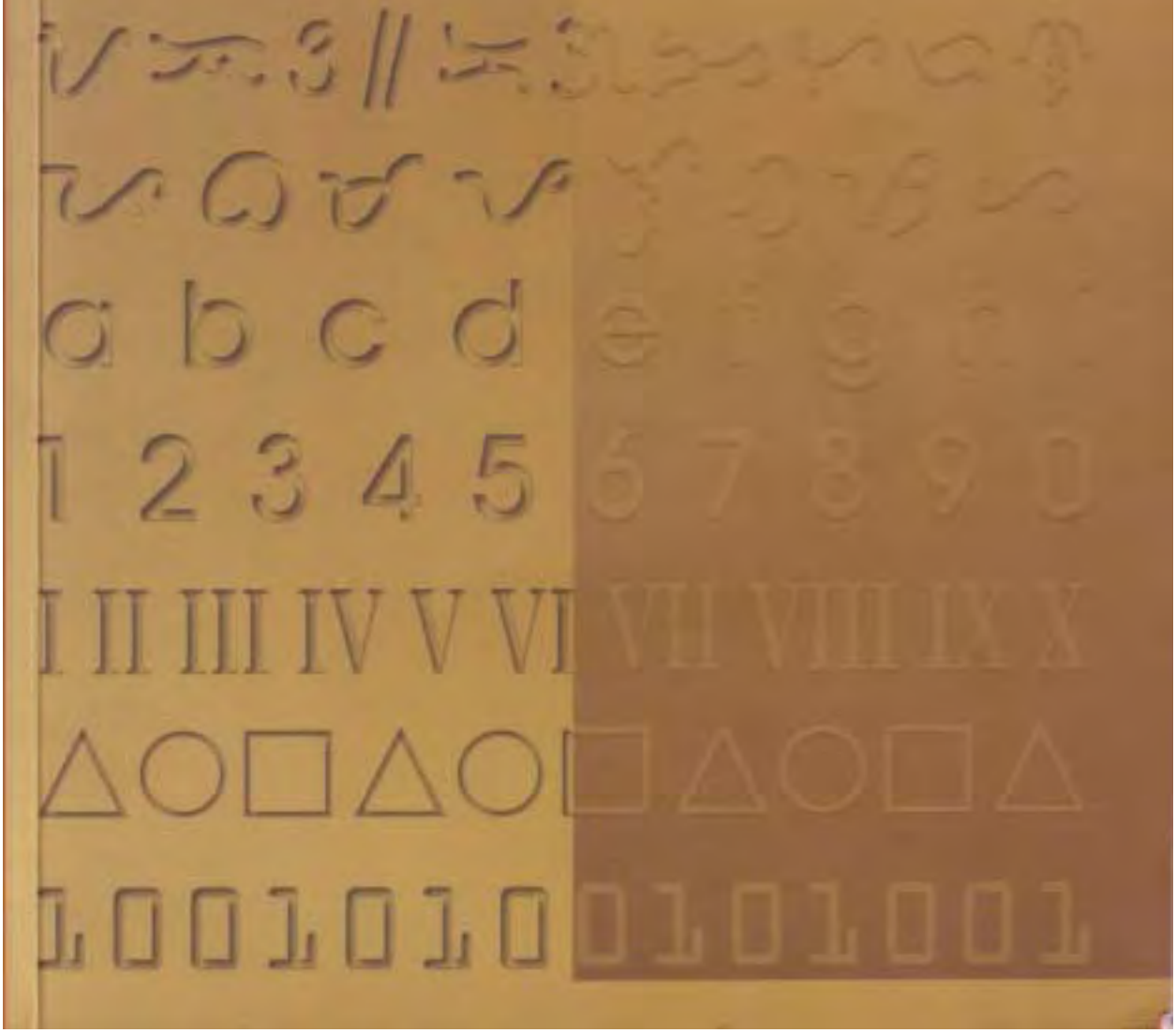
philippine human development report 2000



Philippine Human Development Report

2000

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The major ideas that went into the chapters of this volume were contributed by Edita A. Tan, Milagros M. Ibe, Ma. Luisa C. Doronila, Rosario G. Manasan, Samuel K. Tan, Salvador O. Orara, S.J., and Emmanuel S. de Dios. Michael M. Alba, Allan I. Bernardo, and Edicio G. de la Torre also contributed valuable perspectives during formal and informal discussions.

The HDN wishes especially to express its appreciation to Andrew Gonzalez, FSC, for contributing an essay to this volume, which was planned before his subsequent appointment as Secretary of Education. Special thanks are due as well to the World Bank and the Asian Development Bank for allowing the HDN to excerpt substantial portions of the paper of Leo Maglen and Rosario Manasan on financing, which was originally part of a sector study of Philippine education, an informative piece that would otherwise have been unavailable to the general public.

Thanks to the involvement and cooperation of the National Statistical Coordination Board (NSCB), this volume can report the latest available results of computations for the human development index by province. The actual work of preparing data and performing the computations for the 1997 and 1994 HDI by province was done by Redencion M. Ignacio and Mary Mell A. Martillan of the NSCB. Teresita Deveza and Emelyn Quinto, also from the NSCB, earlier supplied preliminary data.

This volume was edited in behalf of the HDN by Emmanuel de Dios, Salvador Orara, S.J. and Solita Collas-Monsod, with unwavering assistance from Lorna Villamil and Nerris Tuñgol-Esguerra.

PREFACE

I WISH TO CONGRATULATE the Human Development Network on the completion of the third Philippine Human Development Report. This effort reaffirms a remarkable dialogue on social issues and human development that has been carried on for many years now between civil society organizations and the government. Without denying that some differences over policies may be possible, this dialogue has nonetheless helped in no small measure to create a common language and basic understanding among government and civil-society development planners and practitioners alike.

The Philippine government fully shares the fundamental idea that lies behind human development, which is that the main concern of development should be people, and that, following A.K. Sen, the true measure of progress lies not simply in the magnitude of wealth created, but in the human capabilities and functionings that the majority of people achieve. The current Medium-Term Philippine Development Plan 1999-2004 ("Angat Pinoy 2004") in particular gives prominent place to the Human Development Index (HDI). With its express concern for the poor, this administration in particular experiences no qualms in using the HDI and other social indicators as yardsticks for the evaluation of its own performance by the people.

Indeed, the present Report physically embodies the fruits of civil-society-government dialogue and cooperation. The essay in this volume by my Cabinet colleague, Secretary Andrew Gonzalez, FSC, is a valuable and authoritative response to current issues raised in the education sector. In addition, I note the active involvement of the National Statistical Coordination Board in the generation of the statistics on human development across provinces, which provides researchers, development workers, and government planners alike with a useful criterion for classifying areas by development levels. The work of generating the HDI has thus now passed from experiment to policy, and this is to be lauded.

The theme of the present Report, on raising the quality of public education, is the very thrust of the chapter on social reform and development in the government's current medium-term plan. The government recognizes the deterioration in quality in public education and is determined to take steps to remedy it. As a matter of fact, a Presidential Commission on Educational Reform has been created to take a closer look at the current state of education and draw up the education reform agenda of the present administration. I therefore applaud the aim of this publication in wishing to stir up much-needed substantive discussions on education reforms, not only in the boardrooms of planners and other officials, but in classrooms and around family dining tables. Education is an issue that affects all families and their future, and people should be encouraged to express their preferences and take a hand in its design and implementation. People, after all, are both the subject and the agents of change, and government can ignore this only at its own peril.

FELIPE M. MEDALLA
SECRETARY
SOCIOECONOMIC PLANNING

FOREWORD 1

UNDP WARMLY CONGRATULATES the Philippines Human Development Network for producing the third Philippine Human Development Report. The Philippines has the distinction of being one of the very first countries to produce a national Human Development Report and one of the few which, through the efforts of the Human Development Network, has pursued the continuing production of the report every two to three years as advocacy for placing human development at the center of the country's development debate.

The theme of Education for the third Report is timely. The United Nations, working with and through member governments, is in the process of reviewing the global commitment to *Education for All*, 10 years after 155 countries and 150 organizations made a pledge in 1990 in Jomtien (Thailand), to work for universal primary education and massive reduction of illiteracy before the end of the decade. The Presidential Commission on Education and recent sector policy work by the World Bank highlight serious concerns with performance in the education sector. Overcoming these constraints is critical to the country's future if it is to succeed in bringing down poverty, facing the challenges of globalization, and taking advantage of the tremendous opportunities of technological advancement.

Education is a fundamental right of all people — women and men — and is at the core of human development. It is an effective equalizer of economic and social opportunities for people. It is the foundation of an enlightened and free society. The Philippines fully recognizes this and, as a nation, has put a premium on education, as reflected in its impressive enrollment rates — both for boys and girls; the high percentage of public expenditure allocated to basic education; the large number of private educational institutions all over the country; and the priority given by families in their budgets to children's education. The nation's investment in education, however, has not translated into full income potentials as shown by low growth in per capita incomes — as the report quotes: "If we're so smart, why aren't we rich?"

The Report draws attention to a number of serious concerns, including, among others, the quality of inputs to education and low achievement levels for critical areas of learning, the relevance of learning to the context of living, the increasing gap between public resources and the rising demand of a rapidly growing population, and the unevenness of access and quality among the provinces. A 1996 international survey that found the performance of Philippine students to be among the bottom performers is indeed cause for concern. If the nation is to become effective in global competitiveness, its human resources are perhaps the single most important asset in creating the base for such a capability.

We are also very pleased that the Report has once again been able to produce the Human Development Index (HDI) for all the provinces. We hope the results will prompt the local government politicians and officials to find ways to raise the relative level of the HDI in their provinces as a goal for their respective communities.

We greatly appreciate the work of the National Statistical Coordination Board (NSCB) with the support of the National Statistics Office (NSO), in making possible the determination of the HDI, now a designated national statistic. The Philippines is perhaps, so far, the only country where the HDI has been recognized as an official statistic, clearly reflecting the importance the government places on the human development aspects of development as part of the measure of the country's progress.

UNDP is of course honored to be associated with the publication of the third Philippine Human Development Report. We hope that the message of the report reaches many and spurs to action policymakers, legislators, local chief executives, and other government officials, as well as civil society and the private sector to address key issues raised in this report.

TERENCE D. JONES
RESIDENT REPRESENTATIVE
UNITED NATIONS DEVELOPMENT PROGRAMME

FOREWORD 2

WHEN THE THEME for this Report was being considered two years ago, very lively discussions ensued on which of the various topics suggested should be given top priority. Education won, hands down, and for a very good reason: it was recognized as a key factor, a constant refrain, as it were, that underpinned all the other topics. The single most important contributor, for example, in explaining observed differences in the welfare of households, based on the Family Income and Expenditure Survey, is the educational attainment of the household head. Furthermore, education, particularly of women, influenced the education and health of children, largely through the increased share of household income spent on human priority expenditures. Finally, its crucial role in ensuring that the country would rise with the tide of globalization, instead of being drowned by it, was brought out.

Despite the universal homage paid to the importance of education, however, anyone but a complete outsider would recognize that education in the Philippines confronts serious problems that are most manifest in low achievement, both in standardized international tests and in national tests. The attention of budget-makers and decision-takers in the past has been focused — overly — on the problem of the size of budgets and on meeting the annual tide of enrollment. Having decided that the problem is one of money, and having determined that there is none, people are satisfied that they have done their best and leave things the way they are. This Report does not minimize the problem of education finance. But it does point to other problems that may be more fundamental: the quality of education received by the poor; the efficiency of allocation within education budgets themselves; the possibility of using new teaching methods and approaches; the relevance of what is taught to what is lived, and so on.

This Report on the quality, relevance, and access in basic education in the Philippines seeks to revive the discussion on the state of basic education (elementary to high school). Much as a fire attracts attention, a national debate on the issue may succeed in putting education once more in its rightful place on the national agenda.

It is hoped that like those of its predecessor Reports, the findings and recommendations from this Report will increase the awareness of the Filipino people to the challenges and opportunities of Philippine education, and serve as a spur to the country's decision makers to take the necessary action that will result in increased levels of Human Development. ◗

SOLITA COLLAS-MONSOD
PRESIDENT
HUMAN DEVELOPMENT NETWORK

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ONE

Quality, access, and relevance in basic education

Ang pag-aral ay gintong tunay,
Bagay na dapat pagsikapan.
Karunungan ay kailangan lang.
Dunong *ay gamot sa*
kamangmangan...

— Florante de Leon's
Abakada

TO EXTOL the virtues of education among Filipinos seems superfluous, almost like preaching to the already converted. The highly-educated person (*may-pinag-aralan* or *nakatapos*) is a national icon that seems to require no extra veneration. Underscoring this pious concern for learning, the Constitution ordains that the largest share of any government budget should be devoted to education. The country prides itself in its high reported rate of adult basic literacy, 94.6 percent, a figure that exceeds even that of Singapore, Hong Kong, or Malaysia. Combined enrollment — the percentage of the school-age population enrolled in grade school, high school, or collegiate levels — is even more striking. On this score, the Philippines with an enrollment rate of 82 percent outperforms such richer countries as Thailand, Malaysia, Singapore, Hong Kong, and Chile (Table 1.1) not to mention even Switzerland or Italy.

An obvious puzzle is how and why a number of countries that are richer or more developed than the Philippines can have about the same or even inferior levels of educational achievement. The embarrassing question has already been asked [de Dios 1995]: "If we're so smart, why aren't we rich?" (Or, for that matter, more developed?) But the discrepancy between education and development levels is not the only puzzle in Philippine education. Tough questions must be asked about Philippine education itself. Consider the following:

- the Philippines ranked second from the bottom internationally in mathematics examinations and third from the bottom in science examinations conducted in 1996;
- of every 100 pupils who enroll in Grade 1 in public schools, 33 drop out of school before reaching Grade 6; about the same proportion of public high school students drop out before reaching Year 4;
- tests show there is barely any additional knowledge gained by pupils between Grade 5 and Grade 6.

For all the country's vaunted achievements in education, therefore, something is very clearly wrong. Many countries have lower educational achievements than the Philippines but are richer or have higher levels of human development. This strongly suggests two things: first, the Philippines may be doing a poor job in education, so that its academic credentials may actually be bloated. Second, however, it also suggests that the real foundation for development may possibly not lie primarily in society reaching out for increasingly *higher* and sophisticated education.

TABLE 1.1
Education, Income, and Human Development (selected countries)

	Adult literacy (percent, 1997)	Combined 1st, 2nd, and 3rd level gross enrollment (percent, 1997)	Real GDP per capita (PPP$ 1997)	Education index (1997)	Human development index (1997)
Philippines[a]	94.6	82	3,520	0.90	0.740
Thailand[a]	94.7	59	6,690	0.83	0.753
Malaysia[a]	85.7	65	8,140	0.79	0.768
Singapore[b]	91.4	73	28,460	0.85	0.888
Hong Kong[b]	92.4	65	24,350	0.83	0.880
Korea, Republic of[b]	97.2	90	13,590	0.95	0.852
Chile[b]	95.2	77	12,730	0.89	0.844
Mexico[b]	90.1	70	8,370	0.83	0.786
Argentina[b]	96.5	79	10,300	0.91	0.827

[a] countries with medium human development; [b] countries with high human development

Source: UNDP [1999] *Human Development Report*

From this viewpoint, even the widespread awe for the *may-pinag-aralan* must be viewed with suspicion. Wittingly or not, the juxtaposition of *high-school lang*, with the *nakatapos* implies a toleration of mediocrity in the former. It encourages an individualist and elitist attitude that is insensitive to the conditions of mass education. The subtext reads: it is all right for high school or grade four achievers to be inept and deficient — as long as *one's own child* goes on to college and is saved from the insipidness reserved for the rest of the population. The point that is lost is that under ideal conditions, being educated for ten years *can and should* be very good enough, indeed.

This point is significant, especially at a time when globalization seems to place governments under extreme pressure to produce highly-specialised and technical personnel in a very short period of time. But, as in sports, a steady stream of champions (as opposed to flukes) cannot be produced in hothouses — even the stunning success of Efren (*Bata*) Reyes was based on a virtual national nursery represented by the nationwide network of neighborhood pool halls. In the same way, highly skilled and expert scientific national innovation system cannot be sustained without a sound basis in basic education, that is, education from pre-school to high school.

Reaffirming basic education

Quite apart from possibly producing national Einsteins, there is a more important reason for reaffirming basic education. *It is a fundamental right as well as an indispensable requirement for a person's well-being.*

Nobel Prize-winning economist Amartya Sen describes well-being as the capacity *to do* and *to be*, that is, possessing capabilities as well as the freedom and opportunitiy to use these capabilities. No less than inadequate income, however, insufficient or poor education also deprives a person of the means of doing and becoming.

That minimum to which every person has a right is *functional literacy*, which educators in the Philippines define as the ability not only to read words ordinarily used in daily life but *to understand the message in simple paragraphs and perform simple numerical calculations of useful nature*. Other writers make a higher demand for *fluency in core subjects*, meaning the ability to integrate and decode what has been read and to identify and find the meaning of new words [Verspoor and Lockheed 1991]. Functional literacy entails the recognition of 1,000 words or so; fluency requires the recognition of 3,000 familiar words and derivatives.

People need at least functional literacy to participate fully in their social environment. Functional literacy opens up the world of words and numbers and hones a person's ability to

access and decode what that world offers. It introduces people to the vast knowledge contained in books and media, covering technologies and markets for goods, services, labor, education/training, assets, and entertainment, as well as social and political events. By contrast, the unfortunate who is unable to fill out forms, read signs, or to calculate the proper costs and returns for the goods she sells is almost certain to be victimized and exploited.

Functional literacy is attained within the first three to four years of primary schooling, where pupils also socialize, acquire self-discipline, and learn acceptable social behavior. Fluency is attained upon the completion of primary school (6-7 years). Most education throughout the world adopts a ladder system, where the completion of a grade qualifies one to enroll in the next grade level. Primary school is the indispensable step to higher levels of education. With few exceptions, the failure to complete primary education denies a person the opportunity for further education and all that implies. It is in this sense that deprivation may also be measured in terms of education.

Poverty in education

Poverty in education is the *failure to gain an elementary education* (Grades 1-6). The education-poor would include all people of working age who did not complete Grade 6, as well as all those who reached Grade 6 but failed the standard elementary examination. On this measure, the education-poor were estimated as constituting between 28 and 34 percent of the population [Tan 1999].

The benefits of a basic education are enjoyed not only by the persons receiving it but by the rest of the community. A minimum of education is required if people are to vote wisely, to observe the law, to understand major political and social events, and to possess a sense of nationhood and community. It is difficult to imagine how societies — especially democratic societies — could function effectively otherwise. This is why basic education is said to cause large "positive externalities".

The economic benefits to the community of a basic education are no less important. By enhancing people's ability to make decisions and by widening their opportunities, basic education improves the way markets function and hence resource allocation in the entire economy. The labor market is a good example. People with good basic education have wider access to information about careers, schools, and job openings. Even after they leave school — and without going to college — they benefit more from on-the-job training and adapt better to changing tasks at work, to changing jobs, or spells of unemployment. If need be, they are also in a better position to obtain higher education. Over the entire economy, production waste and disruption are reduced if the workers employed are better educated and therefore able to follow instructions more accurately and settle disputes more amicably. All these effects are reflected in basic education's contribution to economic growth.

Most of all, basic education pulls people out of poverty. This is most evident once poverty is regarded as an intergenerational problem. Many families are trapped in poverty because parents are unable to improve on their current livelihood. Lacking education, poor in health, and without savings, the older members are often too profoundly caught in the rut of securing their daily subsistence to even have the time to look for new opportunities, learn new technologies or skills, or move physically to more promising locations. In practice, the best hope of such "core-poor" families is for the children at least to acquire an education sufficient to qualify them in the future for better-paying occupations than that of their parents. This opportunity would not exist, of course, without publicly provided education. Without this outlet, poverty becomes perpetuated through generations, a vicious circle suggested in Table 1.2 below, which shows that children who drop out tend to be those from poorly educated parents themselves. Some 29 percent of fathers and 28 percent of mothers of drop-outs never completed grade school, while 62 percent of fathers and 63 percent of moth-

ers never finished high school. Conversely, a study of poverty in regions of the Philippines finds that the rate of poverty incidence falls by 3 percent for every one percent improvement in functional literacy [Balisacan 1999].

Size — all that matters?

One dimension of basic education, however, has dominated thinking about the problem of pedagogy to the exclusion of all other policy concerns: its sheer size. Public elementary enrollment has grown more or less steadily since the post-World War II period, increasing relentlessly from 2.2 million in 1944/45 to 12.5 million by 1998/99, or an average increase of 3.21 percent annually over the past 54 years (Figure 1.1). High school enrollment has grown even faster, beginning from only 162,028 pupils in 1945/46 to the current 5 million, or an even faster annual growth rate of 6.4 percent (Table 1.3). A major factor for this rapid growth must be ultimately traced to the country's high growth rate of population, among the highest in the region. One consequence is that enrollment in basic education has grown faster than population.

The number of elementary and high schools, as well as the number of teachers for these schools have increased to meet the growing enrollment (Figure 1.2). From some 13,500 elementary schools in 1945-46, these increased to 38,600 by 1997/98. High schools increased from 448 to 6,590 over the same period. The government, the dominant provider in basic education, now operates 92 percent of all elementary schools and almost 60 percent of all high schools.

From one viewpoint the Philippines appears not to have done badly. Ninety-five percent of children who *should be* in elementary school are actually enrolled. The participation rate for high school meanwhile is 64 percent. These figures for 1997/98 are significant improvements over levels of 1990/91 (Figure 1.3). The country therefore at first glance appears to have at least coped with growth of enrollment, which has swelled at more than 2 percent annually for elementary, and more than 3 percent for high school since 1981, together growing faster than population.

As sheer size and the concern for universal provision have come to dominate all other priorities, however, quality has been sacrificed. Overwhelmed by the prospect of an annual tide of enrollment, successive administrators and policy-makers have responded to the pressing demand of universal education by cutting corners, ultimately eroding quality.

TABLE 1.2
Educational Attainment of Drop-out Children and Their Parents*
(1997, in percent)

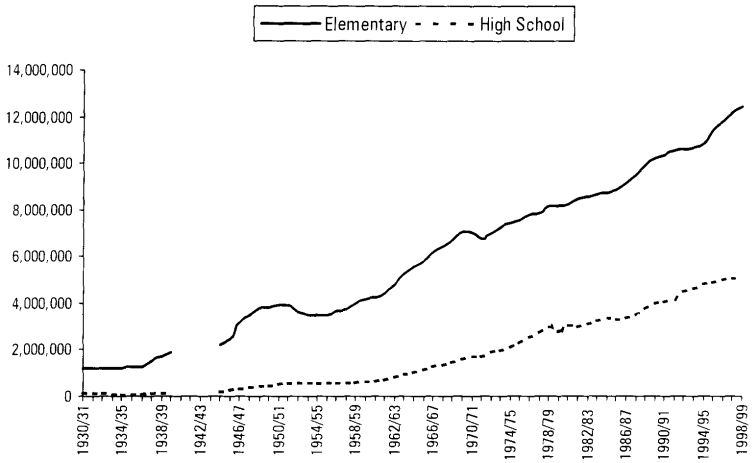
Grade level completed	Children	Fathers	Mothers
No schooling		3.8	4.4
GS 1-2	9.0	9.7	7.3
GS 3-5	17.0	15.2	16.4
GS 6-7	33.0	21.7	21.9
HS 1-3	38.0	11.4	13.4
HS Graduate		15.2	15.4
College 1-3		6.7	6.1
College Graduate		10.6	8.7
Postgraduate		2.7	2.6
Multiple responses	1.0	3.0	3.8
No response	1.0		
Total	100.0	100.0	100.0

*Based on responses of 84,864 PEPT examinees nationwide

Source: DECS-PEPT Report 1997 (Tables 2.8 and 2.9)

This began as early as the end of the Second World War, when it was decided to dispense with the seventh year in grade school (Box 1). School hours have also been allowed to shorten below international standards. Rather than combating mediocrity, the school system's own measures accommodate mediocrity. The "innovation" of "automatic promotion was adopted, pushing pupils on to the next level regardless of performance, in a mockery of stan-

FIGURE 1.1
Annual Elementary and High School Enrollment
1930/31 to 1998/99, in thousands



Source of basic data: *Philippine Statistical Yearbook*, various issues

TABLE 1.3
Annual Growth Rates of Elementary and High School Enrollment*
(1944/45-1998/99, in percent)

Period	Elementary	High school
1944/45 -1954/55	4.46	12.33
1954/55-1964/65	4.82	6.05
1964/65-1974/75	2.90	7.29
1974/75-1984/85	1.65	4.53
1984/85-1994/95	2.16	3.62
1994/95-1998/99	3.42	1.65
1944/45-1999/98	3.20	6.39

*exponential growth rates of levels at the beginning and end periods
Source of basic data: *Philippine Statistical Yearbook*, various issues

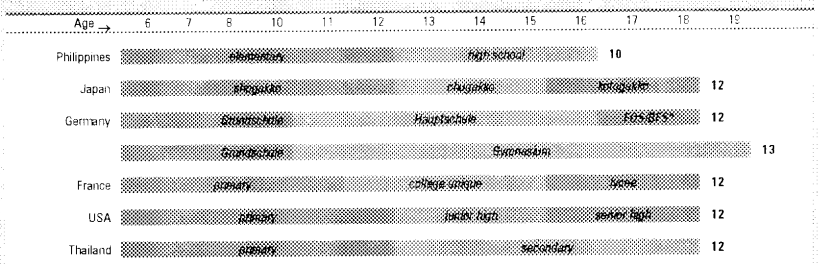
BOX 1

Quality time?

Publicly provided basic education in the Philippines catches attention for its remarkably brief duration — a mere ten years, as against the usual 12 years in most developed and developing countries. Elementary school lasts six years, followed by four years of secondary education. What is immediately noted is that this sequence is shorter by about two years than primary and secondary education in most advanced economies. The presence of a seventh grade gives graduates of private elementary schools a slight edge, but even this is notably less than the international norm. At the other extreme, the college-track in Germany is a full three years longer.

BOX TABLE 1

Years of pre-university education in selected countries



*Fachoberschule/Berufsfachschule

Interestingly enough, the elimination of Grade 7 in the public school system was supposed to be no more than a *provisional* measure immediately after the Second World War, a concession to limited funds at the time. However, even as private schools ultimately restored Grade 7, the public school system made permanent what was supposed to be transitional.

The already brief period of teacher-student contact owing to fewer years is aggravated by the shorter school calendar and fewer contact hours per day. Public grade schools in heavily populated areas may cater to as many as three continuous shifts of pupils daily, 6.00-10.00 a.m.; 10.00 a.m.-2.00 p.m., and 2.00-6.00 p.m. The situation is made worse by days lost to holidays, floods, and bad weather. For some inexplicable reason, the start of the school calendar (June-March) has been timed to coincide precisely with the storm season. Finally, in many areas there is the problem of teacher absenteeism.

