the unexpected slowing down of fertility decline in the 1975-1980 period relative to the previous quinquennial period. This unexpected development could not be taken into account in the projections since the latest fertility data available at the time was for 1975. The fertility at around 1980, the base period, was then estimated on the assumption of a continuation of the 1970-1975 trend. More recent data from the 1983 National Demographic Survey (NDS) indicated a slowing down of fertility decline during the 1975-1980 period. To speculate on what might be the potential implications of an accelerated fertility decline (fertility to decline from estimated 1980 level such that replacement fertility is reached by 2000) compared with what might likely prevail (replacement fertility is reached only in 2020), we compare the low and high variants.

Of interest is the projected population in specific age categories (Table 5). For children age 0-6 years, the major target groups for health and nutrition interventions, rapid fertility decline would imply an immediate reduction in absolute numbers of more than one million pre-schoolers between 1985 and 2000. In contrast, under a slow fertility decline, the number of pre-schoolers would still increase by 2.3 million between 1985 and 2000. Improving the health and nutritional status of the pre-schoolers is more likely to be facilitated under a rapid rather than under a slow fertility decline situation, not only because there will be fewer pre-schoolers under the former situation but also because faster fertility decline will be

Table 5. Alternative Population Projections by Major Age Groups: 1985-2015 as Assessed in 1980

(Thousand Persons)

Age Group	Low Variant			
	1970	1985	2000	2015
0-6	8,235	10,825	9,709	10,078
7-12	6,621	8,492	9,146	8,048
13-16	3,647	4,995	6,118	5,226
0-14	16,757	21,870	21,924	20,724
15-64	18,864	30,978	46,505	59,669
65+	1,062	1,640	2,890	5,077
Total	36,684	54,488	71,319	85,470

Age Group	High Variant			
	1970	1985	2000	2015
0-6	8,235	11,117	13,433	13,467
7-12	6,621	8,475	10,769	11,713
13-16	3,647	4,994	6,565	7,732
0-14	16,757	22,144	27,548	29,062
15-64	18,864	30,746	46,771	65,475
65+	1,062	1,871	2,890	5,077
Total	36,684	54,761	77,209	99,614

Source: NEDA, Philippine Population Projections, 1980-2030, 1985.

associated with lower risk of child malnutrition and poor health, all things being equal.

Among elementary and secondary school age children (7-12 and 13-16 years), a rapid fertility decline would imply a considerable slowing down in the growth in numbers between 1985 and 2000, and even a decline in absolute numbers between 2000 and 2015. In contrast, a slow fertility decline would imply a large absolute increase in school age children between 1985 and 2000 compared to the period 1970-1985, and a further increase in absolute numbers, though at smaller amounts, between 2000 and 2015. Between 1985 and 2000, the number of school children age 7-16 years will grow by only 1.8 million under rapid fertility decline compared to 3.9 million under slow fertility decline. (It might be noted that during the 1970-1985 period, the number of school age children grew by 3.2 million.) Between 2000 and 2015, however, the number of school age children will decline by almost 2.0 million under rapid fertility decline, while the number will still increase by another 2.1 million under slow fertility decline. Clearly, the pressure for providing elementary and secondary education will be much less during the next 15 or 30 years under a more rapid fertility decline than under a slow one. Such reduced pressure provides greater opportunities for improving the quality of elementary and secondary education in the future.

Assuming a constant proportion of health or education expenditures to GNP at 1986 prices, per capita expenditures for each service will vary under different population and GNP growth rates. Tables 6 and 7 present the projection for health services and education, respectively. While it is clear that per capita expenditures can increase faster, the faster the growth of GNP, such a rate of increase can be faster under a more rapid fertility decline than under a slower one. The figures suggest that a doubling of per capita expenditures to improve the coverage and quality of health and educational services can be achieved faster under a rapid fertility decline scenario than under a slow one, given a specified GNP growth rate. On the other hand, a smaller GNP growth rate is needed to double per capita expenditures under a more rapid fertility decline scenario. Clearly, considerable progress in increasing per capita expenditures is possible irrespective of GNP growth rates under a more rapid fertility decline scenario than would be possible in the case of

Table 6. Projection of Population and Per Capita Health Expenditures

Population Growth Rate	Year	Population in Millions	Per Capita Expenditures for Health According to GNP Growth Rate (Pesos)		
			4 %	6 %	8 %
Low	1985	54.5	55	55	55
	2000	71.3	76	103	139
	2015	85.5	116	211	384
High	1985	54.8	55	55	55
	2000	77.2	70	95	128
	2015	99.6	99	181	329

Note: Assumes a constant share of health expenditures to GNP of 0.5 percent. Population projections are as assessed in 1980.

Table 7. Projection of Population and Per Capita Expenditures for Education

Population Growth Rate	Year	Population Age 7-16 Years in Millions	Per Capita Expenditures for Education According to GNP Growth Rate (Pesos)		
			4 %	6 %	8 %
Low	1985	13.5	793	793	793
	2000	15.3	1,276	1,722	2,324
	2015	13.3	2,674	4,872	8,877
High	1985	13.5	793	793	793
	2000	17.3	1,128	1,523	2,056
	2015	19.4	1,833	3,340	6,086

Note: Assumes a constant share of educational expenditures to GNP of 1.8 percent based on 1986 expenditures patterns which reflect increased attention to education. All expenditures are assumed to be allocated to elementary and secondary education. Population projections are as assessed in 1980.

a slower decline. Such progress is more important when GNP growth rates are lower or cannot be increased very rapidly due to various development constraints. In the case of the Philippines, these constraints include the severe debt burden and an inefficient economic structure.

Moderating fertility now can be an important factor in human resource formation. However, the current population policy is not clear about the issue of fertility reduction as a demographic objective. The lack of a clear cut commitment to fertility reduction by the present government is unfortunate, and is bound to affect human resource formation in the near and long term.

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