Why not simply reinstitute Grade 7 in public schools to remedy the situation? Or add a fifth year to high school, as a current bill proposes? Things are no longer as simple. Problems of quality have in the meantime become so ingrained in the system that merely lengthening the period will not suffice. An extension of contact with mediocrity would probably merely aggravate it. Also disturbing are findings that, even with the present system, little additional learning occurs between Grade 5 and Grade 6. In the face of budget constraints, the government is better advised simply to use the funds to improve the current system across all levels. ◗

FIGURE 1.2
Number of Basic Education Institutions

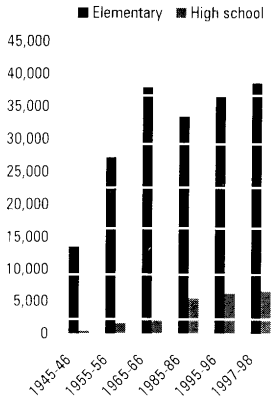
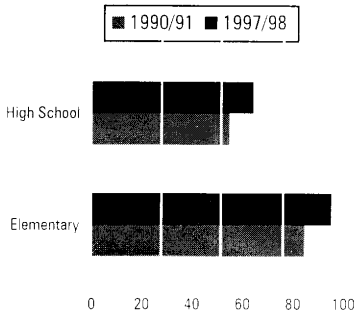


FIGURE 1.3
Participation Rates in All Elementary and Secondary Schools



Source: Maglen and Manasan [1999]

dards that makes failure an impossibility by definition. Hence, for example, the authorities blithely regard 36 percent as a passing mark in the National Elementary Achievement Test (NEAT), rather than the conventional 50 percent (not to mention the ingrained *pasang-awa*, 75 percent). More recently, calls in the same vein have been made in the form of suggestions to reduce school days to thrice in the week to accommodate large enrollment in limited infrastructure. The cost of these "quick and dirty" solutions is predictable — the erosion of quality and standards.

The quality deficit

The incontrovertible evidence of the unsatisfactory quality of basic education is found whenever standard tests are applied to measure pupils' achievements.

The Third International Mathematics and Science Test (IMST3) was administered in 1995 to 13-year old children in different countries. Table 1.4 compares the average scores in math and science obtained by the countries that joined. It is obvious that performances differ widely, with a range of 622 to 351 for grades in math and 576 to 322 for science. It was the tiger economies of Asia — Singapore, South Korea, Japan, and Hongkong — that topped the test. Also in the top ten were three small Western European countries (Flemish Belgium, the Netherlands, and Austria) and three Eastern European countries (Czech Republic, Bulgaria, and the Slovak Republic). The major industrial countries, such the US, UK, France, and Germany were near the median grade. Thailand was also on the median rung and ranked just above the US.

The Philippines ranked 39th — fourth from the bottom and above Kuwait, Colombo, and South Africa. Filipino students in both lower and higher secondary school obtained only 31 percent of the correct answers in the math portion. [See Box 2 for responses to sample questions.] The Philippine math average is only 78 percent of the world average and 42 percent of the score obtained by Singaporean pupils. In science, the scores of Filipino children in lower and upper secondary school were below the international median by 77 percent and 80 percent.

Nor is the quality problem evident only in international tests. Even the country's own tests reveal the problem. The National Elementary Achievement Test (NEAT) and the National Sec-

BOX 2

Would you do any better?

The following are some mathematics questions culled from the Third International Mathematics and Science Test (IMST3), together with an analysis of how Filipino pupils scored. The test was given to 13-year olds from 43 voluntarily participating countries. The questions give a flavor of the applied nature of the tests (e.g., estimation), which place many of the questions beyond those accustomed to sheer learning by rote.

Question 1: Proportionality

The Cruz family uses about 6000 liters of water per week. Approximately how many liters of water do they use per year?

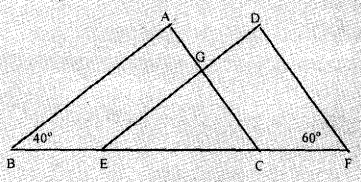
a. 30,000 b. 240,000 c. 300,000 d. 2,400,000 e. 3,000,000

The item aims to assess whether or not the student could approximate 50 x 6000 (= 300,000). Only 28.1 percent of the students correctly answered this question. The most frequent wrong answer was 2,400,000, which was chosen by 23 percent, followed by 3,000,000. Relatively lower percentages chose A or B. It is possible the students just guessed.

Question 2: Geometry ability

In the Figure below, triangles ABC and DEF are congruent, with BC = EF. What is the measure of angle EGC?

a. 20° b. 40° c. 60° d. 80° e. 100°



This item entails knowledge of angles formed by parallel lines as well as the sum of the measures of the angles of a triangle (= 180°). The student should also be able to visually separate triangles ABC and DEF from the figure where the two partly overlap. Only 20 percent got the correct answer. This percentage is not different from what could be theoretically expected from random guessing.

Question 3. Recognition and estimation of fractional parts

In the figure below, how many more small squares need to be shaded so that 4/5 of the small squares are shaded?

a. 5 b. 4 c. 3 d. 2 e. 1

Only 20 percent of the Grade Six and also of the First Year students correctly answered 5. The most frequently chosen (37 percent) was the wrong answer "3", which means the question was interpreted as asking for how many small squares are shaded. The answer "1" was chosen by 25 percent, who possibly just wanted to complete the 3 shaded squares and make them 4. This misconception is related to the wrong choice of 4 (picked by 6 percent). Those who chose 4 or 1 conceived of the numerator as the number of equal parts taken from a whole, ignoring the fact that the whole figure is divided into 10, not 6, equal parts.

The distribution of responses means that only one in every five 13-year olds understood the question and the concept of fractions, in this case the fraction 4/5. ◗ *Source: Ibe, M. [1998].*

ondary Achievement Test (NSAT) have been administered nationwide since 1994 and are meant to measure the objective competencies of the curricula for grade schools and high schools. Performance in the NEAT and NSAT has been generally poor, with pupils giving correct answers to less than 50 percent of the questions. Science and English have been particularly problematic. While there has been an upward trend in the mean score, long-time researchers believe this trend reflects of laxer standards in the examinations rather than an improvement in performance [See Box 3].

The quality deficit is evident in the glaring differences in performance between public and private schools. Performance after all has not been uniformly poor. A certain hierarchy is evident, where private schools run by religious generally perform better than private non-religious schools, while the latter perform better than public schools. A few private sectarian schools are of a quality comparable to the best in the world. Some of their teachers have in fact been recruited by Canadian and US schools. The only exception to the rule about public schools are the special science high schools, which national and city governments have established in an attempt to improve mathematics and science education. Enrollment is limited and highly selective, and budgets are more generously endowed than the typical schools run by DECS. It should be no wonder pupils of these schools performed way above average. But the problem of basic education is not really about developing an elite that can be showcased: it is about improving the lives of the many who, for better or worse, are relegated to the public school system.

On the aggregate, the test scores of public elementary schools are 27 percent lower on average than those of their private counterparts (Figure 1.4). Public high school test scores, on the other hand, are 20 percent lower than those of private high schools. In making these comparisons, however, it should be observed that private school scores are not particularly high either, suggesting that the problem of quality is pervasive. But performing poorly relative to

TABLE 1.4
Average Grade in the Third International Mathematics and Science Test

Country	Mathematics	Sciences	Current spending (PPP) per pupil 1995
Singapore	622	576	1,583
S. Korea	592	550	1,865
Japan	588	551	3,729
Hong Kong	576	508	1,377
Belgium (Flemish)	592	540	2,135
Czech Republic	544	554	466
Netherlands	529	539	2,783
Slovakia	528	527	1,510
Bulgaria	527	545	1,289
Switzerland	526	503	5,474
Austria	524	539	3,625
Israel	522	524	1,670
Slovenia	520	545	2,331
Hungary	520	536	1,563
Russian Federation	518	511	-
Belgium (French)	517	457	2,755
France	515	475	2,541
Australia	514	525	3,534
Ireland	514	517	2,639
Canada	511	515	5,698
Thailand	509	509	852
Sweden	498	512	5,017
Germany	497	515	2,241
United Kingdom (Engl.)	491	532	3,088
New Zealand	490	503	2,417
United States	488	521	3,510
Denmark	484	459	6,375
Norway	482	505	5,158
Scotland	481	493	
Latvia	478	460	-
Iceland	473	478	4,634
Romania	468	469	753
Spain	468	497	1,923
Greece	462	473	1,280
Cyprus	460	442	-
Lithuania	453	440	961
Portugal	439	454	2,281
Iran	415	453	384
Philippines	393	389	138
Kuwait	392	430	-
Colombia	377	399	572
S. Africa	351	322	867

BOX 3

A new math: 37.5 = 75

The release in 1996 of the results of the Third International Mathematics and Science Study (1995) shocked Filipino educators because among 41 countries, the Philippines ranked second and third from the bottom in the Mathematics and Science tests administered internationally. The percent scores of the Filipino sample of 13-year olds in the specific areas covered by the mathematics and science tests are as follows:

BOX 3 TABLE 1

Mathematics	Mean percent correct answers
Fraction and number sense	36
Geometry	30
Algebra	28
Data representation and analysis of problems	36
Measurement	20
Proportionality	25
Overall	31

BOX 3 TABLE 2

Science	Mean percent correct answers
Earth science	39
Life science	38
Physics	37
Chemistry	29
Environmental issues	38
Overall	38

These statistics should not have shocked us, since national assessments show essentially similar results as the TIMSS statistics, although without the additional information on how Filipino pupils compare with those of other countries. The National Elementary Achievement Test (NEAT) and the National Secondary Achievement Test (NSAT) show essentially the same achievement levels from our pupils in sixth grade. The 13-year olds tested in the TIMSS included both Grade 6 and First Year high school students from 196 elementary schools and 198 high schools in the Philippines.

The national mean percent scores in the NEAT by school subject from 1993 to 1998 are shown below:

BOX 3 TABLE 3

Subject	1993	1994	1995	1996	1997	1998
English	39.0	41.8	44.1	44.3	49.1	46.4
Science	40.4	46.1	50.6	47.7	52.7	49.9
Mathematics	41.4	41.1	45.1	49.1	51.8	52.5
Hekasi*	46.2	45.7	48.1	43.5	49.6	51.6
Aggregate	41.8	43.6	46.4	46.2	50.8	50.1

The aggregate scores in the four subtests of the NEAT show an apparent increase in the mean percent score each year from 1993 to 1997 and a decrease in 1998. It cannot be firmly concluded, however, that pupils' abilities were improving, since the tests were not established as parallel or equivalent over the years. The improvements in mean scores were possibly due to the diminishing level of difficulty of the test after 1993.

Regardless of the test instrument used, however, the national mean scores were below 50 percent prior to 1997. Over the period 1993-1997, scores were consistently below 50 percent in English and Hekasi. In Math the mean score in 1997 was slightly higher than 50 percent but not in the previous years. In Science, the 50 percent criterion for the national mean was met in 1995 and 1997.

Mean scores below 50 percent mean were not unusual, they were typical.

Yet, why has there been no public outcry over the low scores?

Simply because it was the percentage of pupils "passed" that was reported, not the percent scores. Also, what appeared in the individual feedback on how a pupil performed in the NEAT was not the percent score but the number of items correctly answered *plus* 60 points.

In short, to make the passing score of 75 in the NEAT, a pupil has to correctly answer only 15 of the 40 items in each of the 40-item tests, or 60 items out of 160. This means the criterion passing score is not 50 percent but 37.5 percent!

The cut-off score used in the National Secondary Achievement Test for high school students is analogous to the cut-off score used for the NEAT. The cut off score in the 250-item NSAT is 93.75, which is only 37.5 percent. This is transmuted to 75, the passing mark.

With regional and national mean percent scores of at least 45 percent, naturally the percentages of those who pass are in the 90s. The message conveyed and received is that we are doing well educationally to have such high percentages passing the test.

Whom are we kidding?

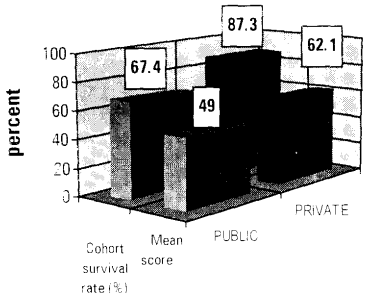
an already poor standard makes the performance of public schools appear that much more dismal.

Among private schools, of course, there are also distinctions. Particularly significant is the distinction between sectarian and nonsectarian private schools. A study restricted to Metro Manila schools [Cunanan and Po 1999] found average scores in the 1996 NEAT of 100 out of 160 items for private-sectarian schools, 96 for private nonsectarian, and 73 for public schools. NSAT scores were 159, 140, and 110 out of 250 items in the same order. In the same study, some 83 percent of public elementary schools had average scores indicating that their pupils gave wrong answers to 50 percent or more of the questions. Only 6.8 percent of private-sectarian schools and 9.9 percent of private nonsectarian schools had scores that low. In the NSAT, 91.7 percent of the public schools had scores of 125 (50 percent of 250 items) or less, as compared 26.2 percent for private-sectarian and 29.0 percent for private-nonsectarian schools. If 50 percent is used as the conventional passing score, only 16.7 percent of public elementary pupils passed the NEAT and only 8.3 percent percent passed in the NSAT in Metro Manila.

The quality gap between public and private education also stares one in the face if one compares cohort-survival rates, that is, the proportion of pupils entering elementary or secondary school who complete the final grade or year in the prescribed period. Among private elementary schools in 1997-98, fully 87 percent of those who had enrolled in Grade 1 completed elementary school without being delayed nor dropping out. By contrast, only 67 percent of enrollees in public school managed to complete the grades on time. About 80 percent of first-year enrollees in private high schools graduate in the required time; in public high schools by contrast, only 67 percent manage to do so.

Even as the quality differences between public and private education are marked, it is important to understand that there is also a close *complementarity* between the two. Public schools represent the quality benchmark or "default"-level relative against which private schools represent a premium. The market share and commercial viability of private schools therefore depend not on the absolute quality they provide, but on the size of the gap between them and the public schools. The higher fees charged by private schools are justified by the market only by the quality gap. Clearly, if public schools were in every respect as good as private schools, most of the latter would probably fold up. Meanwhile, the share of private schools would increase if the quality of public education were to deteriorate; some evidence of this

FIGURE 1.4
Private and Public Differences



1998/99 cohort survival rates,
1997/98 NEAT and NSAT mean score
Source: Maglen and Manasan [1999]

is found in the growing share of enrollment in private elementary schools.[1] Conversely, if quality in public schools is low, then private schools themselves do not have to exert higher efforts to retain or expand their market share, since their mediocrity in absolute terms can be disguised by the greater relative mediocrity of the public sector. The dangerous consequence of poor public education is a symbiotic downward spiral for both private and public education, which leads to the mediocre performance of the country as a whole.

Geography questions

Aside from the low overall level of the NEAT and NSAT scores themselves, a degree of geographical unevenness is also evident. Offhand, one would expect that for several reasons, more affluent and economically developed regions would tend to perform better in achievement tests. The interpretation of these geographical differences in performance, however, has become more difficult owing to changes in the test, its mode of implementation, and adaptive behavior on the part of schools, which have all probably affected the test's reliability as an indicator of geographical differences.

In 1997 only eight of sixteen regions obtained scores higher than 50 percent, namely Eastern Visayas, Cagayan Valley, Western Mindanao, Bicol, Metro Manila, Cordillera, ARMM, and Southern Tagalog. In the 1998 edition of the test, there was a surprising turnaround: ten of fifteen regions suddenly had scores of 50 percent or better. Another notable feature of recent NEAT results has been the high scores of some regions which their low development status suggests would understandably have performed much worse. In the 1998 NEAT, however, Eastern Visayas, Western Mindanao, and Bicol trounced Metro Manila and such regions as Southern Tagalog and Central Luzon.

It would be heartening and certainly tempting to see in this a hopeful sign that even lagging regions might perform well in at least some aspects of human development. Statistical realities and what is known about the tests, however, would urge a measure of caution in this interpretation.

First, large swings in performance of regions are to be noted. The improvements in performance are surprising, considering that as recently as 1993, Eastern Visayas was 14th, Western Mindanao was 10th, while Bicol was last in the NEAT rankings. The upward change in the scores appears to indicate the effects of an intervention. It is also possible that sample students in the region may have been given a review. If a worthwhile intervention or treatment is what explains the increase in the sample's performance after 1994, then the intervention bears close studying so that it might be replicated in other regions and schools.

Second, since 1996, the NEAT and NSAT exams have no longer been administered universally but only to a pre-selected sample of schools representing about 40 percent of the total cohort. Apart from the possibility that some of the selected schools can and have conducted reviews (at times perversely crowding out new material), there is a question whether the sample is indeed representative or is a case of school divisions putting their best foot forward.

Third, it is difficult to isolate true gains in achievement when the tests are not standard-

ized across the years. Well-respected educationists such as Ibe [1999] point out that "fluctuations in the mean scores indicate the possible influence of differences in the difficulty of tests in consecutive years. From all indications, the Science test in 1997 was easier than tests in the other years." Indeed, the apparent improvement in overall scores in the NSAT is belied by worsening performance in tests that *are* standardized, such as that administered by the DOST's Science Education Institute to potential recipients of science scholarships.

Finally, of course, one cannot totally discount the distasteful possibility of occasional leakages and cheating.

All these sources of shortcomings amount to a stricture against reading too much into the NEAT and NSAT performance of particular schools, divisions, and regions. They will remain as long as the conduct of the achievement tests is not improved (including among others, as Secretary Gonzalez suggests, returning to testing that is universal and intertemporally comparable). What is surprising, however, is that notwithstanding all these accommodations, the national mean scores are still surprisingly low, an average of only 50 percent for the NEAT and one even below 50 for the NSAT. This suggests the problem of quality is so systemic and deep-seated that it cannot be remedied even by test accommodations or the best remedial efforts of teachers.

Quality comes from many factors: curriculum, the qualification and number of teachers, available learning materials, the presence and quality of learning facilities such as libraries, laboratories, recreational facilities, and classroom space and quality. Quality of instruction and learning ability or "teachability" interact to determine what a pupil learns.

A pupil's "teachability" in turn comes from inherent ability, health, discipline, and motivation. For the last three, a child's socio-economic status is important. Where poverty prevails, good health cannot be presumed, so that socio-economic background is expected to have a strong influence on achievement. Many children go to school hungry and malnourished, and this is a reason they cannot keep alert and interested in the class.

Money, money, money...

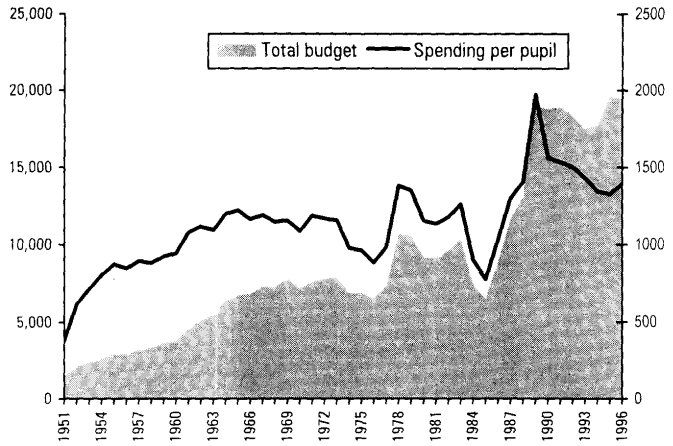
Up to now, the typical response to the problem of quality has been a desire to throw money at the problem. The basic objection to this, of course, has been there is not enough money to

Table 1.5
Average NEAT and NSAT Mean Percentage Scores, by region
(1998, in percent)

Region	NEAT 1998	NSAT 1998	NEAT Rank 1998	NSAT Rank 1998
Ilocos I	47.6	49.2	13	5
Cagayan Valley II	52.7	48.2	4	9
CAR	51.1	51.2	6	2
Central Luzon III	50.1	50.7	10	4
Southern Tagalog IV	49.0	49.0	12	6
Bicol V	51.1	45.3	5	11
Western Visayas VI	50.4	45.0	7	12
Central Visayas VII	50.4	48.3	8	8
Eastern Visayas VIII	61.0	51.2	1	3
Western Mindanao IX	54.6	48.7	2	7
Northern Mindanao X	50.2	46.6	9	10
Eastern Mindanao XI	45.2	43.0	15	15
Central Mindanao XII	39.0	40.8	16	16
ARMM	46.2	43.1	14	14
Caraga	49.3	43.4	11	13
NCR	54.4	54.2	3	1
Philippines	50.0	48.6		

*simple average of mean scores in four subjects
Source: Ibe [1999]

FIGURE 1.5
Total Education Budget and Spending per Pupil
(1950-1997, in constant 1985 pesos)



go around. Figure 1.5 shows how the budget of the Department of Education, Culture, and Sports (DECS) has progressed over four decades.

The share of education in the national budget was highest in the 1950s and 1960s, when DECS received about 30 percent. This share decreased during the Marcos years (1965-1985), reaching a trough of 5.6 percent in 1976 and averaging 8.7 percent in the last decade under Marcos, even though the 1960s and 1970s were years when the economy experienced relatively stable growth. The Aquino government restored education's importance and provided it the largest share in the budget net of debt service, and the share has remained at about 11-12 percent since. Nonetheless, although large in relation to total government spending, the education budget is only about 3 percent of GDP, a figure much lower than the typical figure of 5-6 percent for East Asian economies. To this must be added the fact that Philippine GDP per capita is already lower than for the East Asian average. All this adds to low spending per pupil in absolute terms.

The budget per pupil has fluctuated noticeably as a result of fluctuation in budgets and enrollment (also in Figure 1.5). After adjusting for price changes, expenditure per pupil in 1996 (P1,396 in 1985 prices) was only minimally higher than the 1978 level. This budget for instruction is very low by either domestic or international standards. It is certainly low compared with the tuition fee in some prestigious private sectarian schools of more than P20,000 per year. It is destitute compared with the amounts spent on special public schools such as the Philippine Science High School, where the per pupil current operating cost alone was P36,899.[2]

This level of budget per pupil can buy neither good quality teachers nor adequate textbooks and basic facilities such as library and laboratories. Below it will be seen that even this meager budget was poorly allocated, going mainly to teachers and office workers. Allocations for books, libraries, and laboratories were minimal, an input choice that is extremely inefficient.

It cannot be denied that performance and quality depend on spending for education. International differences in the amounts spent per pupil in basic education indeed provides some

of the explanation for differences in countries' performance. This is seen from Figures 1.6.1 and 1.6.2, which show countries' math and science scores in the Third International Math and Science Test rising with amounts spent per pupil.[3] The Philippines' low rank in that test cannot be unrelated to the fact that — of the countries included — *it spent the smallest amount per pupil*, the equivalent of US$138. By contrast, Thailand, which was near the median, spent more than six times as much per pupil.

Yet, it is wrong to think that good basic education is simply a matter of spending more. Beyond US$2,000 per pupil, the influence of spending seems to taper off. Singapore, South Korea, and Hongkong, which topped the math test, spent amounts per pupil that were only half or less than half those spent by Japan and other developed countries. Thailand spent US$852 per primary pupil but performed better than Germany, the UK, the US, and New Zealand, which spent between US$2,241 and US$3,510 per pupil. The Slovak Republic and Bulgaria, like the three small Asian tigers, also spent modestly but performed relatively well. It is particularly notable that the Czech Republic spent roughly only three times what the Philippines spent per pupil but placed second in science and seventh in math. (In the same vein, the Philippines did better than Kuwait, Colombia, and South Africa, which spent more than twice as much.)

These observations suggest an important point: the problem may lie not only in *what* is being spent on education, but also in *how* these amounts are spent. That is, factors affecting internal efficiency, such as weaknesses in the curriculum, the mix and not only the amount of education inputs, the quality of teachers and books, and classroom atmosphere may have a great deal more to do with quality than sheer size of spending.

Some recent studies also bolster this observation. A study of 589 elementary and 233 high schools in Metro Manila [Cunanan and Po 1997] found that differences in NEAT scores among *private sectarian* schools were significantly influenced by the levels of educational

FIGURE 1.6.1
Spending per Pupil
and Predicted IMST Science Scores
(regression results)

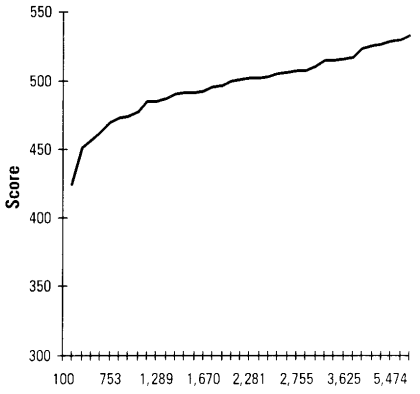
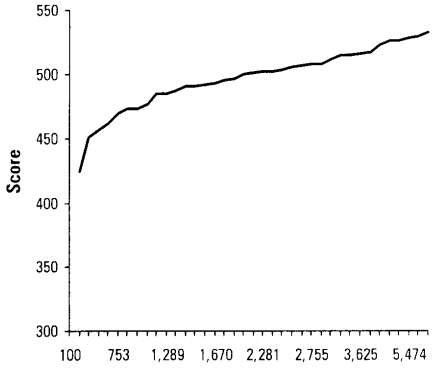


FIGURE 1.6.2
Spending per Pupil
and Predicted IMST Math Scores
(regression results)



input, such as amounts spent per pupil (represented by tuition fees charged), lower ratios of pupils to classrooms, the ratio of enrollment to non-instructional rooms, and larger enrollments. The same factors are important for *private nonsectarian* schools, although values are somewhat lower.

Curiously, however, the only input that seems to matter (negatively) for public elementary schools is the ratio of enrollment to classrooms. In particular, spending per pupil fails to affect performance. At the high school level, spending per pupil — tuition fees for private schools and budgets per pupil — are significant for both public and private schools. But the only other significant input variable is the ratio of enrollment to classrooms, especially for private sectarian schools.

The greater significance of spending per pupil among private schools — and not among public schools — suggests that private schools try harder than public schools to become internally efficient. With few exceptions, private schools are almost totally dependent on tuition fees for financing. Competition from other private schools, as well as from public schools, therefore compels them to deliver maximal quality for a given tuition, since the parents of potential pupils would themselves trade off tuition fees with the quality of education offered by these schools, however imperfectly the latter is indicated.

By contrast, public schools face little or no competition, since there is always a pool of poorer pupils who have little choice but to go to the nearest public schools. One result is that efficiency in the use of budgets becomes less important, so that spending levels do not always translate into better performance.

Another piece of on-going research [Solon and Quimbo 1999] into elementary pupils' NEAT achievement in the 20 poorest provinces is startling for what it suggests lies behind the poor performance in public schools. Pupils were asked to describe what commonly characterized their schooling and were given a choice from a long list of variables. These included teacher behavior (always absent, always late, uses appropriate materials, teacher punishes, etc.); learning materials are available in their school (books only, books, magazine, and newspapers, library, TV, and computer); and whether classrooms were monograde or multigrade. Detailed socio-economic information on the students was also obtained, including parental education and the availability of learning materials at home.

Achievement in NEAT, it turned out, was positively influenced by parents' education and the presence of learning materials at home. It was surprising, however, that the response of "teacher always absent" was frequent enough to show up as a strong negative impact on NEAT performance. This problem is more likely to be common in rural areas, where the teachers have virtually total power over their classes. Solon and Quimbo, the study's authors, observe that children who are

TABLE 1.6
Increase in Teachers in Public Elementary and High Schools
(1945/46-1996/97, in percent)

	Elementary	High school	Total
1945/46-1955/56	7.5	9.3	7.6
1955/56-1965/66	6.6	5.9	6.5
1965/66-1975/76	3.5	7.2	3.9
1975/76-1985/86	0.9	6.0	1.7
1985/86-1996/97	1.3	4.9	2.1
1945/46-1996/97	4.9	8.3	5.4

computed compound growth between initial and terminal years
Data from: *Statistical Yearbook 1971; DECS Statistical Bulletin,* various years

not given textbooks have no other means of learning except through the teacher, and therefore teacher's presence is critical.

The latter is a strong argument against the thin dispersal of resources and the absence of supervision implicit in the government's programme of providing a school for each barangay. Noted educators such as OD Corpuz, among others, have proposed instead that well-equipped and well-supervised central schools be established, with pupils being transported in (see also recommendations in Chapter 3).

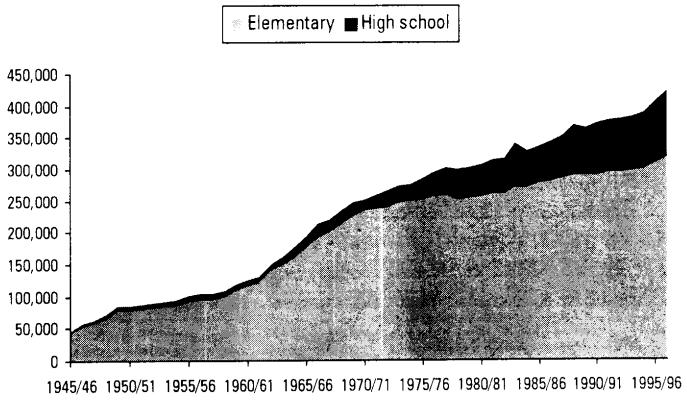
Quis docebit ipsos doctores?

Teachers remain the single indispensable input in all categories of schools. Their importance is magnified by the system's adherence to a traditional pedagogical technology that emphasizes the individual teacher's personal transformative role and social example.

Teachers have increased almost as rapidly as enrollment. Public school teachers increased from 46,826 in 1945/46 to some 424,000 in 1996/97 (Figure 1.7 and Table 1.6), a growth rate of 5.4 percent annually. While the increase in elementary school teachers has tapered off, that of high school teachers has remained high, pushed by the government's commitment to free high school education. Together with those in private schools, teachers today number 600 thousand and constitute the largest professional occupation in the country.

Despite the large increase in the teaching force, however, enrollment has increased even faster, so that the ratio of pupils to teachers continues to rise. In public elementary schools, the average number of pupils per teacher was 31 in 1981/82, rising to 35 by 1997/98. In public high schools, the increase was from 29 in 1981/82 to 34 pupils per teacher in 1997/98. These numbers are deceiving, however, since they represent only aggregate ratios of the population of teachers and pupils. They do not represent actual class sizes, which are more reflective of the learning conditions pupils confront. Classes in public schools are in fact fairly large to very large, with average class sizes of 41 in public elementary schools and 50 in public high schools [Manasan and Maglen 1999:17]. Unfortunately, there are apparently no data from DECS to monitor the growth of class sizes by

FIGURE 1.7
Number of Public School Teachers
(1945/46 to 1996/97)



Source: *Statistical Yearbook 1971; DECS Statistical Bulletin,* various years

type of school and by region through the years.

Part of the reason the pupil-teacher ratio does not reflect class size is that public school teachers are not always assigned primarily to teaching. Many of them perform staff and office functions not directly related to pedagogy. The recent ADB and World Bank [1999:30] study of the education puts it succinctly:

> First, it is important to let teachers teach — to make teaching their primary activity and to eliminate various distractions that remove teachers from classrooms on a regular basis. These include the current practice of assigning teachers to administrative and clerical functions in schools and local district offices, and involving teachers (as well as students in fund-raising activities for the school during school hours.

Nonetheless, the rapid rate at which the teaching force has grown through the years has strained the capacity of colleges and universities to offer quality teacher-training programs, typically a time-and resource-intensive effort. As a result, the quality of education at the elementary as well as high school and tertiary education has been severely affected. Although private colleges and universities have proliferated since the 1950s to produce the teachers demanded by the public schools, teacher training has expanded rapidly only at great sacrifice of quality. Even today, there are only a handful of teacher-training institutions that offer relatively high quality programs. There is limited capacity for high quality graduate education in core courses such as language, mathematics, and the sciences which are important for future professors, education specialists (for curriculum development and research) and elementary and secondary school teachers. Only feeble attempts were made in later years to remedy the problem, as a result of which the quality of teacher training programs remained poor.

The real quality of present-day teacher training may be seen in performance in the Professional Board Examination for Teachers (PBET), a test which new hires have been required to pass since the 1970s (although exemptions are made in areas where there is a shortage of applicants). The percentage of takers passing the teachers' examination was 31.0 percent in 1972, 10.5 percent in 1976, 14.6 percent in 1979 and 24.6 percent in 1980. In the period 1987-1992 only an average of 20 percent of takers passed the teachers' examination. The highest passing rate of 89 percent was obtained by graduates of UP and St. Theresa's College-Cebu. The passing rate among 249 other colleges and universities was less than 10 percent. Eighteen institutions had zero passing rates. The great majority of institutions had passing rates below 50 percent (Table 1.7). The 1998 results of the licensure examination for teachers for elementary and secondary schools showed mean scores of only 38 percent for elementary school teachers and 43 percent for secondary school teachers. Would-be high school teachers' mean scores were lowest in English and Mathematics and highest in Values Education and in Filipino.

The government's approach to teacher quality is weighed down by the same problem as its response to basic education as a whole — sheer size. The poor quality of basic education is merely a downward transmission of the mediocrity pervading the country's entire university system, which is the ultimate source of elementary and high school teachers. The institutions from which teachers themselves graduate lack qualified faculty and have facilities that are inadequate and out of date [Cortes 1994].

Many of the measures relating to education budgets in recent years have focused on raising teachers' pay and securing teachers' rights (e.g. the Magna Carta for Teachers). This emphasis on the teaching force is primarily a political reality, arising partly from the large number of teachers themselves, who have undeniably turned into a constituency politicians find valuable to cultivate, as well as the awkward practice of using teachers in elections, which has unfortunately further politicized the profession. By contrast, the constituency to improve school conditions and

provide more books to students is only weakly represented. The result has been the lopsided share of personal services (almost 90 percent) in the total education budget.

The current education system appears to adhere to a paradigm inherited from the period of foreign occupation, when educators perceived themselves to be harbingers of the "modern" and "enlightened" in an environment that was otherwise backward and ignorant. In this view, the education system can and ought to promote itself as a fortress of knowledge, a highly centralized, self-contained, and paternalistic system with little to learn or benefit from parents or the community at large. If such a paradigm ever worked in the past, however, it is unlikely to work in the present.

In relying on a technology that almost exclusively emphasizes the teacher, the education system emphasizes precisely its weakest point. As already seen, the sheer size of the system prevents it from producing sufficient numbers of teachers at the required level of quality. It also means the neglect of other education inputs and techniques of instruction that may have become more cost-effective in the meantime, and therefore it is in many ways unfair to impose such a burden on the teacher.

More important, however, the current system fails sufficiently to harness the support of local governments, families, communities, and civil society in general in the process of education. There are times indeed, as illustrated vividly by education in Muslim Mindanao, where the system sets itself apart from and against culture, ethnicity, and community. It is also in such instances where the failure of the system is most vivid. More than simply a matter of sustainable financing, therefore, it is a question whether true education at present can be accomplished through neglect or in opposition to the prevailing cultural context. These two remaining questions shall be discussed in the next two sections.

TABLE 1.7
Distribution of Schools by Passing Rate in Teachers' Examinations (1990-1991)

Passing Rate[1]	Number of Schools[2]
67+	5
60-67	9
50-59	10
30-49	34
20-29	69
10-19	158
<10	249
Memorandum:	
Zero passing rate	18

[1] Number of passing as a proportion of total examinees.
[2] Number of institutions with passing rates within the indicated range.

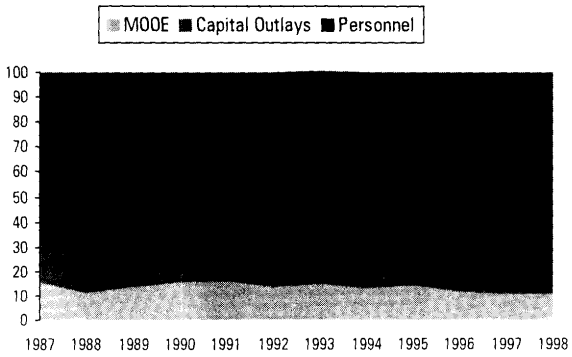
TABLE 1.8.
Top Schools in Teachers' Examinations (1990-1991)

Schools	Passing Rate
St. Theresa's College, Cebu	89.5
UP Manila and Diliman	88.6
Miriam College	75.0
St. Scholastica's College	70.8
P. ng Lungsod ng Maynila	67.3

The chosen mix of education inputs

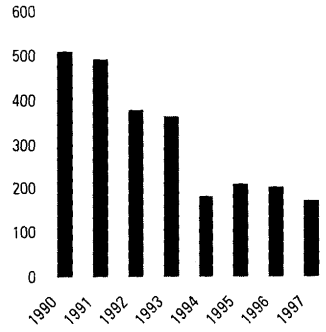
The instructional technology used by the public school system is reflected in the allocation of its budget to the major education inputs. Spending on personnel represents largely teachers' salaries. Maintenance and other operating expenses (MOOE) is an important item that includes office supplies, transport, repairs, utilities, textbooks, and library and laboratory supply. Capital outlays are devoted largely to the construction of buildings and basic classroom furniture such as desks and blackboards. Finally, there is an item for the operation of elementary, secondary, and tertiary/higher education under DECS. (The special high schools and the chartered universities and colleges are not under DECS direct authority and budget.)

FIGURE 1.8
Distribution of the Education Budget by Major Categories
(1987-88, in percent)



Source: *General Appropriations Act,* annual issues

FIGURE 1.9
MOOE per student in basic education
(in constant pesos of 1993)



Source: Maglen and Manasan [1999: 28, Table 2.19]

The allocation shows two very disturbing patterns. First, personal services (salaries and other forms of compensation) absorb the bulk of the budget, with the share increasing through time. The share of personal services in the budget rose from 68.9 percent in 1987 to 75.5 percent in 1993 to 89.1 percent in 1998. Personal services have crowded out both capital outlays and maintenance, operating, and other expenses. In the 1995-1998 period, as the share of personal services rose, the share of capital outlays dropped to less than 2 percent. Its share in 1998 was less than 1 percent. The budget per student for maintenance, operating, and other expenditure has fallen markedly throughout the current decade, from P510 in 1990 to P175 in 1997 [Figure 1.9].

The second cause for concern is that the allocation for actual school operations has been declining. School operations have had to compete with other expenditure items such as the Government Assistance to Students and Teachers in Private Education (GASTPE) and the institutions attached to DECS such as the National Library and the National Historical Commissions. Elementary education must vie with secondary education within the DECS budget, and indirectly with the proliferating state universities and colleges. The share of the budget directly allocated for the operation of elementary schools dropped from 76.6 percent in 1987 to 41.7 percent in 1990. The downward trend has been reversed, but the 1976 share was never regained. In 1998, elementary schools received only 66.6 percent of the DECS budget. The na-

tionalization of secondary schools in 1989 led to a large increase in their budget share. Until 1989, there were two categories of public high schools, the DECS-operated high schools and the local high schools that were jointly financed by tuition and the local government. The 1989 Free High School Act centralized local high schools, however, and transferred financial responsibility for them to the national government. As a result, the share of secondary education almost doubled from 10.6 percent to 21.7 percent between 1989 and 1990.

Of particular concern in recent years has been the supply of *textbooks*. The share of the budget devoted to textbooks has been negligible: 1.6 percent in 1976, 0.7 percent in 1979, and 0.6 in 1981. This rose in 1982 and remained at this relatively high level after the World Bank Textbook Project was implemented. The budget increases, however, consisted largely of the loan proceeds themselves.

These allocations resulted in much smaller absolute budgets that directly went to the schools and to pupils. Of the P1,342 total DECS budget per pupil in 1995-96, only P1,119 went directly to the elementary schools and P1,044 to the high schools, and only P10 to textbooks. On the average, this P10 book budget buys only half a book.[4]

The World Bank textbook project entailed the establishment of the Instructional Materials Council and its operating arm the Instructional Materials Corporation (IMC). They were given total control over the development, production, and distribution of textbooks. IMC's monopoly over textbook activities may have encouraged corruption and the allegations of corruption led to the deregulation of textbook activities in 1995. Apparently the monopoly structure has remained. Public school textbooks are not openly traded and sold in bookstores, and local schools are not free to prescribe and purchase their own textbooks.

Locally produced textbooks are generally printed on newsprint. With enough care, a book is expected to last four years.[5] Ideally, pupils should be supplied with one book per subject for use in the classroom and outside for homework and review. Table 1.9 shows that neither primary nor secondary pupils in the country have been provided with adequate textbooks. The textbook situation worsened in the 1990s. The degree of inadequacy was worst in math. There are also virtually no textbooks in science for the primary grades. The per pupil book ratio, which averaged about 0.60 in the first half of the 1990s declined to 0.33 in 1999, or one book for every three pupils. English had close to a one-to-one ratio in the early years, but this also drastically declined in the late 1990s.

Compared to elementary pupils, those in high school were provided with even fewer books and have always had to share their books. In the first half of the 1990s, the ratio was lower for science and math. As the budget was reduced, books supplied for all subjects decreased so that by 1999, there was only 0.6 book per high school pupil in all subjects, 0.11 in English, 0.11 in Filipino, 0.13 in Science, 0.15 in Math, and 0.11 in Social Studies.

It is inconceivable how literacy can be taught effectively without the use of books, and yet textbooks appear to be treated as an afterthought in basic education budgets. Virtually all the budget increases for education have gone to compensation, with teachers' salaries increasing quite substantially under the Aquino administration and the salary standardization law under the Ramos Administration. The adjustment in teacher salaries was primarily a political decision in response to the publicity about the poor plight of teachers, not in consideration of what would be efficient. There is no argument that teachers' salaries probably needed raising. What is at issue is that this has come at the expense of other education inputs which are probably more crucial at this time [See Box 4].

The announced policy of having one book per student per subject is arguably a good policy, provided it is within the budget constraint of DECS. An inexpensively printed book would cost only P60. With an average life of four years, a book would cost P15 per year, or P75 per pupil (P15 x 6 books). At a more modest book life of 3 years, the cost would be P120 per pupil. In 1998-99, however, DECS spent only P20 per student.

BOX 4

New thinking on literacy

Billions have been spent worldwide for literacy (i.e., reading, writing, counting, and computing), in the belief that literacy in individuals leads to economic growth and social development. Up to the present time, however, the international debate questioning this simple and direct relation between literacy and development goes on.

The new thinking, backed by solid research, suggests a more complex relationship. First, it was found that an important factor determining whether literacy skills and nonformal literacy programs can be sustained is whether literacy skills have become integrated or are discontinuous with community practices [Doronila 1996]. Similarly, Bernardo [1998], in his quasi-experimental study of the cognitive consequences of literacy, concluded:

> The most literate communities in the world do not only differ from other communities in terms of the number of literate individuals in their population. Instead, in the most literate communities, literate practices are integral to community life. In such communities, the most basic forms of employment, communication, business and trade, social interactions, religious activities, political exercises, cultural practices, transportation, entertainment, education, scholarship, and so on involve literacy practices. In such communities, literacy is an inescapable reality, an inevitability. It is in such a community context, and it is because of such a community context, that literacy can have the most profound effect on how people think about their experiences and their environment.

Of course, even this new thinking is not so new, as witness the following quote from Rizal:

> Do you want to know the obstacles to education? So then — in the circumstances we are in, without powerful assistance, learning can never be a reality; first, because in the children there is no stimulus or encouragement; and second, because even if there were, they are vanquished by the lack of means and by many preoccupations. They say that in Germany the son of a peasant studies eight years in the town schools. Who in this country would want to dedicate half of that time when the results are negligible? They read, write and commit to memory pieces and sometimes a whole book...without understanding a word of their contents. What benefit can the son of peasants obtain from the school?

Thus it is reasonable to propose that, in fact, functional literacy as an index of capacity for development in individuals is at the same time an index of a people's passage into a literate society. The new thinking on literacy therefore brings up a related proposition — that a people's passage into a literate tradition is not an autonomous process brought about by pouring all our money into literacy and education programs. It is anchored in the over-all development of communities and the nation; indeed, in the growth of the two other general indices of HDI, if you will — life expectancy and real incomes. The three indices together make good sense. They are not only outcomes but also factors of development.

TABLE 1.9
Textbooks per Pupil in Elementary and Secondary Public Schools
(selected years)

1. Elementary

Year	Total	English	Filipino	Science	Math	Social Studies
1983	2.39	1.11	0.73	0.16	0.26	0.13
1988	3.48	0.86	1.07	0.04	0.61	0.88
1989	3.12	0.93	0.89	-	0.65	0.65
1990	3.20	1.07	0.79	-	0.55	0.78
1991	2.59	0.74	0.63	-	0.51	0.71
1992	3.62	0.99	0.98	-	0.65	1.00
1994	3.72	0.88	0.97	-	0.62	1.24
1995	2.96	0.69	0.83	-	0.43	1.01
1996	3.21	0.76	0.86	-	0.47	1.12
1997	3.44	0.94	0.75	-	0.69	1.06
1998	2.50	0.72	0.81	-	0.54	0.42
1999	1.38	0.42	0.25	-	0.33	0.38

2. Secondary

Year	Total	English	Filipino	Science	Math	Social Studies
1983	3.25	0.61	0.77	0.45	0.58	0.83
1994	3.38	0.65	0.38	0.44	0.38	1.53
1995	2.52	0.49	0.28	0.31	0.29	1.15
1996	1.49	0.24	0.17	0.19	0.18	0.72
1997	1.21	0.18	0.21	0.19	0.20	0.42
1998	1.03	0.17	0.19	0.11	0.22	0.34
1999	0.60	0.11	0.11	0.13	0.15	0.11

Source: Instructional Materials Council, unpublished data

At P120 per pupil, it would require P1.848 billion to provide 15.4 million public school pupils a textbook in all six subjects, or more modestly P1.155 billion if a book is made to last 4 years. These amounts are equivalent to only 2.0-2.5 percent of the DECS budget for 1999.

Exacerbating the problem of education spending is the problem of corruption, which cuts cruelly into the benefits transferred to pupils and diminishes the redistributive effect of spending on education. In the case of textbooks, which have recently been in the public eye, some 50-60 percent of the budget are thought to be diverted as a result of bribes and uncompetitive pricing (*Philippine Daily Inquirer*, Chua's special reports, March 1999). Abetting corruption is the hierarchical structure of decision-making and lack of transparency in bidding. Private schools have been allowed since 1995 to choose their own textbooks, which are freely marketed in the thriving book industry. By contrast, books supplied to public schools are not marketed in regular bookstores but are supplied by publishers chosen by DECS officials in the regions. The great discretion this represents is a virtual invitation

to corruption. Ironically, despite the supposed "care" and selectivity with which public-school books are chosen, it is the general opinion that these are inferior to most that are chosen by the better-quality private schools in terms of both academic content and presentation. Considering the well-known quality differences, a more sensible policy in public-school text selection would have been simply to adopt those that private schools use, demanding volume-discounts for public schools.

Content and context: relevance

Difficult as they are, the problems of the scale and mix of inputs plaguing basic education, are at least tractable. They are ultimately questions of *how* and *how much*, and can be solved by the appropriate policy decisions regarding the allocation of funds and control over the means of their disbursement.

Even more profound questions can be raised, however, regarding *what is* or *what ought to be* taught, that is, the direction and substance of education and its relationship with the community's beliefs, practices, and values.

As already seen, much of present education policy is (understandably) pre-occupied with simply keeping pace with the size and scale of enrollment, i.e., the need for so many school buildings, teachers, classrooms, desks, and so on. In this mind-set, even the quality issue becomes reduced to a question of quantity, i.e., quality means building enough schoolhouses so that there is a grade school in every barangay, and a high school in every municipality, with so many classrooms and so many teachers, and so on. In other words, the problem of quality is seen as one of spreading the butter thickly enough on a piece of *pan de sal*. Wittingly or not, it adopts the one-size-fits-all approach (same butter, same *pan de sal*), reducing the problem to one of delivering a standard product to enough numbers of people. The question, however, is whether the "standard product" is desired by all.

Recent studies (Doronila [1996] and Bernardo [1998] and Box 4) have persuasively drawn a connection between functional literacy, on the one hand, and the specific context of social practice and community activity, on the other. This means that people are motivated to learn — and retain what they have learned — only to the extent that what they learn is relevant to what they do or want to do. Transmitted knowledge will remain abstract, alien, and passive to the extent that these fail to be relevant to people's needs and current activities. "Socio-economic background" and parents' incomes and education are powerful explanatory variables of individual performance not simply because they are associated with more "inputs", but also because these signify the motivation or "pull" elements for pupils to perform. In contrast to children of white-collar workers, children in an upland subsistence community will learn less, not only because books at home are fewer, or nutrition is poorer, but also because there is less practical motivation to do so. What they learn in school is not *demonstrably* applicable to the ebb and flow of their daily lives. Daily life in such a context provides no reinforcement, makes no demands for algebra or history, hence children and parents fail to see that these matter. Weak motivation, rote memory, poor performance, and high drop-out rates should be no surprise. In short, education cannot succeed in a development vacuum.

These findings have far-reaching implications for education reform. They invert the presumed causation: functional literacy does not "lead" to development. Rather, in a nontrivial sense, development itself is a condition for functional literacy to be relevant and regarded as desirable. This also means that the "one-size-fits-all" approach of the public school system is partly to blame for students' poor performance. The system is too rigid, unresponsive, and hierarchical to adapt itself to different local circumstances. At the very least, there is a need to distinguish the various communities to which curriculum and language are being addressed, e.g., traditional oral communities, transitional subsistence communities, Muslim Filipinos, and lowland Christians [Doronila

BOX 5

Education in Muslim Mindanao

Even today, Muslim education in the Philippines outside the state system is of a folk and religious nature. It begins from a religious base, instruction in the tenets of Islam, and the history of Islam, leading to the genealogical beginnings of local history (e.g., through either the Abu Bakr line of Sulu or the Kabungsuan line of Maguindanao). Filipino Muslims commit to memory the mythico-religious beginnings of their local history, internalizing and reflecting upon centuries of Muslim armed struggle against colonial rule. The historical consciousness that springs from both oral historical and written traditions is continuously sustained by the formal system of Islamic education through the *madaris* (plural of *madrassah*) and the non-formal system of learning such as the *pañgadji*.

The impact of Islamic education in the Muslim mind is maintained and enhanced by *gurus*, ustadz, and other local teachers who perform the task of teaching as a matter of spiritual and moral-religious obligations prescribed by Islam with or without compensation. Religious teachers derive material or financial support from Muslim charities or from their own small undertakings and business mostly from subsistence agriculture and fishing. There are no regular budgetary allocations such as those in Philippine educational institutions. Teaching is a solemn duty for those who know. The basic curricular content of Islamic education is derived from the sacred sources of the Islamic faith: the *Qur'an*, the *Hadith*, and the *sunna*. Such basic content has been concretely expressed in the Five Pillars of Islam: the *shahada*, prayer, fasting, alms-giving, and *haj* (pilgrimage).

Historically, the approach of state policy to the education of the non-Christian sector was anchored on the basic premises and aims of colonialism, which was conversion — for good or ill — to the worldview, way of life, and concept of state of the occupying force. This was true for both the Spanish regime and the American occupation, with the possible exception of a brief period of enlightened policy under Najeeb M. Saleeby until 1913.

The cultural-economic aims of colonialism were adopted by the leadership of the Filipino republic. It was the predominant belief that what the Muslim communities needed most were more opportunities in political participation and enjoyment of economic benefits. Appreciation and respect for Islamic culture was rhetorical at best. Instead education sought to expose Muslims to the influences of Christian values and ideals through predetermined curricula at all levels of learning. This has largely remained the state of Philippine education for the Muslim sector today (the integration of the madrassah system notwithstanding). The religious and folk character of Islamic education is bound to come into conflict with a formal state education system that was rationalist, assimilationist, and (at least nominally) secular. The content of the curriculum that has negligible input from Islamic sources provides no cultural incentive to Muslims to seek state education as the key to social progress. Rejection is more often the result.

The continuing failure of such policies is easily apparent. The provinces of Muslim Mindanao are today among the provinces with the lowest enrollment rates and literacy rates in the nation (see Table below). These results override even unusual results in the NEAT and NSAT showing respectable scores for individual schools and divisions in some Muslim Mindanao provinces.(*)

It is important to realize that the matter is not as simple as throwing more money at the problem and still seeking to deliver the same product. What the formal education system needs is to work *with* rather than *against* folk-Islamic education.

BOX 5 TABLE 1:

Ten Provinces with Lowest Functional Literacy and Combined Elementary and High School Enrollment (1997, 1994, in percent)

	Functional literacy (1994)		Combined enrollment rate (1997)
Agusan del Sur	71.8	Agusan del Sur	73.3
Apayao	70.4	South Cotabato	72.0
Kalinga	70.4	Davao Oriental	70.4
Davao del Sur	68.8	Lanao del Norte	69.6
Maguindanao	68.7	Basilan	69.4
Lanao del Sur	59.3	Tawi-Tawi	67.5
Sulu	57.7	Bukidnon	67.3
Tawi-Tawi	52.7	Sarangani	63.8
Ifugao	51.1	Maguindanao	51.7
Basilan	48.1	Sulu	43.5
Memorandum: Philippines	83.8	Philippines	83.0

N.B. Lanao del Sur's basic enrollment rate is higher, 78.8.

Source: National Statistical Coordination Board

How can state education approach the issue of folk-Islamic education? It must begin by recognizing the distinct culture and identity of the region rather than trying to homogenize it, just as folk-Christian traditions that have developed are also studied and appreciated in, say, mainstream education. The Indo-Malay pre-Islamic and pre-colonial Christian heritage is the common cultural denominator of the national community. The curricular content of basic education must have this thrust in social science and humanities components. The aim must be to allow common appreciation of the roots of the Filipino heritage as the source of national pride, identity, and advocacy. This social science thrust can be augmented by the science and technology component of the curriculum for modern development, but it cannot be replaced.

The next important problem is the educational mechanisms and systems the state may use to realize the folk-Islamic thrust without negating the desired modern direction.

Muslim society possesses traditional systems or institutions that have become the channel of folk-Islamic learning for 90 percent of the population. Two systems of Islamic education in particular are zealously employed by learned parents and trained gurus:

- the *pangadji* which is learning to read the Qur'an correctly, properly, and reverently by a child at home and usually heard audibly by passersby. (The time is dependent on the learner who usually tries to finish the entire Qur'an for its special spiritual value) and
- the *madrassah* system which is the method for group learning of Islamic tenets and practices according to prescribed materials usually well-prepared by recognized *sunni* specialists from abroad.

Besides these Islamic systems, there are regular annual festivities based on the Heijira calendar and the numerous rituals where indigenous local pre-Islamic traditions are popularly observed with color, meaning, and seriousness. They are integrated into the Islamic system through the use of Qur'anic passages or surahs especially Surah I "Al Fatihah" which is the heart of the Qur'an. Thus, the entire Muslim community is involved as a unit in the formal and non-formal learning process without any state certification.

Such local systems can and should be studied and harnessed by state education if it is to become relevant to Muslim aspirations, especially the search for identity. Before taking any concrete steps, however, the State must take a clear, definite and sincere stand of *making Islamic education a basis for education in Muslim Mindanao with only a small measure of the secular curriculum incorporated.*

Once Islamic education is officially adopted, Muslims must in turn accept the State education package without reservation, otherwise the prospect of failure is predictable. The psychological and political approach to education is as vital to success as curricular innovation. Achieving this goal is contingent on the following:

- the realistic attainment of Muslim autonomy through the revival of indigenous institutions as mechanisms for political, social, economic, and cultural decision-making;
- the abandonment by Christian missions and institutions of their soteriological (salvation) goals in Mindanao to remove Muslim suspicion that state education still pursues the colonial aim of Christianization in Muslim Mindanao; and
- the establishment of a system of state subsidies for regular faculty development of Islamic schools with counterpart aid from world Islamic sources, government or private.

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(*)It should be remembered that the NEAT and NSAT are not universal but given to pre-selected schools. Hence they may not be representative. Apart from real improvements in achievement in selected schools, other factors to consider must be remedial intervention in the schools pre-chosen to take the achievement tests, including reviewing for the examinations, and the more unpalatable prospect of tainted examinations.

1995]. The curriculum delivered to lowland Christian communities with urban orientation cannot be identical in all respects with that which will be relevant and acceptable in predominantly Muslim areas.

With respect to the curriculum proper, there is general assent (e.g., ADB-WB [1999]) that the current standard curriculum, especially for Grades 1-3 is overloaded, with as much as seven subjects taken in a day. This is bound to lead to a lack of focus and — given the marginal relevance to most communities of the topics taken up — is bound to contribute to the practice of rote memorization. It is particularly urgent that distinct modules of instruction be developed for the large traditional Muslim communities and for communities of tribal Filipinos, where the current approach can be said to have failed demonstrably [See Box 5]. These communities have been left out of the education system precisely because they cannot be shoe-horned into the iron boot that the system delivers. Nor is the idea of culturally differentiated curricula an entirely new idea: as early as 1991, the Congressional committee on education (EDCOM) had already proposed that the entire formal basic education curriculum be constructed on the basis of functional literacy [Box 6], and that the content of the formal curriculum should have a mix of a national "core" curriculum and a regional and local curriculum to accommodate cultural differences as

well as specific needs, problems and aspirations [EDCOM 1991, Annex 2, Book 1, Vol. 1]. Up to now, however, this has recommendation has not been acted on in earnest.

Language is a second major area where these observations have a bearing. The question of language continues to be plagued by confusion and indecision. It was a major change in the elementary school curriculum to replace English by Filipino and later by the major local language as medium of instruction. As a result, three languages are taught at the elementary level in the non-Tagalog-speaking areas: English, Filipino as national language, and the local language. This obviously crowds out other core courses. It also presupposes the production of textbooks in the local language.

English is introduced as a foreign language in Grade 4. Secondary and higher levels still use English as the main medium of instruction, although teachers are encouraged to use the major languages on a voluntary basis. The deteriorating quality of English instruction has led to the popularization of "Tag-lish", not just in personal communication, but also in the classroom, a trend now encouraged even in the mass media. The NSAT performance in English is sometimes lower than in math and science. English is also the subject with the worst scores in the teachers' licensure examination.

At one level, an important reason that the language issue has been left unsettled is simply the government's failure to allocate funds for the production of textbooks and other learning materials in Filipino and other Philippine languages. Books used in college and graduate studies are largely imported, since few good local textbooks have been produced.

But the more fundamental dilemma that confronts educators in the language issue, however, has to do with the tension between the need to indigenize knowledge to make it accessible and relevant and the need to raise knowledge levels to those required by global challenges. Study after study has confirmed that learning among the young is facilitated by learning in their own language — a complicated enough matter in a country where there is not just a single "native" language but more than 70. On the other hand, there is the felt imperative on the part of educators to rise to the challenge of mastering English as the emergent world language (e.g., as seen in its use as the internet lingua franca and the equivalent of Latin in scholarly work).

Caught in this dilemma, the education system has opted to adopt a non-policy. A concession is apparently made to indigenization by adopting the policy of teaching the lower grades in the local languages and in Filipino; but this is unsupported by appropriate training of teachers in the local languages and by quality teaching materials. The predictable result, as argued cogently by Secretary Gonzalez, has been mediocrity and the phenomenon of semilingualism [see Chapter 2]. The result falls short of the needs of people who are willing and able to absorb more of the science- and technology-oriented global culture; at the same time, the result flies over the heads of communities for whom the concerns and biases of global culture are irrelevant or even threatening.

The mistaken assumption on which the debate thus far has been founded is that people in different social contexts demand or require indigenizing and globalizing influences to the same degree. They do not. It is obvious that the priority given by pupils and their families to learning English — not to mention formal schooling — will differ according to whether they are in an urban and media-dense environment, or in an isolated, traditional agricultural or fishing community. The same imperatives simply do not apply, and therefore it is foolhardy for the education system to design a single solution and expect it to work effectively in all contexts.

What should be possible instead is to offer various models of basic education that are sensitive to local culture and local needs. Larger or smaller communities should then be allowed a certain measure of choice over the methods and content of education, including choice over language of instruction. Apart from Filipino, which is predominantly Tagalog-based, certainly Cebuano and other major Philippine languages could also sustain teaching in geogra-

BOX 6

Sample Grade 1 curriculum content by functional literacy areas and contextual level

CONTEXT	COMMUNICATION	QUANTITATIVE	SCIENTIFIC	CIVIC	SOCIO-ECONOMIC	HISTORICAL/ CULTURAL	VOCATIONAL	SPIRITUAL
Home and family	My family and me: naming members of the family	Conducting a survey of favorite food	Identifying parts of the body; taking care of the body	Identifying and describing my duties at home as a family member	Describing a typical day in the family	Identifying who make up my family	Describing my chores at home	Trusting and loving my family
School and community	My school and my neighbors: writing about activities in school	Adding money: *baon* and expenses; computing change	Helping keep the school clean; conserving water and electricity	Understanding symbols of my school, community, and country	What pupils do together in school and in the community	Identifying who make up my school and community	Helping keep my school a safe place	Learning to study and play in trust and goodwill
Country	Sharing legends, riddles and folk songs of the Philippines	Keeping a record of the month's weather in the community and making a summary at the end of the month	Describing the day's weather and relating it to weather in the rest of the country	Relating national symbols and others like me	Identifying people who make up the Filipino nation and where they live	Identifying similarities and differences of people who make up the nation; physical characteristics and dress	Knowing the people who feed us	Feeling one with other Filipinos
Regional and International community	Sharing legends, riddles and folk songs of Southeast Asia	Telling time	Observing the sky at different times of the day or night	Getting familiar with national symbols of Southeast Asian countries	Identifying SEA neighbors and where they live	Similarities and differences between Filipinos and other SEA neighbours; physical characteristics, language, dress, and food	Knowing the major products of our SEA neighbors	Respecting other nationalities

Source: Doronila [1999]

phy, history, and civics, not to mention literature; and they would present no greater difficulties than Filipino in the teaching of science and mathematics. Barring any cultural biases and legal obstacles, therefore, it should be no great experiment but rather an almost certain improvement to reduce the language load in the elementary grades to only one major Philippine language (the closest to the pupil's local language) and the world language, English.

It is obvious, however, that the education system as presently constituted is not geared to these changes. The most important upshot of these observations, therefore, has to do with the entire structure and goals of DECS itself as an organization. The inability of the country's education system to adjust to local needs and circumstances and its failure to impart greater relevance is at least partly traceable to an almost century-old but still tenacious legacy of a department established by foreign occupiers primarily as a tool for assimilation and cultural homogenization. The education bureau or department has always been built as a bulwark or bastion of knowledge, an image that justifies its hierarchical and inflexible organization and rationalized its exemption from devolution. Even today the perceived relationship between the education system and local culture and practices operate on dichotomies (modern, scientific, and global — versus traditional, superstitious or religious, and indigenous) that leave little doubt about the only direction knowledge can flow — downwards from the bastion to the huddled and benighted masses. Little room is left under these circumstances for the possibility that universal principles can actually be evinced from community practices and from efforts of civil society and local governments. What is ironic, of course, is that the image of a knowledge-bastion cannot even be maintained, given the inferior and deteriorating standards and abilities of teachers and officials alike.

An alternative paradigm would perceive the value from a *pedagogical* viewpoint of delivering education in coordination with development efforts that motivate the community — both pupils and their parents — to become functionally literate. By contrast, the prevailing knowledge-bastion paradigm regards education-delivery as a stand-alone affair. It ignores the observation that basic education is most effectively delivered not in isolation but in conjunction with development efforts, e.g., livelihood, health, etc. For the same reason, there is no imperative to cooperate with other departments, agencies, non-government and people's organizations in the delivery of education.

A way forward

The important policy changes that have been adopted in the post-Marcos years have focused primarily on two things: expanding the scope of basic education provision and enhancing the rights and pay of teachers. Under the first one finds constitutional provisions on universal basic education, nationalization of barangay high schools in 1988; the nation-wide application of GASTPE; lowering the school entry age. The second encompasses Magna Carta for Teachers and grant of large salary increases to public school teachers. Ironically, however, although these changes entail larger budgetary requirements for ever new rights and entitlements, they are not geared towards achieving quality, so that the entitlements promised are themselves devalued in the process.

Its sheer scale means that the basic education system can no longer rely on resources exclusively provided, utilized, and supervised by central government. Education is already the largest component of the national budget. To seek quality improvements simply by spending proportionately more on the same priorities will quickly push the entire economy against budgetary ceilings. Furthermore, it has already been seen that the highly centralized and insulated structure of the education system has proven unresponsive to local needs and prone to corruption.

Improving the quality at all levels in the coming years requires nothing less than a complete overhaul of the government view of and intervention in education financing and instructional technology.

Achieving internal budget efficiency. Priority must be given to achieving internal efficiency. This means identifying and adopting the most effective instructional technology and allocating available government resources specifically to implement it. This means first of all that the proportions on which the education budget is spent must be reexamined. The current situation cannot be efficient, where almost 90 percent of the education budget is spent on salaries and benefits alone and only 1-2 percent on textbooks and virtually nothing on libraries and laboratories.

Future moves to improve teachers' salaries relative to the rest of the government bureaucracy will be counterproductive in two ways — first, it will crowd out learning materials and capital outlays; second, the large increments in public school salaries will hurt many private schools (who generally serve quality better than public schools), since they will have to raise teachers' salaries to compete against the public schools in the market for teachers. It is not obvious, however, that raising the salaries of the permanently employed but inadequately-trained teachers will improve the quality of instruction in public schools, especially if other education inputs are crowded out. In addition such measures also increase the private school requirements for GASTPE and further crowd out the other inputs for the public schools, since some 60 percent of GASTPE goes to teacher salaries.

The authorities must instead seriously consider ways of increasing the share of the budget devoted to the maintenance and improvement of school facilities such as science and computer laboratories (not to mention plumbing), and the provision of books and school supplies to children. This is not a proposal to cut existing salaries, of course, but to devote future increments in resources to operating expenses and capital outlays. Incremental resources may come either from the national government or, as suggested below, from local governments and parents' contributions.

Among the most significant but neglected alternatives to teacher-classroom techniques is a greater resort to information technology (IT), which, properly applied, could be a more effective response to the annual tide of enrollment than simply increasing teachers and buildings proportionately. The insignificant use of IT until now is almost anomalous, considering the numerous TV and radio stations and other IT infrastructure already in place, and can be partly explained by the insularity of the education system already noted, which now runs the risk of parochiality. Singapore and Hong Kong are models of the extensive use of IT but are by no means the only ones. Many successful experiences with the IT for basic education and teacher training have been documented, together with the strong impact of textbooks and library on achievement [Verspoor and Lockheed 1991].

Delivery systems based on appropriate and available IT need to be seriously studied, to take advantage of the large scale economies and nation-wide outreach which IT affords and traditional methods do not. Nor do new methods need to replace teachers completely; they may instead supplement classroom teaching and enhance teacher training itself. They may also be adapted to the different types of communications infrastructure extant in various localities (e.g., radio or TV broadcasts, audio and videotapes, or materials over the Internet). While there have been experiments and pilot projects on IT education in the Philippines (e.g., Philippine Women's University, Meralco Foundation, UP Open University, and others), these tend to be diffused; no single national program exists that is geared to a nationwide objective. This type of IT-supported education must be developed that is geared solely to quality improvement (Box 7).

The lowering of the entry-age from seven to six at the elementary level and the proposal to increase high school duration from four to five years, if implemented under the existing conditions of the public school system, will be counterproductive. Again these measures will definitely increase enrollment, which must be provided with the minimum inputs of teachers and classrooms, but they will also likely dilute

BOX 7

Information technology

Considering the mammoth size of the educational system, the applications of modern information technology (IT) may offer the only feasible medium for delivering high-quality instruction to the millions of pupils in so many schools and places. It may also prove to be the only medium for upgrading the teachers. Simple audio-visual (AV) learning packages for television delivery can reach all the schools with as little as two years' preparations. The methodology for developing IT courses is well known. An IT learning package generally include both materials for IT delivery and written text and exercises supplied to the learner. The best minds in the country can be mobilized to write and tape the packages. The packaging of the learning materials will be organized and edited by pedagogy experts and IT technical specialists. The packages have to be piloted and revised until perfected. Once it is satisfactorily finished it can be delivered to any number of places.

The start of an IT-based technology for basic education must begin with the production of modules for core courses such as English, mathematics, and science for each year in the elementary, high school, and college levels. The program may then proceed to other courses like economics, history, geography.

Packages from the US and UK may be reviewed for direct adoption or adaptation, especially if translation into the local language is required. The initiation of IT programs will also force the production of good written learning materials since IT packages necessarily consist of both audio-visual instruction and written material supplements.

Teacher training IT packages also need to be produced. The many training programs that are offered each year by ESEP and some private schools like the Ateneo de Manila have very limited outreach. The teacher-training packages will have to supplement the learning packages for students to enable the teachers to monitor and assist the students. Needless to say, higher education can benefit from IT. The first two years of first degree programs are devoted to general education which contains mostly core courses such as English, mathematics, science, social science, and history. Developing IT packages for these courses would be efficient considering the large college enrollment. ◗

quality and worsen internal inefficiency. The additional budget could be used more efficiently by improving the quality of instruction within the existing 6-4 sequence instead of lengthening the duration along the existing instructional technology.

Accountability, responsiveness, and community involvement. Budgets and technology aside, the major change required is to break down the insularity and hierarchy of the central education system and to make it more accountable to parents, communities, and local governments, in that order. This is an essential step if other reforms are to succeed. For example, part of the problem of education budgets might become more tractable if communities and local governments saw fit to share in some of the costs. This will likely occur, however, only if local communities perceive that they participate in some of the decisions regarding the use of such resources. As another example, the scope for corruption in the department could be reduced if administrative discretion were replaced by a transparent process of awards and procurement, which means giving the clientele responsibility for review. The operating principle should be to place accountability closest to the direct beneficiaries of officials' actions.

The basis for local participation is already

provided by the Local Government Code, which makes local governments responsible for school building and repairs under the Special Education Fund, which is administered by the local school board. This of course lessens the national government education burden and strengthens local governments' interest in the education of their constituency. From an efficiency viewpoint, moreover, it has been suggested (Chapter 3) that local government units are able to construct school buildings at lower cost than the national government. Unfortunately, however, the law has not been effectively enforced since DECS has reported serious classroom shortages. Moreover, local government contributions to education have gone largely to personal services, particularly those for supervisors (Chapter 3). This merely reinforces the tendency of the central offices to spend on personal services instead of learning materials and classrooms.

Part of the reason this occurs is the composition of the local school boards. The Local Government Code (Sec. 99) fixes the composition of these boards among the local chief executive (e.g., governor, mayor, or barangay chair) and the education department executive — as co-chairs — and the chair of the education committee of the sanggunian, the local government treasurer, the chair of the sangguniang kabataan, the president of the federation of parents' associations, and the representative of the teachers' organizations as members. Unfortunately, such a composition is too heavily skewed in favor of elected politicians, ex-officio bureaucrats, and vested interests to become a real watchdog for reform and a true motive force for academic change. What is needed is a return to the original concept of a civil society-dominated provincial board of education as recommended by the EDCOM in 1991, which draws its members from the provincial council, the parent-teacher associations, socio-civic organizations, and professional and alumni associations. A better representation among the principal clientele of schools, namely, pupils through parents and the wider community, is likely to result in less waste and corruption and a better allocation of resources among the community's true priorities. These reconstituted local school boards would be mainly responsible for maintenance of assets and equipment, as well as the acquisition of new school sites and buildings, procurement of books, supplies, and equipment.

Community involvement should be reflected and indeed is more effective at the level of individual public schools. Principals, of course, should be accountable for performance at the school level. But parents, teachers, administrators, and alumni, with the support of local governments, can undertake common projects that can lead the way to improved performance in school. These can take more direct and traditional forms such as raising outside funds to improve school facilities and supplies, or the organization of a corps of education volunteers recruited from the local community or academe to assist in promoting quality basic education and ensure its relevance to the overall development of the community. Nor should such projects always deal exclusively with the formal aspects of learning. It is important for DECS not to conceive its mission narrowly as pertaining only to children in the formal school environment, but also to comprehend the entire socio-economic context that is an important influence on pupils' performance. Documented experience with early childhood education projects in Valencia (Negros Oriental), Dauis (Bohol), and Lopez-Jaena (Misamis Occidental) [Doronila 1999] suggests, for example, that communities participate more readily in literacy and numeracy programs and find more value in formal education when they see its relevance in their daily lives.

It is not the point of this recommendation, of course, to change the mandate of DECS from one of providing formal education to one of community organizing. The local government and other social agents and organizations are probably better at doing that. What it does stress, however, is that the formal education system should recognize how an atmosphere of vigorous local development can stimulate the desire to learn. Hence it must be prepared to

cooperate with other agencies and organizations to bring this about.

Costs can be shared, of course, not only between national and local governments, but also between schools and parents. Basic education, like all other education, after all produces benefits to the recipients. What typically prevents the mobilization of parents' efforts and their contributions is first, the traditional philosophy of treating basic education as an entitlement to be provided free. Deeper than this, however, is the perception that formal education fails to deliver a product that is relevant to their daily lives. It is fairly certain that, as and when they can, parents who perceive a value in education will be willing to shoulder more of the costs of that education, either individually or as a community.

Nonetheless, some parents do pay substantial out-of-pocket costs for public elementary schooling in the form of uniforms, transportation, and learning materials (Chapter 3). As much as P3,325 is spent on school fees, learning materials, transport, uniforms, and other items. Together with cost of board and lodging the cost reaches P6,903. Transport takes up an average of P1,209, while P105 or 1.6 percent is spent on textbooks.

In the matter of textbooks, however, some parents would even now probably be willing to spend somewhat more if the choice to buy books were readily available to them. But it is not. Textbooks in public elementary schools are exclusively supplied by the schools and directly by the teacher. The said books are not marketed in bookstores. (The liberalization of textbook production and distribution is limited to private schools.) This limitation is a recipe for corruption and could allow some personnel to have a monopoly in the development, production, and distribution of public school textbooks. Since DECS books are not marketed, there is no competition in production and pricing. Allowing parents to buy their children's textbooks would not only relax the department's budget constraint but would also foster competition in the textbook industry. The DECS role would then be restricted to helping develop good textbooks and approving those of good quality and adapted to local conditions. At a later stage, local school boards may then choose from a list of approved textbooks those that suit them in terms of price and content.

Greater interaction between local authorities and DECS should also constitute the approach to more technical academic reforms, such as those in the curriculum and in the policy on language of instruction. The current curriculum, especially for the earliest grades, is in need of review from two aspects, as already suggested above. The four Asian economies — Singapore, Korea, Japan, and Hong Kong — that topped the international mathematics and science test given to 13 year-olds deserve emulation. Japan's curriculum in particular has been cited for its focus on core courses and the careful structuring of its textbooks.

As for the language of instruction, the start of the new century should signal the end to the indecision regarding this problem. There is a need to take advantage of the ease of using local languages as a means of introducing students to new concepts; reduce the confusion among pupils as between competing demands of their local language, Filipino, and English; and refocus energies on learning English as the global lingua franca. The concrete proposal made here is to develop *options* to use any *one* of the major Philippine languages (not only Filipino), or English, (or both), as languages of instruction for all of elementary education. Needless to say, these options should be fully supported by the required textbooks and reading materials. In the end, pupils need to learn content, which all studies suggest is best done in their local languages, and they need to be linked to the outside world through English. The choice of language must then be made with the active participation of local governments and the communities they represent.

Beyond determining the content of the core subjects and language of instruction, however, a great deal of work must be done in conjunction with local authorities and communities to design curricula that are regionally and culturally specific, moving away from the iron-boot,

one-size-fits-all approach. This is especially important for regions and groups of the country, such as Muslim areas of Mindanao, that have been marginalized by the formal education system. The education plans and curricula of a province, city, or municipality may include additional curriculum content and require additional competencies and skills of pupils within its jurisdiction.

In the end, therefore, the most radical and effective reform that can be proposed to break the impasse of basic education is to empower communities and their representatives so that they can claim for themselves the amount and the type of education that they want, instead of these being prescribed from above.

NOTES

1 The growth in the public share of secondary enrollment, however, cannot be interpreted as an indicator of quality improvement but an outcome of the relatively recent provision for free high school education.

2 The figure of $139 per capita expenditure quoted in the international comparisons is not far from the budget figure here when adjusted for the purchasing power parity of about 2.5, i.e. ($139 x P26/$1 exchange rate/ 2.5PPP = at P26/$1 exchange rate is P1,444.

3 Performance in the IMST3 is measured by averaged grade. Cost per pupil at the primary level is estimated as the product of per capita income in US$ GDP in purchasing power parity and the ratio of current expenditure per pupil in primary education to GDP per capita. The regression of log of performance to log of per capita cost gives a significant coefficient of 0.022 with 2 of 0.16 for Mathematics and regression coefficient of 0.059 and 2 of 0.19 for Science.

4 P10 constant x GDP deflator of 2.56/average price of P50 = 1/2 book at the price of textbooks of about P50 in 1996.

5 Teachers are responsible for the care of the scarce textbooks and there are anecdotal wisdom that some teachers store the books intended for their classes to minimize wear and loss.

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TWO

Philippine basic education 1999-2004: Analysis, recommendations, and plans

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Philippine basic education: A problem of quality

In 1925, when the Philippine educational system under the American colonial government was subjected to systematic evaluation 27 years after the American period began, one significant finding of the system was that Filipino children were two-and-a half years behind their American counterparts in reading skills [Monroe 1925].

The lack of equalization was understandable given the fact that for Filipino children, English was a second language whereas it was the native language for American children. Moreover, although a total number (2,000) of Thomasites or native speakers were deployed as teachers from 1901 until 1920, by 1921, after the Filipinization of the bureaucracy under Governor General Francis Burton Harrison, only a few Americans were left in the Philippine educational bureaucracy; the English supervisor at the Bureau of Education (later Department of Education) continued to be American, however. De facto almost from the beginning the English language was taught to Filipinos by Filipino teachers, who were themselves schooled under native speakers but whose mastery of English was that of a second language.

Reading was initially taught with American-authored readers, then adapted to the Philippines; by 1919 when the first Philippine readers of English in the Philippines had been published by the Bureau of Education with a Filipino as the main author, the famous "Camilo Osias readers".

Seventy-five years later, at the century's end, the complaint is still being made about the inadequacy of the reading skills of our students. Without proper testing instruments, it is impossible for us to make valid comparisons, but one can venture to say that in the light of what has happened to Philippine education, compared to the US counterparts in Grade 10, the average Filipino student in Grade 10 is almost certainly more than two or two-and-a half years behind his American counterpart. English continues to be a second language; there are more students to educate (there were 10 million Filipinos in the 1919 census, now there are over 70 million based on the 1995 census); and there have been tremendous sociological changes, making English now more of a foreign language and Filipino the national language of the Philippines.

In the meantime, the language problem of the Filipino continues. In fact, Najeeb Saleeby [1924], one of the most enlightened American educators of the 1920s, writing about the problem of language, had urged the use of the local language, preferably a candidate for national language status, to be used as the medium of instruction instead of English and lamented the fact that years later this step had not been taken. He saw then and foresaw later on that the lack of local language as the main medium of instruction and continuing use of English, while

not without its benefits for Filipinos, was militating against the rapid growth and development of functional literacy and education among Filipinos. The 1974 Bilingual Education Policy and its renewal in 1987 were attempts at compromise between the development of the national language and its use as a medium of instruction to facilitate learning, and the continuing use of English. As the Gonzalez and Sibayan [1988] evaluation demonstrated, however, language policy and practice alone could not explain the continuing erosion of achievement in the system, brought about by other problems of a contributing nature: population increase, lack of resources, poor management of schools, lack of proper preparation of teachers in content and in the methodology of teaching English. The Philippine Government in 1940 had deducted one year from the 7-plus-4 sequence, thus shortening the basic education experience by one year; this one year given up temporarily because of financial problems was never restored even after years of independence except in private schools. Moreover, the working conditions in most public schools, the poor compensation scheme until 1997, and the deficit in contact hours because of class interruptions, have all contributed to today's problem of underachievement.

National measures of achievement were provided at one time (from 1973 to 1993) by the National College Entrance Examination Test (which was however abolished by an Act of Congress (RA 7731) in 1994). In 1993, achievement tests at the end of Grade 6 (the National Elementary Achievement Test or NEAT) and at the end of Grade 10 (National Secondary Assessment Test or NSAT) were instituted from 1993 to 1997 as a substitute for the NCEE. For reasons of economy only a sampling of 40.11 percent was taken from SY 1997/98. This step however made it impossible to use the results for monitoring schools on an individual basis and could not give each student an indication of his or her achievement vis-à-vis his peers.

Whenever region-wide tests are analyzed at lower levels, such as for example the Survey on the Outcomes of Elementary Education in 1976, the results of the Bilingual Education Survey Evaluation of 1988, and the disaggregated scores by regions of the test results of NEAT and NSAT (NETRC), the finding we arrive at is that achievement is according to expectations (75 percent and higher) from Grades 1 to 5 but that in Grade 6, achievement as measured by a criterion referenced tests based on a table of specifications, levels off to about 50 percent in all subjects (lower in science, higher in Filipino) and that this low score continues every year thereafter even up to fourth year high school (Grade 10).

If one were to consider that only half of educational targets are attained from Grade 6 on, it would be safe to say that compared with his international peers (no longer just American) using Grade 10 as the point of comparison, the Filipino is more than two-and-a-half years behind his Grade 10 peers in developed countries.

Some other indicators of weakness are the periodic International Mathematics and Science Study test results, which show Filipino children consistently among the bottom three in mathematics and especially science.

Informally, and using only anecdotal experience, there are Filipino children who finish Grade 6 but are hardly able to do basic interpersonal communication [Cummins 1978] at the end of schooling (we still need national measures of reading achievement in Filipino). This state perdures in high school, so that many high school students (roughly 20 percent going by experience with children who do badly in English language grades including reading) go through high school barely able to communicate in English, making the mastery of content in English impossible. What results is *semilingualism* [Toukumaa and Skutnab 1977], a condition where a student has not mastered even one language (native or foreign) to the point that s/he can carry on higher order cognitive activities in it.

One crucial area of need is systematic testing and measurement from year to year with comparable tests to enable us to draw valid

conclusions on either improvement or deterioration.

The Philippines has a satisfactory elementary schooling system up to Grade 5, with basic and functional literacy attained and with most students mentally dominant in Filipino more than in English. Higher-order reading and critical reading skills, however, are seldom attained by Grade 5, and there is a danger of returning to illiteracy if the students drop out before the end of Grade 6. The losses are that for every 100 pupils who begin Grade 1, only 67 finish Grade 6. Of the drop-outs, 8 percent occur between Grades 1 and 2, people who never become fully literate, while the rest drop out between Grades 4 and 6 [DECS 1998]. In high school, of an original 100 in Grade 1, only 46 finish high school, creating another cohort of out-of-school youth with few possibilities for gainful employment.

In high school, even among those who survive, achievement in English, Science, and Mathematics is low, with at best Grade 7 and 8 levels by international standards, and with only elites gaining mastery of one language (be it English or Filipino) to the point of being able to carry on higher cognitive activities in it. For gifted students in good schools, however, mastery of the language arts and skills of both Filipino and English is attained, thus approximating (though never fully attaining) the ideal of a balanced bilingual through the school system.

Key problems

The most fundamental problem of the education system is that the rate of annual population growth is still at 2.3 percent and has been that way without much change over the past ten years. After dramatic strides in the 1970s and 1980s when population growth slowed down from 3.2 percent to 2.3 percent and even 2.1 percent, the last decade has seen little movement towards further reduction. Present cohorts of students now total 12 million (1998/99) for elementary school and 5 million (1998/99) for high school. The survival rate is still unsatisfactory, but in absolute terms the numbers have been increasing and the survival rate at least improving, from 67 out of 100 five years ago to 69 out of 100 now, at the elementary level. High school graduates (from an initial Grade 1 cohort of 100) have improved from 43 percent to 46 percent. Moreover, the 1987 Constitution which legislated free secondary education (Grades 7 to 10, or from First Year to Fourth Year high school) causing an increase in numbers. In a way, the Philippines has also become a victim of its own success in retaining more students and in increasing — albeit not dramatically — the survival rate. When a policy was made in 1996 to start Grade 1 at age 6, a sudden influx of students in the system meant a one-time increase of over half a million to the total school population.

The net effect has been a strain on classrooms, teachers, textbooks, and science equipment, which call for many more resources than the present 17 percent of the budget (in FY 1999) of P81.7 billion.

The result is an inefficiency in teaching and the failure to get out of the groove (of almost three decades years now) of achievement at the 50 percent level (half of what is to be taught in the prescribed syllabus). Poor teaching conditions, inadequate equipment and books, and above all else, poorly prepared teachers (products of the more than 500 colleges of education that we have) who are weak in content and in a liberal education skills. The lack is especially dramatic in science and mathematics. According to the latest findings [Ogena 1992] only 71 percent of math teachers are prepared, and 21 percent of chemistry teachers, 8 percent of physics teachers, 41 percent of biology teachers, and 40 percent general science teachers are qualified to teach (with a full undergraduate major). It is difficult to implement the bilingual education program, which calls for the English Language Class, the Math Class and the Science Class to be taught in English, since the phasing in of the language medium is not rationalized (all teachers are supposed to be teaching math and science in English from Day One. Since pupils do not understand English, at least those in the rural areas, what is actually

taking place is teaching in the local vernacular, then Filipino or English, depending on the subject. Gonzalez and Sibayan [1988] have made the contention based on empirical evidence and regression analysis that what explains success or failure in achievement is not so much the medium of instruction but the teaching/learning conditions in the school, its location, its community, its staff and management. Especially for transition, however, the language of instruction still has to be reckoned with, a reckoning that is not happening at present.

Other factors contributing to inadequate achievement are the shortened pre-university experience (10 in the Philippines, 12 or more in other countries), which separates the rich from the poor (who do only 10 while the rich go through Grade 7 and pre-school and can have as many as 13 years' preparation); the lack of an English-speaking community in the rural areas to reinforce language lessons; the distractions from many activities demanded of teachers and schools making a short calendar year (it has since increased from 180 to 210 school days); poor learning conditions (half of rural areas have no electricity; many more urban and city schools and country schools have problems with running water and proper sanitation); the lack of equipment for science and mathematics; the lack of teachers in densely populated urban areas, especially Metro Manila (resulting in large classes of pupils crowded in a room); and poor study conditions (including the absence of a good library). Science and mathematics classes do not have the proper equipment for demonstration and discovery activities.

A suitable and viable target for the future is to stick to fundamentals and to slowly increase the performance-scores of all students across the country in all major subjects (Filipino, English, Social Studies, Mathematics, Science) over the next decade from their national averages of 50 percent and below (it is low for science, higher for Filipino Language) to at least 60 percent or more in the next decade.

Changes needed

The most necessary ingredient for any kind of long-term change is human resource development for faculty and administrators.

Faculty should be trained not only in procedures and methods but above all in *vision* of what education is all about (through in-depth training in the liberal arts instead of a multiplicity of courses) and in *content* by majoring in one subject in a university where the programs for the arts and science are adequate.

This is easier said than done, since the number of universities offering adequate arts and sciences major programs is quite small, especially in the needed areas of mathematics and sciences. Traditionally these courses have not been subscribed to by many students. Few colleges and universities have been willing to invest in trained manpower and scientific equipment for programs that attract only few students and which must therefore be operated at a deficit or become cost centers.

Thus, a reform of teacher education is required to make any long-term improvement in the system of instruction. The task of faculty development however is almost mind-boggling. There are 370,000 elementary school teachers and 100,000 high school teachers that need to be retrained in order to ensure that the new batches of teachers are better prepared than their elders. (There were 84,233 graduates in 1995/96, and 7,000 are hired by DECS annually).

Of the 35,548 elementary schools, only about 45 percent have a principal or a head teacher; among the 3,992 high schools, only 53 percent have a full-time principal. The rest are either teachers-in-charge, or heads, who receive a salary according to their level as teachers but who perform administrative work, usually in an acting capacity. Stabilization of the system makes it imperative to give these administrators regular positions so that they can function in security and with the assurance of permanency to carry out good management of the schools.

Another way of relieving the continuing problem of teachers (21,000 needed in 1998,

7,209 to be filled in under the 1998 budget, with 15,000 more to be filled in the future) is to return teachers to teaching and to create new positions for non-teaching staff functions, such as physical facilities maintenance and registrar functions. Most of these positions are currently filled by teachers, since there are no budget items for non-teaching staff. This results in a waste of training and talent and an expensive non-teaching bureaucracy. The only way to remedy this is for the Department of Budget and Management, the government agency charged with matters of this kind, to create new items for non-teaching staff and then to return the teaching staff occupying non-teaching positions to teaching functions.

Classroom shortages are another problem. To illustrate, meeting the shortage of 21,000 classrooms at the start of 1998 (of which 5,500 were to be constructed under budget 1998 and the other later) required a one-time capital expenditures of approximately P10 billion. Each new classroom with a toilet costs P350,000. A scheme being explored is to have an outsider capitalize and build the needed classrooms and for DECS to use these facilities under a lease-purchase agreement. This matter is under technical study at present.

Finally, the system of evaluation must be reviewed and improved. Under a presidential decree of Ferdinand E.Marcos (PD 146), a national school leaving examination for secondary school was instituted, called the National College Entrance Examination (NCEE). This system prevailed from 1973 to 1994, when it was done away with. The objectionable political portion meant that those who scored less than the prescribed cut-off point of the tests were not allowed to enroll in college; this matter was challenged on constitutional grounds by the private schools and was the reason for the shift from the NCEE to the National Secondary Assessment Test (NSAT) in 1994 and the National Elementary Assessment Test (NEAT) in 1993. The scores in NEAT and NSAT were made a component of the student's final grade. For three years all students leaving elementary school were tested, resulting in our being able to compare regions but not divisions and schools. This nullified the primary purpose of the test, which was to monitor achievement in the whole system and to gauge whether or not we were achieving improvement. Moreover, the tests were not equalized statistically from year to year (some new items were added which were not in the original test). It is not clear whether they were equalized for difficulty and discrimination, or whether the overall test score could be compared with that of the previous year. Presently a special committee of consultants is helping the National Education Testing and Research Center (NETRC) of the Department to improve the test, assure statistical comparability from year to year, do total census testing (not merely a sampling), and do in-depth studies on the content of the test and the skills called on to allow progress to be monitored yearly.

In addition, our evaluation specialists are likewise working on forms for school visitations and accreditation at the elementary and second level, with help from the Philippine Accrediting Association of Schools, Colleges and Universities (PAASCU) and the Federation of Accrediting Associations of the Philippines (FAAP).

Forms are likewise being revised for the reinstitution of classroom and school visitations by supervisors and superintendents to ensure quality of classroom teaching.

Other supernumerary activities thrust upon teachers and schools have been minimized to gain class time and to focus on getting back to fundamentals and the restoration of a full calendar year of 206 school days.

For the classroom shortage, a study on using the physical plant of elementary and secondary schools all year long through a year-round schedule has been undertaken to enable the system to take in more students without new construction. Hopefully and ideally, an extra 25 percent more students can be taken in, since the school year will be for three quarters, enabling the use of the fourth quarter for additional classes on a staggered basis.

Finally, for science and mathematics, the

change calls for training a new generation of science and math teachers who will not only communicate well (in English) but who have the up-to-date scientific knowledge of what they are to communicate about in the world of science and mathematics. This means the restoration or establishment of laboratories for instructional purposes and adequate teaching materials. Several international programs are presently being implemented to take care of these, but the problem is that the programs are region- or province- specific, leaving other regions as yet without the necessary inputs. The Department of Science and Technology (DOST) has established a system of Philippine Science High Schools in Quezon City, Eastern Visayas, Western Visayas, and Mindanao. DECS has established 16 regional science high schools in SY 1997/98, some of them the same as those supported by DOST. In addition, the Third Elementary Education Program (TEEP), funded by the World Bank and the Overseas Economic Cooperation Fund of Japan, has a component in science teaching and improvement; so does the Science and Mathematics Education Manpower Development Project under the Japan International Cooperation Agency of Japan; the Philippine-Australia Project in Basic Education under Australia likewise has a science training component with equipment.

Plans

The perennial shortage of classrooms (21,000 at the end of school year 1997/98) and the increasing population as well as participation (close to 100 percent at the beginning primary level, 81.44 percent of Grade 6 graduates at the secondary level [SY 1996/97]) and the increasing survival rate (from 67.96 in 1997 to 68.76 in 1998 for elementary school graduates, from 73.38 in 1997 to 70.47 in 1998 for secondary school graduates) continue to put a strain on the system.

The annual appropriation for new classrooms under capital expenditures is expected to remain at the 2.5 billion pesos level which is enough for only 5,000 classrooms (5,000 x P350,000, the cost of one classroom with a toilet on the side), since whatever is left is used for other physical facilities including sports, making the shortfall a continuing one, as in turn the cohorts of students in Grade 1 and in First Year High School keep increasing by 2.5 percent a year. If present trends continue, the 12 million-plus elementary students and 5 million-plus high school students in 1998 will reach 15 million at the elementary level and 7 million at the secondary level by the 2004, when the present administration finishes its term.

Obviously, something has to give.

As already mentioned, one solution is to introduce different versions of the year-round calendar so that the physical plant facilities of schools will be utilized if possible for 12 months instead of the present 9 months (2 weeks during the Christmas season and 10 weeks during the summer season). A feasibility study on using the year-round calendar (with period for cleaning up and making renovations) is presently underway, which will enable the individual schools to take in 20-25 percent more students since each student will be attending only three quarters, with some students 'on leave' during one semester and then re-enrolling for their three quarters per grade.

More immediately practicable is the recruitment of a construction firm or firms — with adequate capital resources provided by either GSIS, SSS or the Land Bank and possibly a development loan from world agencies such as the World Bank and the Asian Development Bank providing funds at lower rates — to erect schools which DECS will then use on a lease/purchase agreement or a build-operate-transfer basis with the capital allotment of DECS each year for amortizing loans (principal and interest) for school buildings instead of capitalizing buildings and classrooms on a limited year-to-year basis.

Again, a feasibility study is presently being prepared, for presentation to the International Cooperation Committee of the National Economic Development Authority in the immediate future.

At the end of secondary school (after only 10 years in public schools, 11-13 years in more affluent private schools), some students are really emotionally, intellectually, and socially immature for university studies. Through a careful testing of entrants, the Commission on Higher Education charged with the supervision of all tertiary level academic institutions is mulling the feasibility of a pre-university year (to brush up on skills in language and in mathematics) prior to the university. This is a concept that DECS concurs with, with the proviso that this is best done at the site of the college or university itself rather than at a high school.

There is likewise pressure on the part of local governments to open nursery schools, kindergarten, pre-schools, day-care centers (all pertaining to preschool education) at government expense. The financial implications of adding more years to the system at whatever level will be staggering, considering that these will be recurring costs. However, since psychologists have made a case for the years 2 to 6 as the peak periods of learning for *homo sapiens*, it does not make much sense for the elders of our society not to make full use of this peak period of learning to hasten skills and concepts training. The thrust therefore of the present administration is to make preschool experiences available through the establishment of these schools by local government boards, composed of local officials, parents, and citizens, with cooperation from DECS. Some of these preschools are actually operated by DECS on DECS premises; others are under the Local School Board in rented rooms, and still others by private entities which derive their operating income strictly from tuition or which receive a subsidy of P290 per pupil annually under our present tuition fee supplement scheme, the subsidy being paid by DECS from the funds from the sale of the bases. More important for the future will be the style of teaching and learning in these preschools and the necessary teaching techniques, procedures, and equipment to make this period as profitable as possible without making the period the start of the more lockstep and rigid curriculum of the grade school type. This is where scholarship in child development, research, and a mindset ready to explore the new are needed to make sure that preschools do not become like other grade schools with their rigid system of grades, lockstep learning, and regimentation. What is needed in these early years is not regimentation but tender loving care and attention and active interaction with the child to stimulate the growth of his own mental processes.

Insofar as the Grade 1 to 10 sequence is concerned, the traditional, formal schooling obtaining at present, the plan is to return to fundamentals of good school management, namely, the supervisory practices of the past. The classroom visitation of supervisors and superintendents and principals and heads of departments has to be restored to bring quality back to classroom teaching. There will likewise be systematic use of evaluation instruments at predictable times, to be coordinated by the National Education Testing and Research Center (NETRC) at DECS. In addition to overseeing equivalency tests (for those outside the system and those coming from abroad), placement tests (for those who may skip some grades), and the end-of-the-year achievement test (National Elementary Assessment Test, NEAT, and the National Secondary Assessment Test, NSAT), there will be systematic evaluations of faculty (through classroom visitations), administrators (through questionnaires and performance reports) and institutions (through an accreditation process) that will be regularly carried out and for which incentives will be given for good performance on a yearly basis. End-of-the-year achievement tests, to be administered to all (not a sampling of) graduates will be used to assess not only individual student achievement and progress but by comparison to see how one school does compared to the rest and how school divisions, districts, and regions compare with each other, with the test results made public, as a form of quality control and encouragement for the schools to do better and as a way of giving incentives and targets to individual institutions to build themselves up.

Accompanying pre-evaluation of newcom-

ers, continuing evaluation of students (a yearly, summative evaluation at the end of a period of schooling (Grade 6 and Year 4) as well as systematic accreditation of schools, the key factor to improving achievement and going beyond the Grade 5 divide for satisfactory (achievement plateaus to about 50 percent attainment of syllabus objectives from Grade 6 on), will be the improvement of classroom instruction through provision of adequate classrooms, enough teachers for a 1:40 proportion, enough administrators and principals for individual schools; and an ideal 1:1 ratio of books per pupil per subject at all levels. Imaginative and creative teaching needs to be done by better trained teachers.

The key to the future will be the attraction of talented men and women to the teaching profession by socially re-engineering the profession to put it on a pedestal as it was before World War. This is basically a marketing task for which consultants and a marketing firm should be recruited for a nationwide campaign for the revaluation of teaching in Philippine society.

One incentive will be scholarships through twenty-one (21) teacher-training institutions which have been selected by the Teacher Education Council (a joint body of the Department of Education, Culture and Sports and the Commission on Higher Education) as centers of excellence and development. The TEC works closely with these institutions and CHED gives them an annual subsidy of P3 million for five years to develop their teacher training programs especially for content (with focus on English, mathematics and science since these are the problem areas). The other incentive is to guarantee jobs for these scholars (initially 840 [21 x 40] each year, subsequently several thousand), the sum to be funded by the CHED and by DECS itself through an increase of appropriations for faculty development.

For those already in the field, the National Education Academy of the Philippines (NEAP) under DECS has drafted a plan to have teachers and administrators at different levels undergo summer-long training sessions in content and higher management skills, with those talented being able to complete their MATs after four summers. For the more research oriented teachers who will occupy positions of intellectual leadership in the future, the plan is to have them take a fourteen-month MA or MS program in selected graduate schools (initially in Manila, subsequently in other urban centers such as Baguio, Cebu, Davao, and Cagayan de Oro).

The most formidable task is coping with sheer numbers: there are 370,000 elementary schools teachers, 100,000 secondary school teachers. Secondary schools constitute the soft underbelly of the system and need the most help in academic uplift. Hence, the ambition of the present administration is to make sure that all of the 100,000 secondary school teachers undergo summer training in their fields of specialization, with the more able ones doing the four-summer sequence, and possibly 10,000 being able to do the MA and MS eventually.

Among the 370,000 elementary school teachers, the focus will be on Grades 5 and 6 teachers who need the most attention. Summer programs, four summer MATs, and a full-fourteen month master's degree for the candidates for master teachers are being planned.

Estimates of how much this retraining will cost are currently being made. An initial estimate indicates that the targets are attainable with a reallocation and reprioritizing of needs, to phase out or substantially reduce other programs without immediate impact on our priority programs and seeking a reasonable additional sum each year from Congress to carry out these teacher training programs. For the teacher-training institutions undergoing the new double-degree program or curricula on a pilot basis beginning in June 1999, we hope that the other teacher training institutions (21 in all as of 1997/98) will adopt the program once subjected to evaluation and revision so that by the first decade of the new century, there will be a totally revitalized teacher entering the system. ◗

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THREE

Education costs and finance*

CHAPTER 1 discussed the value placed on education in the Philippines, and the central role it plays in Filipino society. Participation in education in this country is high in comparison to others at a comparable level of development. Literacy levels are commensurately high by world standards. The importance of education is even enshrined in the Philippine Constitution of 1987, which makes it the primary consideration in the national budget, giving it precedence even over defense and debt service. This Constitutional priority, notwithstanding, the already high pressure on the resources of the country will continue to grow, a prognosis ensured by a population growth of 2.3 percent per annum, which is also high by world standards.

Maintaining the current participation rates alone requires thousands of additional school places annually. It can be expected that participation rates at the secondary and tertiary levels will rise even further as rising levels of affluence increase the demand for education.

The national budget bears the brunt of this pressure, since the government provides the bulk of places at the elementary level (93 percent) and the secondary level (73 percent). At the post-secondary and tertiary level, government provision of places is not nearly as numerically important, but the growth in the tertiary sector, at over six percent per annum over the nineties, the increased share of places that the government finds itself providing, and the even faster growth in its financial involvement in the sector, has meant funds going to the top-end of the sector are absorbing an increasing portion of the overall education budget.

Maintaining educational standards in the face of increasing demand for places has been a constant cause for concern. The remuneration of public school teachers, traditionally well below comparably qualified areas of employment, has nonetheless risen substantially over the last decade or so (between 1985 and 1995 it rose four-and-a-half-fold). This has meant, however, that the personnel expenses have risen as a percentage of the basic education budget, at the expense of maintenance and other operating expenses (MOOE) and capital appropriations. This has led inevitably to a deterioration of educational infrastructure, and the consequent decline in the quality of education.

These pressures were straining education finance even before the onset of the current revenue crisis. The recent "Asian Meltdown", since mid-1997, further reduced revenue collections to 16 percent of GNP by 1998 from an already low 19 percent of GNP in 1997. The budget shortfalls since then have put additional strain on education resources. Exacerbating the problem for basic education has been the continued growth in the number of State Universities

* Abridged version of Maglen, Leo and Rosario Manasan, 1999. "Education Costs and Financing in the Philippines," (Technical Background Paper No. 2) ADB/IBRD 1998 Philippines Education Sector Study.

TABLE 3.1
Education Sector Budgets, 1997-1999
(million pesos)

Education Level	Expenditure Program			Change 1998 to 1999 (%)
	1997	1998	1999	
Elementary[a]	56,154	62,162	65,686	5.67
Secondary[b]	18,267	21,837	23,775	8.88
Tertiary[c]	13,774	16,178	16,771	3.67
Vocational[d]	3,568	2,179	2,165	-0.64
Other[e]	641	578	472	-18.34
Total	92,404	102,934	108,869	5.77

[a]DECS allocation plus school building program

[b]DECS allocation, plus GASTPE and school building program

[c]SUCS and CHED

[d]TESDA

[e]DECS allocation to pre-school and non-formal education

Source: World Bank. 1998. *Philippine social expenditure priorities*, Table 2.3

and Colleges (SUCs) proposed by Congress, with their disproportionate impact on sector budget appropriations.

In 1999 the education sector managed with a budget that was the same or only marginally larger than in 1998, despite the fact that it had already accumulated substantial payment arrears, especially in the textbook and school desk programs, and that it has to accommodate the automatic increase in demand for additional school places.

Although it is vital to set priorities and rationalize, an even more pressing problem concerns the way resources are currently marshalled and channelled into the sector. The inadequacies, inefficiencies, and inequities in the education sector are not simply program- or practice-specific but are systemic.

The Philippine education system owes its origins to the American colonial period (1898-1941) and to developments upon that tradition carried on since independence in 1946. It laid a solid foundation of universal, secular, publicly provided and funded basic education, and a vigorous tertiary sector with a high level of private involvement.

Over the years, however, the education system has grown in a largely unchecked manner, so that today it can be described as a large sprawling operation containing a wide variety of institutional providers drawing their funding from a diversity of sources. These institutions range from well-resourced schools and universities that are of world standing, to extremely under-resourced institutions of very low quality. Education at all levels is delivered by a wide range of institutional providers. Many of these providers are multifunctional in nature, offering programs in two or more of the subsectors. While the bulk of elementary and secondary schools are single-purpose institutions, some are combined operations offering the full ten years of basic education. Many are also attached to universities and colleges. This is partly historical, a considerable number of higher education institutions are actually upgraded basic education institutions, they just started developing and offering postgraduate programs, without in the process divesting their basic education programs. However, it is also because teacher training institutions in the Philippines do not conduct practicum arrangements with a network of surrounding elementary and secondary schools, but rather maintain their own "laboratory" schools for this purpose.

Partly for such reasons, planning for the sector is difficult, poorly coordinated, and its funding is inefficiently allocated and inequitably distributed. While goals and objectives for the sector may be formulated, the mechanisms for operationalizing them appear inadequate, and there does not appear to be any clear matching of budgets to plans and targets. Budgeting appears to be a free-wheeling affair, where constituent parts of the sector — departments, agencies, programs, schools and colleges are obliged to compete with one another for a slice of the cake. Opportunities for political intervention in the process are considerable.

Lack of planning, coordination and prioritization of budgets at the system level has led to the gradual deterioration in the quality of the education and training, even without the intervention of the current financial crisis. It could also be the most significant factor in inhibiting the sector's capacity to respond effectively to the stringencies it is confronting.

In recognition of the problems for effective coordination, planning, and budgeting in the education sector created by this confused institutional provision, the sector's management was drastically rationalized following the EDCOM's report of 1991-92 . DECS in 1995 was stripped of a number of its former responsibilities and made to focus on basic education; higher education came under the Commission on Higher Education; and technical and vocational education was placed under the Technical Education and Skills Development Authority. There is in fact a strong proposal, yet to be acted upon, that DECS be transformed into a Department of Basic Education. Even in basic education, however, DECS responsibilities include not only running public elementary and secondary schools but coordinating, planning, standard-setting, monitoring, and evaluating of the whole basic education sector, including the private school component. Part of this brief is the administration of the Government Assistance to Students and Teachers in Private Education (GASTPE), the government's targeted subsidy program for private school students and institutions.

Public and private education

Public is usually distinguished from private education on the basis of ownership — that is, whether an institution is the government, or a private non-profit or for-profit institution — rather than on the basis of who funds it. In practice, however, both public and private education institutions can and do draw their funds from public and private sources. So it is as possible to have full-fee paying public institutions, or totally subsidized private institutions, as it is to have free public institutions and full-fee paying for-profit private institutions.

There is a wide range of public-private provision and financing arrangements in the Philippines education sector. Government elementary schools are an example of free publicly provided education (although they do not charge tuition fees, they are not completely free, however — parents are obliged to meet sundry costs associated with them). The University of the Philippines, on the other hand, is a public institution (SUC) that charges tuition fees that cover a sizeable proportion of the costs of running its teaching programs. Many private for-profit schools and colleges charge full cost-recovery fees because they receive no financial assistance at all from the government. There are however other, (mostly non-profit) private providers, and their students, who receive substantial public subsidies, principally through the Government Assistance to Students and Teachers in Private Education (GASTPE) scheme.

On the basis of ownership of institutions, Table 3.2 shows the public/private mix of institutions and enrollments across the three education sub-sectors. These figures reveal the state's strong commitment to the provision of elementary education, and the equally strong reliance the sector has upon private providers at the upper levels.

Owing to the wide variety of different forms public and private financing can take, it is even more difficult to determine who pays what in education. Public expenditure on edu-

TABLE 3.2
Public-Private Mix of Institutions and Enrollments in the Philippines
(shaded figures are enrollment in thousands, except percent)

1997/1998 Level of education	Public	Private	Percent private
Pre-school	4,928	2,372	32.5
	230	243	51.4
Elementary	35,516	3,083	8.0
	11,296	938	7.7
Secondary	3,909	2,681	40.7
	3,613	1,406	28.0
Technical/vocational	723	1,383	67.7
	47	214	82.0
Higher education	237	1,019	81.1
	633	1,991	75.9

Sources: DECS Statistical bulletins; TESDA Installing a quality assured TESD system; CHED Statistical bulletin

cation in the Philippines can take the following forms: direct expenditure on public education institutions; recurrent items, including personnel, and maintenance and other operating expenses (MOOE); textbooks and instructional materials; capital items, including through the School Building Program; subsidies to private providers, mainly through the Educational Service Contracting (ESC) component of GASTPE; subsidies direct to students, mainly through the Tuition Fee Subsidy (TFS) component of GASTPE, but also through scholarships and the subsidy element in "study now-pay later" schemes; tax exemptions for private non-profit providers; tax exemptions on contributions to private non-profit providers.

Private expenditure on education, on the other hand, takes on the following forms, in both the public and private education sectors: tuition fees; textbooks and materials; uniforms; transport; projects or excursions; parent, alumni, and other voluntary contributions.

Tables 3.3a and 3.3b provide estimates of the distribution of public and private financial contributions to education for selected years.

These figures show a substantial private contribution to the financing of education, even at the elementary level, where well over ninety percent of the provision and enrollments are in the public sector, and the government is committed to free education. For 1997 the private contribution to elementary education was estimated at around 30 percent; it was around 50 percent for secondary education (Table 3.3b).

The private financial contribution to elementary education rose substantially over the previous decade, from under forty percent in 1986 to over fifty percent in 1994 with the reduction in government spending in this subsector. (There was competing demand at the secondary level owing to the introduction of free high school education.) Because of this, overall private contribution to education rose from 48 percent to 51 percent between 1986 and 1994, before sliding back to 43 percent in 1997, when the government faced less fiscal constraints.

The diversity of forms that public and private provision and financing of basic education have taken in the Philippines is reflected in the bewildering array of different categories of institutions that can be identified, each with a different public-private financing mix (Table 3.4).

In addition, over the past decade or so there has been a series of major and minor policy initiatives that have had profound implications for the financing of education in the Philippines, and which, collectively, have contributed to the present financial difficulties the sector is experiencing. These include the following:

- the 1987 constitutional provision that education should be given the highest priority in the government budget, and that basic education should be free;
- nationalization of barangay high schools in 1988;
- introduction in 1989-90 of the nationwide application of GASTPE;
- the requirement under the Local Government Code of 1991 that LGUs take responsibility for the school building program;

TABLE 3.3A
Distribution of Government and Private Financing
across Levels of Education
(1986, 1994, 1997; in percent)

	Government			Private		
	1986	1994	1997	1986	1994	1997
Elementary	69.09	59.17	60.92	33.61	34.62	34.52
Secondary	12.07	19.32	19.77	32.26	29.34	26.02
Tertiary[a]	18.27	19.36	17.34	34.13	36.05	39.46
Total	100.00	100.0	100.0	100.0	100.0	100.0

[a]Includes technical and vocational education

Source: author's estimates based on *Family income and expenditure surveys*. 1985, 1994, 1997; FAPE 1986 and 1994 surveys

TABLE 3.3B
Public share in financing various education levels
(1986, 1994, 1997; in percent)

	1986	1994	1997
Elementary	69.03	62.25	70.31
Secondary	28.86	38.86	50.48
Tertiary	36.72	34.14	37.10
Public share in total finance	52.03	49.11	57.30
Memorandum:			
Private share in total finance	47.97	50.89	42.70
Total finance (million pesos)	28,996	97,328	174,615

Note: The private share in each category is 100 minus the stated public share.

Source: author's estimates based on *Family income and expenditure surveys*. 1985, 1994, 1997; FAPE 1986 and 1994 surveys

- reorganization and "trifocalization" of the education sector in 1994;
- lowering of the school entry age from seven to six in 1995;
- Magna Carta for Teachers that prevents the involuntary transfer of teachers across districts;
- accelerated creation of additional state universities and colleges;
- granting of large salary increases to public school teachers;
- policy objective of an elementary school in every barangay and a high school in every municipality;
- policy that school textbooks should be free and that the target should be a student textbook ratio of 1:1;
- privatization of school textbook production;
- extension of GASTPE to include the provision of subsidies to augment private school teacher salaries and a textbook allowance;
- Centennial bonus for DECS employees; and
- planned expansion of the secondary school system to five years from the present four.

TABLE 3.4
Categories of Institutional Providers of Basic Education

Public institutions	Private institutions
DECS-operated elementary and secondary schools	Education Service Contract private schools (sectarian and non-sectarian, stock and non-stock)
"Laboratory" elementary and secondary schools attached to SUCs	Private non-sectarian schools – incorporated institutions not affiliated with any religious organization
Secondary schools run by other national agencies such as the Department of Science and Technology (DOST)	Private sectarian schools – incorporated institutions, usually non-profit, affiliated to a religious organization
LGU-operated elementary and secondary schools	Stock education institutions – incorporated for-profit institutions
	Non-stock education institutions – incorporated non-profit institutions
	Educational Foundations – incorporated non-profit educational institutions that plough back income into institutional development

Almost all these policies have the effect of increasing the public financing requirements of education, although the prudence behind their enactment and their ultimate contribution to the problem of quality, access, and relevance can by no means be presumed.

Expenditure on education

Education expenditure comes primarily from three sources — the national government, local government units (LGUs), and the private sector (including households). Table 3.5 summarizes their relative contributions in 1994 and 1997. It shows that, in the aggregate, the Philippines spent some P97.3 billion in education in 1994 and P174.6 billion (or P142.1 billion in 1994 prices) in 1997. Thus, on the average, total education spending grew by 13.5 percent annually, in real terms, between 1994 and 1997. As total education expenditure grew at a faster rate than GNP, it rose from 5.6 percent of GNP in 1994 to 6.9 percent in 1997. Total spending on basic education was almost 4 percent of GNP in 1994 and almost 5 percent in 1997.

In both years, the national government accounted for the biggest slice of total education expenditure. The national government share expanded dramatically from 56.6 percent in 1994 to 64.8 percent in 1997. Conversely, the share of household financing contracted from 37.8 percent to 29.7 percent. LGU financing was stable at around 5.5 percent.

The decline in private sector financing of education between 1994 and 1997 holds true for all levels, but the drop was most pronounced for

TABLE 3.5
Total Expenditure by Level of Education and Source of Finance
(1994 and 1997; as percent of GNP)

	1994				1997			
	Natl govt	Local govts	Private	Total	Natl govt	Local govts	Private	Total
[illegible]	1.49	0.19	[illegible]	2.02	2.22	0.16	1.02	3.43
[illegible]	0.49	0.05	[illegible]	1.37	0.72	0.06	0.77	1.55
Tertiary[a]	0.53	0.00	1.03	1.56	0.68	0.00	1.16	1.85
Total	2.52	0.23	2.85	5.61	3.66	0.25	2.95	6.91
Memorandum: Total (million pesos)	43,784	4,012	49,532	97,328	92,404	7,648	74,562	174,615

[a]includes technical/vocational education

Source: Maglen and Manasan [1999, Annex B, Table B7]

secondary education, followed by elementary education. While the share of household finance in elementary education increased substantially from 17.8 percent in 1986 to 28.6 percent in 1994, it decreased to 21.9 percent in 1997.

In 1986, higher education dominated private sector education finance, with 46.3 percent of total private sector financing, while secondary education received 31.2 percent, and elementary education 22.5 percent [World Bank 1996]. Since then, elementary education has come to take up a larger share of total private sector financing, and by 1997, 34.5 percent of total private sector finance went to elementary education, 26 percent to secondary education, and 39.5 percent to tertiary education [Table 3.5].

Total government expenditures (by the national government and LGUs), on education over the period 1985-1997, are summarized in Table 3.6. It shows that they increased at a fairly steady rate of around 20 percent per annum in nominal terms (or by about 10 percent per annum in constant 1993 prices) between 1985 and 1997. Except for the period 1990 to 1994, total government education spending grew at a faster pace than inflation, GNP and aggregate general government expenditure. Consequently, the period witnessed the doubling of relative total government outlays on education, from 1.9 percent of GNP in 1985 to 3.9 percent of GNP in 1997. At the same time, the education sector's share in the overall general government budget rose from 12.1 percent to 16.9 percent.

National government spending

The national government contributed between 90 and 98 percent of total government

TABLE 3.6
Total Government Expenditure on Education, 1985-1997

	National government	Local governments	All government
Expenditure in current prices (million pesos)			
1985	9,657	1,094	10,751
1990	33,274	711	33,985
1995	61,082	4,967	66,049
1997	93,639	7,648	100,155
Expenditure in constant 1993 prices (million pesos)			
1985	19,369	2,194	21,563
1990	44,667	954	45,622
1995	51,597	4,196	55,793
1997	69,206	4,816	74,022
Share of government expenditures (percent)			
1985	11.44	13.51	12.11
1990	13.01	3.97	12.80
1995	13.99	7.18	14.74
1997	17.36	8.09	18.13
Share of GNP (percent)			
1985	1.74	0.20	1.94
1990	3.07	0.07	3.14
1995	3.12	0.25	3.37
1997	3.71	0.30	4.00

Source: Maglen and Manasan [1999] Annex B, Table B1

spending on education. While the share of LGUs in total government outlays in the sector dipped from 10.2 percent in 1985 to 2.1 percent in 1990, it recovered to 6.5 percent in 1997.

The 1987 Constitution requires the education sector to have the largest share in the national government budget. Debt service was the single biggest expenditure item in the budget (with a share of 32.2 percent) in the period 1985 to 1987, although its importance has diminished somewhat since 1992. Nonetheless, the education sector captured the second largest share in the budget of the national government, and its share in government expenditures has expanded fairly consistently from 11.4 percent in 1985 to 17.4 percent in 1997.

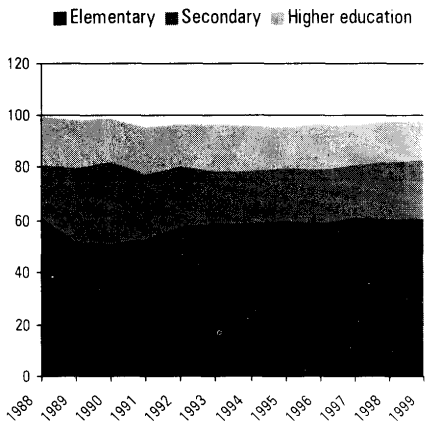
The education sector benefited significantly from the Aquino administration's greater commitment to the social sectors. National government education spending was buoyant in the period 1985-1990, increasing from 1.7 percent to 3.1 percent of GNP. However, the fiscal constraints brought about by the mini-recession of 1991 took its toll on the sector, and national government allocations in education were static at around 2.6 percent of GNP in the early 1990s. National government education outlays recovered, however, and rose from 3.1 percent of GNP in 1995 to 3.6 percent in 1997 [Table 3.6].

Basic education accounted for more than three-quarters of total national government education financing over the period 1988 to 1999 [Table 3.6]. However, it was the basic education sector that bore the brunt of the cutbacks during the fiscal crunch of 1991 to 1994. This trend persisted through 1995 and 1996. Thus, the share of basic education in the national government education dropped from an average of 78.5 percent in 1988-1990 to an average of 74.5 percent in 1992-1996. However, the basic education sector enjoyed a turnaround in 1997-1999, when its share increased to around 81.5 percent [Figure 3.1].

The nationalization of barangay high schools, as well as the Constitutional mandate for free secondary education, starting in 1988, resulted in a re-allocation within the basic education sector. The budget share of elementary education contracted (from 59.3 percent to 49.7 percent), and that of secondary education expanded (from 19.4 percent to 29.7 percent) over the two years 1988 to 1990. Since then, however, elementary education has regained its dominant position, with its expenditure share rising from 52.9 percent in 1991, to 63.9 percent in 1997. In contrast to the basic education subsector, the budget share of higher education proved resilient to the fiscal austerity measures in the early 1990s, remaining at a constant 17 percent. However, even with the essentially comfortable fiscal situation in 1997, higher education's share dipped to 14.9 percent. With the current fiscal crisis, higher education's budget share remained pegged at this level, although the number of SUCs grew rapidly in the late 1990s. This suggests an attempt on the part of the Department of Budget and Management (DBM) to use the budget process to help rationalize the higher education sub-sector.

By type of expenditure, personnel services are the biggest single expenditure item in any education budget, but it has come to have an in-

FIGURE 3.1
Distribution of National Government Expenditures on Education by Level (1988-1999, in percent)



Source: Maglen and Manasan
[1999: Annex B, Table B.2]

TABLE 3.7
National Government Expenditure by Type in Basic Education
(1990-1999, percent)

Expenditure type	1990	1993	1995	1997	1999
Personnel services	74.34	82.63	79.14	83.96	87.69
MOOE	16.49	15.05	10.12	8.65	8.85
Of which: GASTPE	4.34	3.89	2.61	...	1.10
Capital outlays[a]	9.17	2.31	10.54	7.39	3.47
TOTAL[b]	100.00	100.0	100.00	100.00	100.00
TOTAL (million pesos)	27,963	32,167	51,486	77,299	89,933

[a]includes School Building Program

[b]rounding errors

Source: Maglen and Manasan [1999, Annex B, Table B.3]

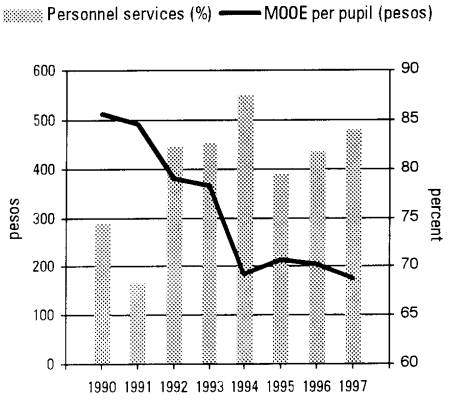
ordinately large share of the DECS budget in recent years. Between 1990 and 1999, the share of personnel services in the DECS budget increased from 74.3 percent to 87.7 percent (Table 3.7).

The dramatic rise in personnel expenditure is largely attributable to the public school teacher salary adjustments implemented by the government in the late 1980s and the 1990s. Between 1985 and 1997, the remuneration of government teachers rose 4.5 times. Since over this period there was no commensurate cutback in the rate of teacher recruitment, or any attempt to rationalize their employment, teacher productivity did not increase appreciably in line with salary improvements, and the growth in teacher salaries was absorbed at the expense of MOOE. Consequently, the share of MOOE in the DECS budget contracted from 16.5 percent in 1990 to 9 percent in 1999. Because of this, per student MOOE declined on average by 17.4 percent a year between 1990 and 1997, from P510 to P134 [Figure 3.2].

Capital outlays have apparently also suffered both as a result of the steep rise in teachers' salaries, and of the current round of austerity measures (Table 3.7). While the latter was to be expected, the decline in capital outlay appropriations that resulted from the former points up the vulnerability of capital works programming. Effective capital development planning cannot occur when capital budgeting is on an annual basis and when it must annually compete with other items for a slice of the budget.

There are considerable differences in per capita education expenditures among regions (Table 3.8). Total amounts spent per school-age child, as well as MOOE spending per school-age child are positively correlated with educational outcomes, such as the NEAT mean per-

FIGURE 3.2
Personnel Services and MOOE per Pupil in Basic Education
(1990-1997)



Notes:
Personnel services measured as percent of national government basic education budget;
MOOE per pupil in pesos at 1993 prices.

Sources: DECS *Statistical bulletin*, various years for MOOE; Maglen and Manasan [1999, Annex B, Table B.3] for personnel services

centage score (correlation coefficients of 0.5 and 0.61, respectively). The relationship between prosperity of regions (as measured, say, by average family income) and per capita MOOE spending is weak, however (correlation coefficient 0.15).

Local government spending

As part of the devolution of the construction and maintenance of local infrastructure, responsibility for the construction and maintenance of public elementary schools and secondary school buildings is now assigned principally to municipal and city governments. However, the national government continues to be in charge of the operation of public schools. Thus, in contrast with sectors such as health and social welfare, education remains primarily the responsibility of the national government.

Local governments have always played a role in financing public education. Between 1985 and 1987 LGUs contributed on average 8.6 percent of total government expenditure on education. With the nationalization of barangay high schools in 1988, this figure decreased to an average of 3 percent over the period 1988 to 1991. However, with greater fiscal decentralization mandated by the Local Government Code (LGC) of 1991, LGU education expenditures rose almost tenfold from P0.8 billion in 1991 to P7.6 billion in 1997. Consequently, the share of LGUs in total government education expenditure reached an average of 7.5 percent from 1992 to 1997 [Figure 3.3].

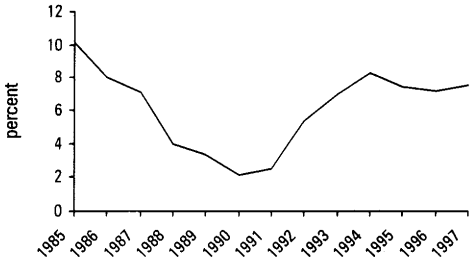
LGU spending in education is largely financed through the Special Education Fund (SEF). SEF receipts come from a one-percent tax on real property located in the LGU. SEF collections are shared equally by the province and its respective municipalities. Under the Local Government Code (LGC), proceeds of the SEF are to be allocated to the operation and maintenance of public schools; construction and repair of school buildings; facilities and equip-

TABLE 3.8
Basic Education Expenditure (DECS) by Region, 1997

Region	Spending per school age child (pesos)	Spending on MOOE per school-age child (pesos)	NEAT mean percent score (1997)	Average family income (1997, pesos)
NCR	2,268	172	53.9	274,823
CAR	3,563	189	52.5	112,595
Ilocos	3,668	187	49.6	102,741
Cagayan Valley	3,346	193	56.4	86,818
Central Luzon	2,662	157	49.3	133,831
Southern Tagalog	2,627	135	50.8	132,212
Bicol	3,620	209	81.1	77,098
Western Visayas	3,459	159	48.2	86,733
Central Visayas	2,640	126	47.1	85,500
Eastern Visayas	3,533	146	63.2	68,018
Western Mindanao	3,226	164	54.8	89,370
Northern Mindanao	2,993	159	47.3	99,473
Southern Mindanao	2,941	138	47.0	94,356
Central Mindanao	2,442	142	40.7	81,364
Caraga	3,006	111	45.9	71,806
ARMM			52.1	74,729

Source: Maglen and Manasan [1999, Annex B, Table B4; Annex A, Table A14]; *Philippine statistical yearbook*, 1997

FIGURE 3.3
Local Government Spending on Education
as Share of Total Government Spending on Education
(1985-1997, in percent)



Source: Maglen and Manasan [1999, Annex C, Table 1]

ment; education research; purchase of books and periodicals; and sports development. Actual spending priorities are determined by the Local School Boards (LSBs).

The SEF income of LGUs rose dramatically between 1992 and 1997, increasing on average by 35 percent per annum. This rapid expansion may be traced to the mandated general revision in the schedule of fair market values of real property under the LGC. LGUs have increasingly had to top up the SEF with general fund monies to finance their outlays on the education sector. In 1990 the SEF financed 88 percent of total LGU education expenditures; this proportion declined to 57 in 1992. It rose again to an average of 78 percent over the years 1993 to 1997.

Total LGU spending on education exceeded the national government's appropriations to the School Building Program (SBP) in the period 1992-1997 [Table 3.9, last two rows]. Existing LGU outlays on education would suffice to cover the P2 billion necessary for the construction of some 8,200 new classrooms per year to accommodate the increasing demands brought about by population growth, as well as the P1.8 billion needed to maintain existing classrooms. Not all LGU resources are used for capital development, however. In 1997, LGUs allocated a mere 33 percent of their total education spending (or P2.6 billion) to the construction of school buildings, while 30 percent was allocated to school supervision and 6 percent to sports development.

There may be a need to encourage LGUs to reallocate their total education spending to school building construction and maintenance. The DECS School Building Program is a major impediment in this regard. The LGU counterpart-funding requirement under the World Bank-funded Third Elementary Education Project (TEEP) and the ADB-funded Secondary Education Development Improvement Project (SEDIP) seem out of place when there is no similar requirement for the SBP nationwide.

Efficiency issues

There is anecdotal evidence that LGUs are able to construct school buildings at a lower cost than the national government. Some LGU officials claim that their construction cost per classroom is roughly P180,000, compared to the P305,000 which the Department of Public Works and Highways (DPWH) charges DECS. Part of the reason for this is that LGUs do not charge for overhead in the construction process, while the DPWH imposes a 3 percent management fee. LGUs are also able to obtain some construction materials from quarry sites that they themselves operate, and which, presumably, do not get costed. Lastly, LGUs are

TABLE 3.9
Allocation of LGU Expenditure on Education
(1992 and 1997; percent)

	1992	1997
Basic education share (%)	84.52	82.60
Of which: Capital outlays share (%)	32.65	33.38
Sports development share (%)	2.50	5.81
Local development fund share (%)	6.34	5.96
Memoranda:		
SEF share in total LGU education spending (%)	57.51	71.85
Education share in total LGU expenditure (%)	8.09	8.06
Total LGU spending on education (million pesos)	2,212	7,648
Total LGU spending from all sources (million pesos)	26,206	94,893
DECS School-building program (million pesos)	1,559	6,656

Source: Maglen and Manasan [1999, Annex C, Table C.2]

often able to generate community support for their projects in the form of voluntary labor contributions.

Increased efficiency may also be generated through another avenue. Experience in other countries indicates that greater LGU participation (financing as well as implementation) generally results in a heightened sense of ownership, and a greater willingness to maintain facilities properly. The Local School Boards (LSBs), which pre-date the Local Government Code, are generally fully functioning units within LGUs, unlike many other special bodies. Another reason for the lower per unit costs incurred by LGUs in school-building construction may be the oversight role played by the local Parent Teacher Association (PTA) representatives on LSBs.

Equity issues

One of the problems that must be addressed under greater devolution of the school building program is the tendency towards widening regional inequities in education outcomes. If they must rely primarily on their own resources, local governments that are less endowed will obviously be less able to spend on education, with consequent effects on outcomes. This could conceivably lead to a vicious circle where poor regions remain poor, while others become better off owing to differential investments in education. For instance, 58 percent of local spending on education occurs in cities, where only 25 percent of the population live. Aggravating this are wide disparities in SEF income across regions (Table 3.10). Eastern Visayas and ARMM, where average family incomes are lowest, also have the lowest per capita SEF incomes.

Institutional issues

Apart from low SEF incomes, another reason for the relatively small share of school building construction in LGU education budgets may be the low priority accorded to it by LSBs. While SEF budgets are prepared by the LSBs, and each LSB is co-chaired by the LGU Chief Executive and the DECS Divisional Superintendent/District Supervisor, in many places the former generally delegates most of the decision-making to the latter. It is reported that many superintendents/supervisors would rather give a higher priority to sports development (e.g., participation in athletic meets) than to school building construction and maintenance. There is, therefore, a need to strengthen the LSBs' independent capacity in this regard.

Provinces have a 50 percent share in the SEF, but the law is silent about their specific responsibilities. This situation has not been helpful in galvanizing provincial financing in the sector. Provincial governments should therefore be considered a likely source of funding for non-school building expenditures, e.g. textbooks.

The LSBs could also play a major role in targeting assistance to poor students. An effective means-testing mechanism is critical in this regard. While means-testing could be cumbersome and costly when administered by the national government, it could be carried out more successfully at the local level.

Household expenditure on education

Households spent 3.7 percent of their income on education in 1997. This is a figure that has grown from a low of 2.9 percent in 1988. As might be expected, this varies by level of family income [Figure 3.4]. The proportion spent on education rises with family incomes.

The per capita poverty threshold in 1997 ranged from around P14,360 in the NCR to around P8,000 in Central Visayas and Eastern Visayas. The percentage of families below the poverty threshold in the country as a whole was 32 percent — ranging from 7 percent in the NCR to 50 percent in Bicol and 59 percent in the ARMM. From this, one may surmise that there was a huge number of families that spent little or nothing on education.

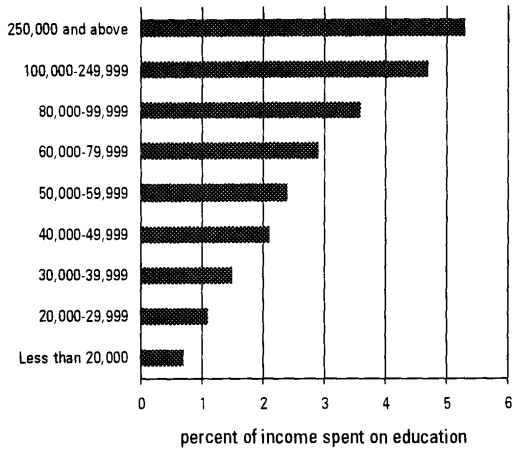
The nature and composition of household expenditure on education for families sending their children to public and private institutions is presented in Table 3.11. Some items require comment. The high average expenditures on board and lodgings would not be incurred by most families, since most pupils and students generally live at home through their period of schooling. Similarly, the very high average figure for private elementary schooling would be accounted for by just a small number of well-to-do families who choose not to send their children to public elementary schools. Not in-

TABLE 3.10
Special Education Funds per Capita, by Region, 1996

Region		SEF per Capita (pesos)	IRA per capita (pesos)	Average Family Income
Philippines		319	3,279	123,881
NCR-Metro Manila		1,148	1,965	274,823
CAR-Cordillera		139	6,347	112,595
I	Ilocos Region	101	3,287	102,741
II	Cagayan Valley	84	4,600	86,818
III	Central Luzon	196	2,696	133,831
IV	Southern Tagalog	294	3,183	132,212
V	Bicol Region	68	3,215	77,098
VI	Western Visayas	158	3,334	86,733
VII	Central Visayas	182	3,172	85,500
VIII	Eastern Visayas	84	4,098	68,018
IX	Western Mindanao	47	3,854	89,370
X	Northern Mindanao	159	4,066	99,473
XI	Southern Mindanao	140	3,438	94,356
XII	Central Mindanao	187	3,891	81,364
CARAGA		94	4,797	71,806
ARMM-Muslim Mindanao		12	2,806	74,729

Source: Annex C, Table C.3
Philippines statistical yearbook 1997

FIGURE 3.4
Proportion of Family Income Spent on Education
(by income class, 1994, in percent)



Source: ADB, *Compendium of social statistics in the Philippines*, 1997

cluded is income foregone by students, which is a significant cost item for most students from secondary level onwards. Even with these caveats, however, the table does show how even public education is beyond the reach of many very poor families.

Savings are a major means by which Filipino families finance the education of their children. An increasingly popular way of doing so is through so-called "pre-need plans". These are annuity schemes under which parents pay for the plan over, say, five years, and receive payments after maturity, when their child is in school. Since its inception in 1980, the pre-need industry has grown on average by 20 percent per annum. Nevertheless, plan dropouts are high, with an estimated 55 percent of who commence failing to complete their payments [Haas 1998].

Household financing of education in 1997 amounted to P46.8 billion, or 1.8 percent of GNP [Table 3.12]. Of this amount, some 62 percent funded private education, while the rest went to public education. Basic education took up 61 percent, with 34 going to elementary and 26 to high school education.

In just three years, (1994-97) household financing rose by 50 percent. In aggregate, households spent P2,822 per student in 1994 and P3,801 per student (P3,094 in 1994 prices) in 1997. Spending per student by households is markedly different for private and for public education. Per student household expenditure on private education in 1994 was P4,986, 5.7 times that on public education (P869). In 1997, this disparity became slightly more pronounced with the ratio inching up to 5.8.

The major part of household financing of private education went to tertiary education (52 percent); elementary and secondary education receiving 21 percent and 26 percent, respectively. In comparison, elementary education captured the lion's share (58 percent) of household financing of public education, with secondary and tertiary education getting 30 percent and 12 percent, respectively.

Government assistance to students

Assistance to students at the secondary level is provided mainly under the Government

TABLE 3.11

Average Expenditure per Student by Families on Education Items in the Public and Private Sectors by Level, SY 1994-95 (pesos)

Item	Education Level					
	Elementary		Secondary		Tertiary[a]	
	Public	Private	Public	Private	Public	Private
Tuition and other fees	189	4,501	287	3,361	1,908	7,190
PTA	29	80	65	93	80	231
Other fees	181	686	232	693	655	1,253
Books	102	1,259	282	862	922	1,717
School supplies	361	1,015	411	723	779	1,091
Other materials	532	952	384	594	812	1,481
Uniforms	722	1,650	964	1,403	1,748	2,062
Transport	1,209	2,906	1,630	2,223	3,308	3,706
Board and lodgings	3,578	9,318	1,840	4,158	3,833	5,422
Total	6,903	22,367	6,065	14,110	14,045	24,153

[a] includes technical/vocational

Source: FAPE Survey 1995

Assistance to Students and Teachers in Private Education (GASTPE) program, which comes from the MOOE appropriation of DECS. Its proposed budget allocation for 1999 was P758,625,000. GASTPE consists of two schemes: the Education Service Contract (ESC) and the Tuition Fee Subsidy (TFS). The former was designed to enable students to enroll in private schools where no public high school exists, or where there is excess enrollment in the public school. The latter is designed to help families cover the tuition fees charged by private secondary schools. In 1998 ESC provided a subsidy of P1,700 per grantee, and the TFS paid a maximum of P290 per grantee. In 1997/1998 there were 219,048 students supported by ESC and 209,936 supported by TFS. This represented 16 percent and 15 percent, respectively, of total private secondary school enrollment in that period. Congress has recently expanded GASTPE to include the provision of subsidies to augment teachers' salaries and a textbook allowance, although this has not yet been implemented.

Unfortunately, neither scheme has proved to be effective in enrolling poor students, since the amounts provided are too low to bring the cost of secondary education within the reach of the poor. The ESC subsidy of P1,700 covers only 68 percent of the ceiling fee level under the scheme, while the TFS grant of P290 covers only 12 percent. Lengthy delays in the processing of claims and the release of payments further discourage needy families from participating.

Foreign assistance

Over the last two decades the Philippine education sector has been the recipient of a substantial amount of international development assistance [Table 3.13]. Resources have come from both multilateral and bilateral sources in roughly equal portions. It is interesting that while over two-thirds of foreign assisted projects (FAPs) over the period indicated were in basic education (the bulk being in elementary education) the technical/vocational education sub-sector received a disproportionate amount as well.

It should also be mentioned that a strong surge in foreign assistance to education is scheduled beginning in 1999 from the infusion of loan proceeds into the system, predominantly through the World Bank-funded TEEP. What this draws attention to is the critical role played by the availability of counterpart funds to facilitate the re-

TABLE 3.12
Household Financing of Education, 1994-1997

Level of Education	School Fees	Voluntary Contribution	Other Private Costs /a	Total
(Million pesos)				
Public Education				
Elementary	2,510.69	296.28	13,911.35	16,718.32
Secondary	1,431.11	127.19	7,089.68	8,647.98
Tertiary	1,109.72	10.72	2,933.91	4,054.35
Sub-Total	5,051.52	434.20	23,934.94	29,420.66
Private Education				
Elementary	4,408.70	51.55	4,561.10	9,021.34
Secondary	5,186.21	65.65	5,503.85	10,755.71
Tertiary	13,902.98	41.99	11,419.76	25,364.72
Sub-Total	23,497.88	159.18	21,484.71	45,141.77
Total	28,549.41	593.38	45,419.64	74,562.43
% Distribution				
Public Education				
Elementary	15.02	1.77	83.21	100.00
Secondary	16.55	1.47	81.98	100.00
Tertiary	27.37	0.26	72.36	100.00
Sub-Total	17.17	1.48	81.35	100.00
Private Education				
Elementary	48.87	0.57	50.56	100.00
Secondary	48.22	0.61	51.17	100.00
Tertiary	54.81	0.17	45.02	100.00
Sub-Total	52.05	0.35	47.59	100.00
Grand Total	38.29	0.80	60.91	100.00
% Distribution by Type of Expenditure				
Public Education				
Elementary	49.70	68.24	58.12	56.83
Secondary	28.33	29.29	29.62	29.39
Tertiary	21.97	2.47	12.26	13.78
Sub-Total	100.00	100.00	100.00	100.00
Private Education				
Elementary	18.76	32.38	21.23	19.98
Secondary	22.07	41.24	25.62	23.83
Tertiary	59.17	26.38	53.15	56.19
Total	100.00	100.00	100.00	100.00

[a] does not include expenditure on uniforms and board and lodging

Source: Annex B, Table B6

TABLE 3.13
Foreign Assistance to Education, by Source and Subsector (1982 -1996)

	US$ million	percent
Elementary	614	64.09
Basic education (combined)	69	7.20
Technical/vocational	104	10.86
Higher education	138	14.41
Nonformal education	33	3.44
Total	**958**	**100.00**
Multilateral agencies	**466**	**48.64**
ADB	60	6.26
World Bank	385	40.19
European Economic Community	12	1.25
UNICEF	8	0.84
UNDP	1	0.10
Bilateral agencies	**492**	**51.36**
AusAid	84	8.77
JICA	46	4.80
OECF	359	37.47
GTZ	3	0.31
Total	**958**	**100.00**

Source: Development Academy of the Philippines [1997] *Policies trends and issues in Philippine education*

lease of loan proceeds in FAPs. Although the relative contribution of counterpart funds will fall (e.g., from 63 to 44 percent between 1998 and 1999), they will still be required to rise. The rate at which foreign funds for education can be utilized, therefore, will hinge on whether counterpart funds can be budgeted.

Pressure points

A number of items may be considered pressure points in the budgetary allocations to the education sector, owing to their sheer size or rate of increase. These items are difficult to contain within budgets that are either static or growing only slowly, and their accommodation has a significant impact upon other expenditure items within those budgets. Three in particular can be identified:

- teacher remuneration;
- the school textbook program; and
- the creation of SUCs.

The remuneration of teachers in the public basic education sub-sector increased almost five times between 1985 and 1997, with a consequent squeezing of appropriations for both MOOE and capital outlays. Salaries rose from below the poverty threshold for a family of six in 1985 to a level 57 percent above it in 1997. While teachers' salaries in 1985 were only about twice the per capita GNP, by 1997 they had risen to almost thrice. [Table 3.14]

Thus, public school teachers enjoyed considerable gains in income in both nominal and real terms. They had, however, by 1997 moved considerably in advance of teacher salaries in the private sector — to almost 2.5 times as high. Not only has this distorted DECS' own budgets, but it has also led to an oversupply of new teachers entering the market and drawn teachers away from the private sector.

DECS has a policy of providing free textbooks to all its students, but this is a target that it finds increasingly impossible to reach. Even before the current crisis, however, serious prob-

lems had arisen with respect to this program. Privatization of the textbook production program has not been going smoothly, with delays and difficulties in procurement and unit costs rising rather than falling. The onset of the financial crisis meant that by the second half of 1998, neither the 1998 nor the 1997 textbook program had been implemented. The resulting ratios were 6 pupils per book at the elementary level, 8 pupils per book in high school. These figures are far from the DECS target of providing a book to each pupil.

DECS estimated that some P6.9 billion would be required in 1999 to achieve the target 1:1 ratio of books to pupils including instructional materials, and P3.6 billion to achieve a second-best solution of a 1:2 ratio [Table 3.15].

The DBM-recommended budget for textbooks in 1999, on the other hand, was P479.6 million, enough to purchase only 7,377,969 textbooks, or about 7 percent of what DECS estimated they need to meet their target (or 14 percent of the 1:2 target). Clearly the program is collapsing.

Alternative solutions that would go some way to meeting the problem are:

- cutting down on the number of textbooks each student requires;
- concentrating only on the acquisition of key textbooks in science, mathematics, English and Filipino;
- finding ways of reducing the cost of textbooks; and
- shifting more of the financial burden of textbook acquisition to LGUs and their Special Education Funds.

However, none of these solutions, not even all of them combined, would solve the problem completely.

Finally the issue of the creation of state universities and colleges — a process that has gone on largely unplanned, uncoordinated, and unjustifiable on education grounds — does not touch directly upon basic education and is not dealt with at length here. The matter is relevant, however, to the extent that SUCs continue to preempt budgets that would have been better spent on textbooks, buildings, and teacher training in basic education.

Emerging issues in education finance

Five major issues in education finance in the Philippines need to be addressed.

- how to meet all of the demands placed upon the sector when resources are limited, were being stretched to the limit even before the current crisis,

TABLE 3.14
Nominal and Comparative Changes in Public Teacher Remuneration (1985-1997)

		Ratio of public teacher salaries to:		
	Public teacher salaries (pesos)	Per capita GNP	Poverty threshold (family of six)	Private teacher salaries*
1985	20,547	2.02	0.91	
1988	32,910	2.44	1.15	
1991	49,376	2.42	1.13	
1994	62,799	2.42	1.18	
1997	107,017	2.98	1.57	1.66

* survey caried out by the Catholic Education Association of the Philippines

Source: DECS National Statistical Office

and are likely to continue to be tight for the foreseeable future;

- what the government's role in the education sector should be;
- how much education decision-making, provision, and financing to decentralize to the regional and provincial offices of national agencies, and ultimately to schools, on the one hand, and devolved to LGUs and Local School Boards, on the other;
- how to carry out proper planning when development and recurrent budgets are not adequately separated; and
- how to expand the educational opportunities of the poor.

Too few resources to meet competing demands

The demands made on the education sector come from many quarters.

Demographic change – the Philippines' birth rate remains high, so that up to 500,000 new education places must be found in elementary schools each year.

Social demands – the right to a free basic education is strongly embedded in Filipino society, as well as the desire for, and expectation of being able to acquire, a college education.

Economic demands – the Philippine economy requires increasing numbers of well-trained and educated workers with middle-level and more advanced specialized and professional skills, if it is to continue to develop.

Educational demands – the quality of educational delivery — teaching skills, abilities, and dedication, curricula, programs, support services, educational technology, etc. — must be maintained, and if possible improved. Most important here is the requirement for well-trained teachers, with corresponding status, career prospects, and remuneration.

Political demands – education has already been given top priority under the Philippines Constitution. Current practice in the legislature, however, does not always reflect stated priorities. It is unclear how Congress can be dissuaded from making pledges with respect to education without due regard for resource availability, or introducing changes (such as new SUCs) that can be achieved only by taking resources away from more pressing programs.

The various stakeholders in education— the students and their families, teachers, administrators, employers, politicians — all place demands upon the sector, hoping to derive benefits from it. However, it is evident that there is not always a close matching of demand and capacity to supply, or between who benefits and who bears the costs.

Table 3.15
DECS-proposed Budget for 1999 for Textbooks and Other Instructional Materials

Estimated enrollment 1998/1999	15,754,047
Estimated textbooks required[a]	126,032,376
Less: estimated usable textbooks	25,138,521
Net new textbooks required	100,893,855
(In thousand pesos)	
Book budget required for 1:1 ratio[b]	6,558,100
Book budget required for 1:2 ratio[b]	3,279,050
Plus: instructional materials[c]	327,906
Total budget for 1:1 ratio	6,886,006
Total budget for 1:2 ratio	3,606,956

[a] each student requires 8 textbooks on average
[b] cost per textbook assumed at P65
[c] estimated at 5 percent of 1:1 textbook requirement
Source: DECS 1999 Budget Presentation

Product devaluation, service depreciation, and overcrowding

The chief means of meeting the pressures of competing demands on the sector have been product devaluation, service depreciation, and/or overcrowding. This is evident in the following examples:

education inflation – the continuous upgrading and conversion of secondary schools and post-

secondary technical and vocational education institutions into colleges of higher education, through the introduction of four-year degree courses, without any substantial increase in the capacity of the institutions to deliver acceptable quality courses at this more advanced level.

dilapidation of facilities – the squeezing of MOOE and capital appropriations to meet increased personnel costs and the squeezing of maintenance and repair expenditures in the MOOE appropriations to include other mandated items and expenditures have led to the progressive decline in the quality of the education infrastructure.

expanded class sizes and fewer textbooks to go around – increased enrollments at most levels of education have outstripped classroom expansion and school textbook acquisitions. This has led to progressive increases in class sizes and to rising student to textbook ratios.

These solutions are clearly unsustainable, and other more rational methods of allocating resources need to be employed, i.e., *more effective planning and coordination* and *greater use of the price mechanism*.

More effective planning and coordination

Planning is required to increase the amount of resources available to the sector as a whole and to use existing resources more efficiently.

The amount of resources available to the sector as a whole may be increased by exploring ways of tapping previously under-utilized financial resources by:

- making greater use of local government revenue sources;
- shifting more of the burden of educational provision to the private sector;
- tapping alumni and other philanthropic sources;
- offering tax credits and concessions to potential private financial contributors to education programs and projects;
- exploring ways of accessing the Philippines capital markets;
- entering into joint training and research operations with industry; and
- approaching foreign donors for more loan and grant assistance;

Existing resources can be used more efficiently through the following measures, among others:

- eliminating waste and corruption in programs;
- prioritizing programs to concentrate resources in most valued programs, downgrading, postponing, and/or eliminating others;
- exploring economies of scale through the amalgamation/merger of institutions of inefficient size; and
- freeing-up of resources, increasing their mobility and flexibility, and removing rigidities in the deployment of teachers and other inputs.

Greater use of the price mechanism

While the private sector makes extensive use of tuition fees and other charges to ration entry into its educational programs, this allocation mechanism is hardly used in the public sector. Options for achieving greater cost-recovery from the users of public education sector services include:

- increased tuition fees;
- charging for the use of other education services;
- the sale of textbooks to students rather than providing them free, in conjunction with a textbook exchange for used textbooks;
- out-sourcing services currently provided in-house; and
- greater commercial use of education facilities, e.g. land, buildings, equipment.

In introducing price-rationing and cost-recovery measures, several considerations need to be kept in mind.

- changes should be gradual, with plenty of notice given of the impending changes to all parties affected;
- institutions should be given revenue targets, e.g., a requirement that they raise a given percentage of their budget in this manner; and
- hardship cases, especially among the poor, should be handled directly, through student subsidies allocated on a means-tested basis.

Government's role in education

Governments play three conceptually distinct roles in education: educational planning, regulation, licensing, standard setting; provision of education places — the ownership and operation of education institutions; education financing. The Philippine government is heavily involved in all three.

Trifocalization was an obvious attempt to rationalize the government's participation in the education sector in this respect. There is, however, a clear need for this process to be strengthened by:

- achieving a greater coordination between the three agencies involved;
- achieving a clearer and more rational jurisdictional balance between the three agencies that accords more closely with their supposed areas of responsibility;
- strengthening each agency's capacity to undertake the planning, budget preparation, and monitoring;
- strengthening their capacity to operate at the regional and provincial levels.

Education provision

Traditionally the government has been the dominant provider of basic education places, especially at the elementary level. It has, however, become increasingly involved in the direct provision of post-secondary and higher education through the continued creation of SUCs.

The government should review its priorities here. The case for it remaining the dominant provider of places at the elementary level is a good one — traditionally, and on economic, educational, and equity grounds. Elementary education being a public good is a sufficient argument. It may also be the case that government should remain a major provider of secondary education. At the tertiary level, however, the case is weak. The private sector in both the technical/vocational education area and in higher education is more cost-effective (lower per student costs, higher graduation rates, better achievement test scores), and more responsive to client (student, employer, and professional) demands.

Education finance

In the Philippines, education finance tends to follow closely educational provision — that is, most public funding goes to public educational institutions and the private financial contribution to those institutions is generally low. On the other hand, public subsidies to private education are also low. In both sectors, however, there are problems.

The relative financial burden on students and families in public education tends to be greater at the elementary and secondary level than it is at the post-secondary level, and this is regressive.

Moreover, the decision to limit the size of GASTPE and to distribute it as widely as possible means that the assistance levels per institution and per pupil are so low as to be of little practical help to the poor. This, too, is regressive.

What is needed is to reverse these tendencies by requiring a greater financial contribution from students at the post-secondary level, and having more effectively targeted public subsidies to private educational institutions. (In post-secondary education, it is possible for government to withdraw altogether from the direct provision and to concentrate its efforts on educational finance, e.g., through a voucher scheme.)

Decentralization and devolution

Decentralization and devolution of educational planning and financing are two quite separate processes, although they have similar aims — to shift some of the responsibility for education planning and financing away from the center, towards the local or community level. *Decentralization* involves giving regional and provincial offices greater financial and planning autonomy. DECS already passes many of these responsibilities down to its regional offices. In addition, however, decentralization should aim to give district supervisors and school principals a greater say in planning and financial management.

The process has two aspects — not only does it aim to have a greater decentralization of budget preparation and financial decision making, but also the setting of financial targets whereby those with these responsibilities are also obliged to recover part of the costs of their operations through local fund raising activities. (This is evident, for example, in TESDA's objective of transforming its supervised schools and centers into so-called "entrepreneurial institutions".)

Devolution, on the other hand, involves increasing the financial planning and responsibility for education of LGUs and their Local School Boards. Considerable movement has been made in this direction. Devolution is not only required in the school building program, but also in the more recurrent planning and funding of education. Especially important here is the development and implementation of means-tested assistance schemes for students from poor family backgrounds.

For devolution to be effective, however, LGUs must be encouraged to take on more of the responsibility for planning and financing of education, and their capacity to undertake it, especially through the LSBs, must be strengthened.

Recurrent and development budgeting and planning

Different time horizons are associated with the various components of education expenditure programs, and to be most effective, financial planning and budgeting should recognize and make provision for these. In the Philippine education sector almost all planning and budgeting is on an annual, calendar year, cycle.

It is appropriate that recurrent expenditures be planned and budgeted for on a short-term, generally annual, basis. Major capital works, however — new building and classroom construction, major renovations, large and expensive equipment purchases — require considerable planning, implementation, and delivery lead times, and the budgeting for them should be on a longer cycle, say, from three to five years. If these programs are budgeted on an annual basis, effective planning is not possible. Moreover, budgetary allocations to capital programs are placed on the same footing as, and have to compete each year with, those for recurrent expenditure programs. Uncertainty over the availability of funds on a year-to-year basis to pay contractors and suppliers to these programs becomes a major consideration.

Development planning and budgeting, which may involve both recurrent and capital items, also need to be treated differently from routine recurrent expenditure programs. Development programs can take a variety of forms. Specially targeted regional development programs are one example. So, too, are the development of special education programs, the introduction of new technologies, especially information technologies, into education programs, the fostering and development of research capacity and performance in higher edu-

cation, and programs for the improvement of access to education at all levels of students from poor backgrounds.

Effective planning and budgeting for development programs call for them to be taken out of the annual budgetary appropriation cycle. Time horizons as far out as ten years may be necessary for longer-term, more far-reaching development programs, such as those involving the introduction of new technologies, since not only may they require extensive capital works and equipment acquisition, but also well-planned and coordinated staff development and upgrading programs.

Access and equity

Equity is the major issue in education finance in the Philippines. In 1997 an estimated 27.3 million people, or 4.6 million families, were below the poverty line. These constituted 40.5 percent of the population, 35.5 percent of all families in the country. Improving access to quality education for young people from these backgrounds is a major challenge for education policy-makers.

Despite the obvious commitment to the ideal of universal access to free quality education, this goal thus far proved elusive, and its achievement extremely difficult. As already noted elsewhere, 32.5 percent of children who begin public elementary school do not reach Grade 6. What is more, the variation across the country in elementary school drop-out is far from even. It is close to zero in the NCR, but as high as 70 percent in the poorer regions of Mindanao and the Visayas. Of those that do go on to public secondary schools, a further 33.2 percent drop out before completing fourth year. Drop-out rates at the secondary level also vary, inversely, between poorer and more affluent parts of the country. Participation rates in post-secondary education vary directly with income levels between regions.

Social and cultural considerations no doubt contribute to these differences, but by far the most important factor is the cost to the family of continued attendance at school and college. Out-of pocket expenses, even for 'free' public elementary education, can prove crippling for very poor families, especially large ones. But even more critical is the opportunity cost associated with keeping children in school. While elementary education is meant to be compulsory, earnings opportunities do exist for children in this age bracket, and these can be significant in the decisions of the poorest parents as to whether their children stay in school or not. Poverty generally brings with it much shorter time horizons than those more affluent families can afford to apply to their children's education. Moreover, as the earnings foregone component of education costs rise with age and the level of education, the choice becomes more difficult with time. Another frequently important consideration with poorer families is the role older children are required to play in looking after younger siblings while their parents are out working.

The problem is compounded when low quality education is provided to poor areas. Unfortunately, the combination of national government patterns of allocation between regions, provinces, and schools (and between levels of education) and the unevenness of LGU expenditures on education has not served the poor well. Neither has the amount and distribution of student assistance provided by governments so far contributed significantly to the improvement of access to education for the poorest. What is available is insufficient, fragmented, and poorly targeted, so that too much of it has benefited those who need it least.

Access to quality education for the poor would be significantly improved if resource allocation to schools took account of the great variations in the capacity of parents to contribute to their operations, and to fund sundry expenses. This would involve a major review of the formulas currently applied by the national agencies in establishing individual school budget appropriations (or their share of them), and the earmarking of IRA to LGUs in the poorest locations for specific educational purposes.

It would also require an overhaul of the current program of assistance to pupils and their families. Much more funding is required for a streamlined and consolidated program. Most crucially, the importance of foregone earnings as a key consideration in the costs of education for the poor must be acknowledged. Means-tested living allowances would have to be an integral part of such a program.

Policy recommendations

Clearly there is an urgent need for a more cohesive sectoral approach to education with regard to management, planning, and budgeting. Then the education and training sector could be more clearly related to other sectors and the community, to the development needs of the country, and to the competing claims on the government's limited resources. This would allow better identification and prioritization of intrasectoral needs in the budget. The maxim that without budgets there can be no effective planning, and without planning there can be no effective budgets could then be implemented at both the strategic and operational levels.

Allied to this is the need to place budget planning on a more stable, longer-term basis. A system of rolling plans covering three years or more should be introduced, including forward estimates.

Budget procedures themselves should be streamlined and subject to scrutiny primarily within the education sector, using sound educational planning criteria, rather than be left to more narrow, and necessarily crude, financial criteria.

For planning future budgets, the education sector is in great need of the following sector-wide policy directions.

A regional strategy – which translates the particular demographic, geographic, social, industrial development, and employment needs of each region into education and training strategies and priorities. This requires the active cooperation, at the regional level, of the three education agencies, regional economic agencies, representatives of industry, employers and the community.

An equity and access strategy – designed to ensure that everyone, regardless of socio-economic background, gender, intellectual and physical capacity, ethnic/religious/cultural background, has the opportunity to participate to the fullest possible extent in education and training. This would involve, *inter alia*, developing concrete fully costed proposals to target vulnerable groups.

A development strategy – which assesses longer term demographic changes; the Philippine economic development strategy and its needs for skilled human resources at professional/high level technologist, technician, craft and operative levels; and changes in information technology and its impact upon the delivery of education and training, e.g., through the use of computers in schools, distance education, simulated training environments, etc. This includes development funding proposals, including those for consideration by foreign donors, and for submission to Philippine financial institutions.

These proposals clearly require the active participation and cooperation of the three education agencies plus DBM and NEDA, and may entail the establishment of a formal coordinating mechanism.

DECS priorities

Responding to the 1987 Constitutional requirement that basic education should be free has dominated DECS educational planning over the last decade. It had always had a virtual monopoly of elementary school provision, but in the last ten years, it has expanded its provision of places at the secondary level (from around 50 to 70 percent of places). While much of this expansion has been as a result of increased participation rates in secondary education, it has also been at the expense of private sector enrollments. More importantly, however, it has resulted in a failure to keep pace with elementary school enrollment (private enrollments have increased as a proportion of

total enrollments at this level), a reduction in the quality of educational provision at both levels, falling education standards, and the near collapse of the school textbook program.

DECS should reorder its priorities, giving top priority to providing quality elementary education. A solid early foundation would improve the efficiency of subsequent investments. Moreover, a restoration of adequate public resourcing of public elementary schools would reduce the need for family expenditures on education — a major factor in school drop-outs among the poor.

Emphasis at the secondary level should switch from further expansion of educational provision to greater financial support for private education provision. As the private sector is a generally more cost-effective provider of secondary education, such a shift in emphasis, if carefully managed, would lead to a more efficient use of public funds.

GASTPE

To achieve this, Government Assistance to Students and Teachers in Private Education (GASTPE) requires a thorough overhaul to bring a sharper focus upon secondary education. Better resourcing is essential and should be provided separately from the MOOE appropriation of DECS. Its two components, the Education Service Contract (ESC) and the Tuition Fee Subsidy (TFS), should be separated.

The ESC component should aim at covering more of the standard private school fee if it is to be anything more than a subsidy to more affluent students and their families. If no new public secondary schools are built, the savings out of the School Building Fund (SBF) could be transferred into the ESC. The School Building Program (SBP) allocation for secondary schools in the 1999 expenditure program was P610 million (DECS proposed P5.2 million). The addition of these funds alone would more than double the GASTPE appropriation (P569 million) for that year.

The TFS component could be used to form the basis of a more general student assistance program for secondary students in both public and private schools. This would help offset some of the cost-recovery measures that are already part of the private sector's financing, and which should be given careful consideration (especially with respect to whether they are contrary to the Constitution) in public secondary education financing. TFS should be means-tested. The savings from the sale rather than the free provision of textbooks (around P450 million in 1999), would be a useful addition to funding. An even bigger boost would come from some of the savings made from the "teaching-only" deployment recommended below.

Personnel expenses

Personnel expenses are the largest part of the DECS budget and squeeze MOOE and capital appropriations to an unacceptably low level. Alleviating the squeeze means using personnel with maximum efficiency and effectiveness.

The remuneration of teachers in public schools has grown substantially in recent years, to a point where it now is well in excess of that of teachers in the private sector. No further increases should be contemplated for the next year or so, and then only in line with those in the private sector.

The current practice of assigning teachers to do administrative/clerical functions at the local schools and district offices, that could otherwise be assigned to lower level positions, should be abolished. This will require close cooperation between DBM and DECS in the approval for non-teaching positions. The potential savings to be gained from adopting such a teachers-teaching only deployment are sizeable, amounting to as much as P1.47 billion in elementary and P804 million in high schools, or almost P2.3 billion [Maglen and Manasan 1999: 58]. These could be used not only for much needed supplements to MOOE, but also to augment the proposed means-tested student assistance scheme.

Larger class sizes need not be less effective if teaching methods are adjusted to accommo-

date them through group teaching, for example. Greater use of teaching assistants, such as the lower paid extension teachers engaged by the LGUs, should also be explored.

DECS urgently needs more flexibility in deploying teachers, so that shortages in some areas can be covered by surpluses in others. This would reduce the need to hire additional staff for the purpose. While there are constraints imposed by the Magna Carta for Public School Teachers on the involuntary physical reassignment of teachers, inducements in the form of higher remuneration or better promotion prospects, etc., could be offered. This would still be cheaper than hiring new staff. Flexibility at the secondary level could also be enhanced if teachers were required to teach across more discipline areas, expanding their range of competence and specialization.

Maintenance and other operating expenses

Increasing the amounts available for maintenance, operating, and other expenses (MOOE) in the DECS budget is clearly a top priority. One way to do this is to rationalize the deployment of teachers; even within existing budgets, however, there is scope for rationalizing and prioritization.

Reforms in the current system for the procurement of textbooks and desks (see below) would release additional funds for priority items such as school maintenance and repairs. This would leave more funds available for priority items such as school maintenance and repairs, ensuring an adequate supply of consumables, laboratory equipment and supplies, and staff development.

Savings could also be realized if the MOOE budget were more efficiently employed. This entails closer monitoring of how appropriations are spent — whether they are actually spent on the items they were meant to be, whether there is any waste or corruption in the programs that could be eliminated, and so on.

School textbooks

This is a major area where cost-recovery could be implemented. For reasons of sound pedagogy, DECS would like the current book:pupil ratio of 1:6 in elementary schools and 1:8 in high schools to 1:2 or even 1:1. Clearly this is beyond the current means of the government. Proposals for a second-best solution therefore include:

TABLE 3.16

Estimated Cost to Families of Proposed Sale of Textbooks, and Potential Cost Savings to Government

Estimated cost of achieving a 1:1 student-textbook ratio	P6,558,100,575
Actual CY 1999 Budget allocation for textbooks	P479,568,000
Assume: each student requires on average 8 textbooks.	
Each new textbook costs P65	P520
Therefore maximum cost per student per annum is:	
Assume: textbooks last three years	
Suppose, with the establishment of a school textbook exchange	
One-year old textbooks sell at P32	
Two-year old textbooks sell at P16	
Cost per annum to family of (a)	P256
Cost per annum to family of (b)	P128
These costs would be even lower if textbooks were handed down to younger siblings	
(Note: average annual expenditure on tobacco of a family in the fourth income decile in 1997 was	P2,544

Note: average annual expenditure on tobacco of a family in the fourth income decile in 1997 was P2,544

Source: computations by Maglen and Manasan

- a review of textbook requirements with the view to cutting back the numbers needed at each level;
- measures to reduce the unit cost of textbooks, including a review of the public tendering process;
- prioritizing textbook ordering, with precedence being given to science, mathematics and English and Filipino textbooks;
- use of the LGUs' Special Education Fund to help finance textbook ordering.

While the first two should be implemented in any event, the most effective solution would be to require students to buy their own textbooks. This would probably not violate the provision for free eduction, but would result in considerable savings that could be better applied to more pressing education programs. On the other hand, means-tested assistance should be available for students from low income families. The cost to students could be further defrayed by each school operating a Textbook Exchange, for the selling and buying of used textbooks.

The following calculations illustrate how modest the costs of this proposal would be to families, and how much it would save the government.

School desks

This item in the DECS budget could be greatly reduced with the cooperation of TESDA. DECS could contract TESDA to supply a limited number of desks to set specifications. The cost per unit would be for materials and delivery only. Construction would be by students under supervision in TESDA schools and training centers. In this way both agencies gain from the exchange. DECS gets its desks more cheaply, and TESDA not only gets an additional source of funds, but valuable hands-on practical experience for its trainees.

The DECS appropriation for school desks in 1999 is P295 million (DECS had asked for P1,279 million). If the labor component of the cost of constructing desks is estimated at between 40 and 50 percent, then the potential savings from such an arrangement could be between P118 million and P148 million. Put differently, this scheme could have allowed DECS to construct between 46 and 58 percent of the desks they asked for, not the 23 percent they will without the scheme. Whether TESDA institutions can in fact provide desks in the volumes required needs further investigation. The approach should not be overdone, and a careful balance must be maintained between theoretical and practical training experience.

The school building program

The school building program should concentrate on ensuring that the supply of acceptable quality elementary school classrooms is provided in the public sector. Further school building at the secondary level should be curtailed, and the funds saved should be transferred to the ECS.

The long-standing goal of having one elementary school in every barangay, and one high school in every municipality should be abandoned as impractical and unaffordable. Close attention should be paid to consolidating schools in nearby locations, and to providing school-bus services where these are appropriate. DECS' intention to undertake a school location planning exercise, and to explore such alternatives as Build, Operate and Transfer schemes are moves in the right direction.

More effective design of school buildings would lead to lower costs per square meter of construction, as would the closer scrutiny and monitoring of the public tendering of construction contracts. It is claimed that LGUs could build schools cheaper than the DPWH can. Table 3.16 estimates the cost savings associated with the former taking over responsibility for this from the latter.

Existing LGU expenditure on education is potentially sufficient for the construction of elementary schools commensurate with population growth. However, in practice, only 16 percent of LGU education expenditure goes to

TABLE 3.17
Comparative LGU-DPWH Costs in School Building Construction

	LGU	DPWH
Unit cost	180,000	350,000
No. of classrooms built at P2.5 billion appropriation	8,197	2,500
Difference in number of classrooms	5,692	...
Potential savings (5,692 × 180,000) (million pesos)	1,025	...

Source: computations by Maglen and Manasan [1999]

school building construction. It appears that DECS' School Building Program (SBP) acts as a disincentive to LGUs in this respect.

To encourage LGUs to take on their devolved function, SBP funds may be used as matching grants. In view of the fact, however, that cities account for 50 percent of LGU education expenditure, while accounting only for 25 percent of population, regional inequality in education outcomes may be exacerbated. A cost-sharing arrangement with a safety net provision might be the most appropriate. Ultimately, SBP should be phased out as the LGUs take full control of the school building function.

Teacher training

Teacher training is currently conducted in higher education institutions that use "laboratory" schools — elementary and secondary schools attached to, and operated by, those institutions — for the purpose of giving students practical classroom experience. Since the practicum is only part of the teacher training curriculum, this is an inefficient and costly component of teacher training. Consideration should instead be given to the laboratory schools reverting to DECS supervision. For the higher education institutions that require practical classroom experience, their teacher trainees should enter into contracts with nearby schools for this purpose, but only for that amount of time and for the services that they require, a common practice in many other countries.

Laboratory schools would be taken out of the higher education sub-sector and located back in the basic education sub-sector where they belong. The cost of running those schools would be reduced, since they would no longer be part of the more expensive higher education system. The cost of conducting teacher training programs would be reduced, since the cost of providing practical classroom experience for trainees would be the contract fees paid to participating schools, not the whole cost of running those schools. Revenue received by the basic education sector would be augmented by the contract fees paid by the teacher training institutions.

These recommendations by themselves are by no means a panacea. They do however hope to present the sort of new financing and budget initiatives required to pull basic education out of the deepening rut of mediocrity in which it finds itself. ◗

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FOUR

Human development at century's close

THE CLOSE of the 20th Century is a proper time for the Philippines to take stock of its current achievements in human terms. Current human achievement, after all, is the base from which future progress is to be expected.

Previous editions of the Philippine Human Development Report [1994 and 1997] have reported on the progress of provinces in terms of the human development index (HDI). The HDI is a simple tool that seeks to measure human development through a composite index. It reflects "achievements in the most basic human capabilities — leading a long life, being knowledgeable, and enjoying a decent standard of living" [UNDP 1999:127]. The *Human development report* (HDR), published globally since 1990 by the United Nations Development Programme (UNDP), ranks countries on the basis of the HDI. While the method for computing the HDI has gradually evolved over the past decade, dictated by the need for cross-country comparability and a desire to better capture the concept, its basic components have not changed. Corresponding to these components, the HDI as measured internationally includes life expectancy, literacy and the combined enrollment rate in education, and a properly adjusted measure of real per capita income (Table 4.1).

The latest issue of the HDR [UNDP 1999] shows the Philippines ranking 77th among 174 countries, with an HDI of 0.740 (using a new methodology). This places the Philippines in a category of countries with *medium* human development. Past analyses of the country's performance suggest that the Philippines appears to fare best in the knowledge-related measures. The country's performance in components such as adult literacy and enrollment ratios exceeds the average for medium-HDI countries by much more than in life expectancy and income. Its life expectancy and income are better by only 2.5 percent and 6 percent of the average for medium-HDI countries (Table 4.2). However, its adult literacy and combined enrollment rates are 25 and 28 percent better than the average for countries in the same category. As a result, its HDI comes closer to those of countries with even higher levels of income, such as Thailand or Malaysia. Comforting as this sounds, however, it should not be oversold. It is not as if the Philippines had traded off income for higher levels of knowledge. As the earlier chapters of

TABLE 4.1
Components of the Human Development Index

Achievement	Measure
Long and healthy life	Life expectancy
Knowledge	Simple literacy Combined enrollment ratios
Decent standard of living	Adjusted real per capita income

this report have pointed out, this apparent superiority needs to be discounted once the issue of quality of Philippine education is taken into account.

Notwithstanding such qualifications, however, significant Philippine achievement in human development over the last two decades of this century cannot be denied, especially given the challenges the country has had to face. The rate of improvement in human development, as measured by the HDI, has steadily improved since 1975. Although it slowed significantly during the years of economic and political turmoil between 1980 and 1990, it is significant that it did not fall, notwithstanding the drastic decline in real incomes (Figure 4.1), testimony to the Aquino and Ramos governments' commitment to sustaining a minimum level of human priority spending even in the midst of crises. Since then the rate of improvement has been respectable. The Philippines also turns in a creditable record with respect to the Gender-related Development Index (GDI), a measure that adjusts the HDI for gender inequality. The country's 1997 GDI-rank is three notches higher than its HDI rank, indicating that the Philippine women are in a better position than other countries with a similar value of HDI. This was also confirmed on an inter-provincial basis by the 1997 edition of the *Philippine human development report*.

Aside from analyzing the trend of human development for the Philippines in comparison with other countries, a continuing contribution and concern of the *Philippine human development reports* (PHDR) has been to generate human development indicators for the local level. The objective of the effort is not merely to provide useful data for researchers but frankly to generate awareness, constructive critique and claims from the people, and ultimately a response from their political representatives and agents. For this reason, it is important that the data generated should be disaggregated to a level where people can hold their leaders and themselves accountable.

TABLE 4.2
Philippine HDI in International Comparison (1997)

	Life expectancy (years)	Adult literacy (percent)	Enrollment (percent)	GDP per capita (PPP$)	HDI
Philippines	68.3	94.6	82	3520	0.740
Thailand	68.8	94.7	59	6690	0.753
Malaysia	72.0	85.7	65	8140	0.768
Medium-HDI countries	66.6	75.9	64	3327	0.662
Philippine score as proportion of medium HDI score	1.025	1.246	1.281	1.058	1.118

UNDP [1999] *Human development report*.

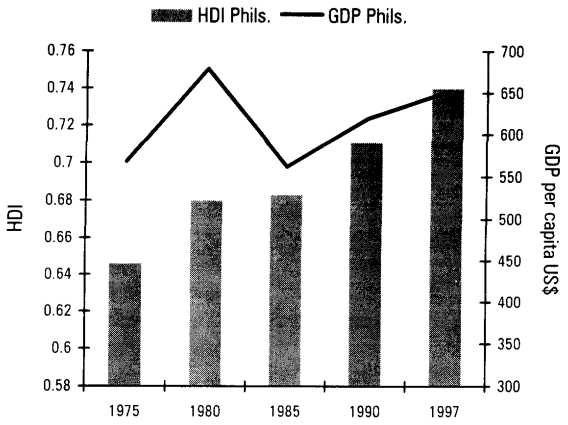
In the rest of this chapter, trends in each of the components of the human development index are analyzed at the level of provinces, and progress in the summary HDI measure over a given period covered is assessed.

A long and healthy life

There has been a steady increase of life expectancy across provinces. The estimated life expectancy for the country as a whole in 1997 was 67.21 years, a gain of more than two years over the figure 65.16 years for 1994. It is encouraging that no province shows a decline in life expectancy over the period.

Notwithstanding the steady progress in life expectancy, however, the presence of great provincial disparities is still evident (Table 4.3). Pampanga was the province with the highest life expectancy (71 years). A gap of almost twenty

FIGURE 4.1
HDI and GDP Per Capita Through Time:
Philippines (1975-1997)



Source: UNDP [1999] *Human development report*

years separates it from Tawi-Tawi, where people may expect to live only 52 years on average. Even Pampanga's high life expectancy, however, is far below any of those of countries regarded as having high human development, where in 1997 people could on average expect to live 77 years [UNDP 1999]. Life expectancy of 71 years is roughly comparable with that of Mexico, Hungary, or Bulgaria. Tawi-Tawi's level, on the other hand, matches that of Kenya (52 years) or Namibia (52.4 years). It is striking how once more the four provinces of Muslim Mindanao (ARMM plus Basilan) together continue to be plagued by the lowest life expectancy in the country. On the other hand, except for Cebu province, the top performers are all in the Luzon island group.

Provinces with high levels of functional lit-

TABLE 4.3
Top and Bottom: Life Expectancy
(in years, 1997)

Top ten	Years	Bottom ten	Years
Pampanga	71.0	Mt. Province	61.7
Cebu	70.5	Eastern Samar	61.6
Batangas	70.1	Basilan	61.4
Bulacan	69.8	Agusan del Sur	61.1
Rizal	69.3	Western Samar	60.9
Cavite	69.1	Ifugao	60.9
Nueva Ecija	69.0	Lanao del Sur	57.1
La Union	68.9	Maguindanao	55.8
Ilocos Norte	68.9	Sulu	52.9
Camarines Sur	68.7	Tawi-Tawi	51.9

Source: National Statistical Coordination Board

TABLE 4.4
Some Determinants of Life Expectancy*
(dependent and independent variables in logarithms, 1997)

Variable	Coefficient
Constant	2.49054
Functional literacy (1994)**	0.18656
Basic education enrollment rate (1997)*	0.10721
Real income per capita (1997)*	0.04115
Adjusted R-squared	0.50496
N including Metro Manila	78

*cross section; ordinary least-squares estimates by HDN
**significant at one-percent level;
*significant at five-percent level
Data source: National Statistical Coordination Board

eracy, high enrollment in basic education, and high average incomes also tend to display high life expectancy. Indeed these factors can explain up to half of the variation in life expectancy (Table 4.4). The reasons for this relationship are straightforward: high levels of knowledge among the people lead to better health practices and health knowledge. Real incomes per capita, on the other hand, may be regarded as a proxy for access to and availability of health services, since provinces with higher incomes tend to earn greater government revenues and provide better social services, including public health services, infrastructure, and presence of health professionals; similarly, higher incomes allow people access to privately provided health care. The 1994 PHDR also suggests a virtuous cycle may exist, in which local governments in provinces with high levels of human development also tend to spend a larger proportion of their revenues on human priorities.

Knowledge

It has already been noted that the Philippines as a whole performs above the average on components of the HDI dealing with education. Literacy and school-enrollment ratios, especially the latter, are markedly higher than in some countries that are clearly more affluent. This report presents two measures of knowledge at the provincial level: the *basic enrollment ratio* and *functional literacy*. The functional literacy statistic unfortunately could not be updated pending the next Functional Literacy, Education, and Mass Media Survey (FLEMMS), and it is therefore still based on 1994 survey results. The basic enrollment ratio, meanwhile, is the proportion of children aged 7-16 years, who are currently enrolled.

These measures of knowledge are more stringent than those used in computing the global HDI, which uses only simple literacy (ability to read and write a simple message) rather than functional literacy, and the combined enrollment ratio for elementary, high school, and university levels rather than only the basic enrollment ratio. As for the first difference, clearly the relevant concept is *functional* and not simple literacy. Probably the only reason the global HDR uses simple literacy is the absence of comparable data for functional literacy across countries. There are also good reasons for excluding university enrollment in presenting provincial statistics. Unlike elementary and high school pupils, college students are more mobile (gravitating to provinces with university towns, e.g., Mountain Province). A good number of them may be transient and not native to the province, so that it would be less valid to attribute their numbers to development efforts of the local population and local government.

TABLE 4.5
Top and Bottom: Enrollment Ratios
(in percent, 1997)

Top	percent	Bottom	percent
Mt. Province	99.10	Guimaras	73.27
Batangas	93.83	Agusan del Sur	73.27
Abra	93.39	South Cotabato	72.02
Laguna	93.03	Davao Oriental	70.40
Bulacan	92.22	Lanao del Norte	69.57
Benguet	90.90	Basilan	69.45
Bataan	90.71	Tawi-Tawi	67.53
Eastern Samar	90.68	Bukidnon	67.31
Pangasinan	90.58	Sarangani	63.85
Ilocos Sur	90.32	Maguindanao	51.70
Zambales	89.97	Sulu	43.48

Source: National Statistical Coordination Board

Second, there is the issue of education quality, which is the issue of this report. The variation in quality among universities and colleges is probably much greater than in elementary and high school, so that including college enrollment would introduce more error and overstatement in the measure of education. In any event, the very thrust of the human development approach should dictate that first attention should be focused on basic education, which is the more relevant goal for the great majority of the people.

The enrollment rate for basic education, that is, the proportion of the elementary- and high school-age population (7-16 years) actually enrolled in elementary or high school, was 83 percent. This was an improvement over the basic enrollment rate of 76 percent in 1994. The province with the highest enrollment rate in 1997 was Mountain Province, with an almost universal (99 percent) enrollment rate, also indicating its status as an education center. Other provinces with enrollment rates of some 90 percent or more included Batangas, Abra, Laguna, Bulacan, Benguet, Bataan, Eastern Samar, Pangasinan, Ilocos Sur, and Zambales (Table 4.5).

At the bottom of the list was Sulu, where only 43 out of every hundred school-age children were actually enrolled. This was a further drop from an already low level of 49.8 percent in 1994 and should be a cause for serious concern. A fact that stands out once more is that, except for Guimaras, all provinces at the bottom of the list are in Mindanao. Moreover, all provinces of Muslim Mindanao provinces except for Lanao del Sur are on the list. Two factors, which have already been discussed at length in Chapter 1, need to be noted here. First is the question of access, that is, whether national and local governments are spending sufficiently and in the right directions to make education available to the local population. A second issue is whether the content of the curriculum is so designed that it is found sufficiently relevant and useful by families to continue sending their children to school. The second factor is especially important in areas with large cultural communities — such as Muslim Mindanao — whose traditions and aspirations are only poorly reflected, if at all, in the standard curriculum delivered by the state education system.

Unlike life expectancy, where constant progress is noted, some provinces registered significant declines in basic enrollment ratios between 1994 and 1997 (Table 4.6). A precipitous drop of almost 13 percentage points was seen in Aklan, followed by a drop of more than 6 percentage points in Sulu. It should be a cause

TABLE 4.6
Provinces with Reduced Enrollment Ratios

Province	1997	1994	Difference
Aklan	74.25	86.96	-12.72
Sulu	43.48	49.88	-6.40
Camiguin	73.76	79.97	-6.21
Guimaras	73.27	79.25	-5.98
Maguindanao	51.70	54.37	-2.67
Siquijor	77.36	79.81	-2.45
Batanes	84.70	86.18	-1.49
Misamis Occ.	73.84	75.31	-1.48
Cavite	87.81	88.95	-1.14
Sarangani	63.85	64.66	-0.81
Misamis Oriental	76.02	76.30	-0.28
Ilocos Norte	85.19	85.36	-0.17

Source: National Statistical Coordination Board

for concern that the list includes some of the worst performers. Nonetheless, not even relatively affluent areas were spared: Cavite also suffered a drop in enrollment rate, albeit smaller. The reasons for such drops in enrollment ratios have not been fully investigated. Data across provinces, however, suggests that income may have a significant influence on enrollment ratios.

Provinces with higher per capita incomes are on average also likely to have higher enrollment ratios (Table 4.7); other studies (e.g., Lim [1998] have also shown that at the national level, changes in real GDP per capita through time do affect enrollment. It has already been noted (Chapter 3) that household expenditures on schooling are significant, even for families sending their children to public schools. It stands to reason, therefore, that as incomes fall, enrollment suffers, since parents will withdraw their children from school as school budgets are sacrificed for more urgent priorities such as food and some children are mobilized as auxiliary workers to augment family incomes.

TABLE 4.7
Enrollment Ratio and Real Income Per Capita[a]
(both dependent and independent variables in logarithms, 1997)

Variable	Coefficient
Constant	2.043599
Real income per capita (1997)**	0.244220
R-squared	0.322394
N including Metro Manila	78

[a]cross section; ordinary least-squares estimates by HDN
**significant at one-percent level
Data source: National Statistical Coordination Board

Real incomes

This brings the discussion to the third component of the HDI, which is income. Like enrollment ratios and unlike functional literacy and life expectancy, real incomes per capita can reflect short-run fluctuations. It is startling nonetheless that per capita incomes for some provinces were lower in 1997 than they were in 1994 (Table 4.8). It is most likely that some of the decline was due to the effects of the Asian crisis and the drought, both of whose effects began to be felt in 1997 and worsened in 1998.

Provinces with the highest and lowest per capita incomes based on the *Family income and expenditure survey* are shown in Table 4.9. Outside of the National Capital Region, which possessed the highest real income per head of

TABLE 4.8
Provinces with Negative or Zero Changes in Real Per Capita Incomes
(in percent, 1994 and 1997)

Province	Percent Decline
Lanao del Sur	-18.02
Cagayan	-14.61
Eastern Samar	-11.98
Sarangani	-8.67
Surigao del Sur	-6.77
Marinduque	-4.99
Occidental Mindoro	-4.72
Leyte	-3.36
Sulu	-2.45
Negros Occidental	0.53

Source: National Statistical Coordination Board, *Family income and expenditure surveys* 1997, 1994

P48,490, the top three provinces were Batanes, Bataan, and Cavite, while the lowest incomes were found in Sulu, Lanao del Sur, and Lanao del Norte. Sulu's income per head was only 17 percent of Metro Manila's and 26 percent that of Batanes. It is a measure of the geographical disparity in incomes that only nine provinces had incomes higher than the national average.

The high incomes of some provinces in the Southern Tagalog and Central Luzon area are hardly surprising, given their level of economic sophistication. The advantage Bataan possesses, no doubt, is due to its relatively smaller population, compared to some of the more mature provinces that have become the focus of immigration. The high income of Batanes may seem surprising, given its isolation and the low impact that modernization has had on it. It should be remembered, of course, that income in a situation where accessibility restricts available choices will probably be overstated in what it truly affords. Batanes also suffers from a life expectancy that is below the national average, no doubt also partly due to its inaccessibility. Deeper study is required, however, to explain the types of economic activities that have permitted Batanes to obtain such an income advantage.

TABLE 4.9
Top and Bottom: Annual Real Incomes Per Capita
(in 1994 pesos)

Top	Income	Bottom*	Income
Batanes	31626	Maguindanao	10841
Bataan	31095	Davao Oriental	10764
Cavite	29269	Agusan del Norte	10540
Rizal	26234	Tawi-Tawi	10318
Bulacan	26141	Masbate	9893
Laguna	25243	Eastern Samar	9821
Batangas	23546	Siquijor	9661
Pampanga	22716	Lanao del Norte	9637
Ilocos Norte	22497	Lanao del Sur	9497
Benguet*	20788	Sulu	8181

*Below national average income
Source: National Statistical Coordination Board

HDI levels

The treatment of income is the aspect of HDI computation where methodology has been most subject to revision. Life expectancy, literacy, and enrollment all have natural minimum and maximal limits, which serve as the natural yardsticks for a country's or province's achievement. The same is not true for income, where no natural limit exists.

The current volume reports HDIs using a methodology (more closely described in a technical appendix) that was already applied in the previous PHDR (1997). The manner of treating income in particular is sensitive to gaps in income between the richest region in the Philippines (Metro Manila) and the rest of the country. The data were supplied and the results using this method were generated by the government's own National Statistical Coordination Board (NSCB), in the first quasi-official effort of this kind. The basic data are provided in the appendices to this report. The differences between the method of computing the HDI applied here and the global HDI are set out in Table 4.10.

Applying this method yields the league table in Statistical Annex 1, which ranks provinces according to the human development in-

TABLE 4.10
Indicators Used in HDI Computation

	Longevity	Literacy	Combined Enrollment rate	Income per capita
Global HDI	Life expectancy	Simple Literacy	Elementary, secondary, and tertiary	GDP per capita in purchasing power parity US$
maximum	85 years	100 percent	100 percent	40,000
minimum	25 years	0 percent	0 percent	100
This Report	Life expectancy	Functional literacy	Elementary and Secondary	Real income per capita in 1994 prices
maximum	85 years	100 percent	100 percent	highest income in 1997
minimum	25 years	0 percent	0 percent	lowest income in 1997

dex (HDI). It is to be noted immediately that the NCR region stands out as the only place with an HDI of 0.8. Only four provinces of 77 have HDIs close to 0.7 or better. Thirteen provinces have HDIs of less than 0.5,while the majority are in between.

The ten provinces with the highest levels of HDI for 1997 were Bataan, Cavite, Batanes, Bulacan, Rizal, Batangas, Laguna, Pampanga, Ilocos Norte, and Benguet. Their HDI levels ranged from 0.72 for Bataan to 0.62 for Benguet (Table 4.11). Bataan, which ranked only eighth in 1994, dislodged Cavite from the top spot. Benguet and Ilocos Norte, which were not in the top ten in 1994, joined the group, replacing Nueva Ecija and La Union.

Since 1994, Sulu has not moved from the bottom of the list. As expected, the provinces of Muslim Mindanao (ARMM plus Basilan) are all among the bottom ten. Ifugao and Masbate are the only Luzon provinces, while Northern Samar is the only Visayas province. Lanao del Norte, formerly twelfth, has dropped further and joined the list, while Western Samar has moved out.

It can never be emphasized enough that the HDI rankings of provinces may differ quite markedly from a ranking based on income alone. For example, Ifugao has a higher recorded per capita income of P14,352 than Mountain Province with P13,953. Yet Ifugao has a lower HDI, since life expectancy, enrollment rates, and functional literacy are lower than for Mt. Province. These other aspects, therefore, outweigh

TABLE 4.11
Top and Bottom: Ten Provinces in HDI, 1997

1994 Rank[a]	Top provinces	HDI 1997	1994 Rank[b]	Bottom provinces	HDI 1997
8	Bataan	0.723	7	Masbate	0.487
1	Cavite	0.721	9	Northern Samar	0.482
3	Batanes	0.709	8	Agusan del Sur	0.478
4	Bulacan	0.700	12	Lanao del Norte	0.465
3	Rizal	0.690	3	Ifugao	0.448
6	Batangas	0.681	5	Basilan	0.434
5	Laguna	0.672	6	Lanao del Sur	0.408
7	Pampanga	0.646	4	Maguindanao	0.403
12	Ilocos Norte	0.644	2	Tawi-Tawi	0.425
11	Benguet	0.624	1	Sulu	0.331

[a]number of places from the top, e.g., 1 = top

[b]number of places from the bottom, e.g., 1 = last

BOX 8

Percentage gap changes

The percentage improvement in HDI is a commonly used measure of achievement and has the advantage of being easily understood. The percentage change is given by the following formula:

$$\text{Percentage improvement} = \frac{HDI_t - HDI_{t-1}}{HDI_{t-1}}.$$

It has been argued, however, that this formula favors those with low HDI and penalizes those with high HDI levels, since the same percentage improvement is more difficult to achieve when the base is large, e.g., when life expectancy, or literacy, enrollment, or incomes approach the maximum. To give an example from school, raising a score of 90 by ten percent means getting an additional nine answers correct; raising a score of 40 by ten percent means getting only an additional four answers right. For this reason, it has been proposed that the base on which a given change should be compared should not be the original score but the gap between the score and the ideal score. The adequacy of one's effort should be measured based on how far one still has to go. Since the HDI (and its components individually) are numbers between zero and one, the proper measure, it is proposed, should be the gap between the perfect HDI of one and the actual HDI, i.e., $1 - HDI_{t-1}$. Hence this alternative measure of improvement is:

$$\text{Gap improvement} = \frac{HDI_t - HDI_{t-1}}{1 - HDI_{t-1}}.$$

Applying this to the data for 1994 and 1997 yields the following list of provinces with the best improvements (percent in parentheses): Ifugao (12.9); Bataan (12.5); Antique (12.3); Sorsogon (12.3); Abra (12.1); Romblon (11.8); Capiz (10.2); Zamboanga del Norte (9.6); Palawan (9.1); NCR (1.4).

ince. These other aspects, therefore, outweigh simple income per head.

Changes in HDI

While levels of HDI indicate the current human development status of a province, changes in these levels suggest the potential for improvement, as well as measuring effort. Using simple percentage changes in the levels of HDI between 1994 and 1997, the largest changes are shown on Table 4.12. It is encouraging that three of the provinces which showed the largest proportional increases in HDI were among the bottom ten, thus showing that low current levels need not be a hindrance to improvement. On the other hand, already-poor provinces such as Lanao del Sur, Sulu, and Sarangani were also among those where deterioration in HDI was observed. All in all, 44 provinces showed higher HDIs between 1994 and 1997, while 31 showed a deterioration. In some respects, indeed, a low base makes it easier to effect changes. In the limit, a province with 98 percent functional literacy may encounter more difficulty in further improving performance, than one where literacy is low. Partly for this reason, other means of computing improvements have been proposed [Box 8].

The deterioration in HDI in many cases occurred in the income component of HDI. In some cases, this was due to an actual decline in real per capita incomes between the two years, such as in Sarangani. In others, the deteriora-

TABLE 4.12
Top and Bottom: Percent Changes in HDI

Province	Percent
Tawi-Tawi	13.12
Ifugao	12.88
Bataan	12.50
Sorsogon	12.31
Antique	12.26
Abra	12.08
Romblon	11.18
Capiz	10.15
Zamboanga del Norte	9.63
Palawan	9.14

Source: See statistical annexes

tion was not an actual decline in income but an increase in the gap between the province's income and that of the richest region, NCR. This was true, for example, for Cavite, whose growth in income was positive but not large enough to make it rise in the income ranks. (By comparison, NCR's per capita income increased by almost ten percent annually over the period.) In still others, as in the case of Leyte, there was deterioration or stagnation in both incomes and schooling. In analyzing these changes, changes in income affecting high-HDI provinces should be a cause for less concern than those affecting areas with low HDI. A true cause for concern in high-HDI provinces should arise in cases where health and knowledge indicators deteriorate significantly.

Going by this rule, priority attention should be given to low-HDI provinces, those with HDIs of less than 0.5 which show deterioration or stagnation. Examples of these are Sulu, Maguindanao, Lanao del Sur, Lanao del Norte, and Sarangani. Attention should also be devoted to cases in which enrollment ratios decline.

What if provinces were countries? International comparisons

The 1999 *Human development report* published by UNDP proposes a new method for the computation of HDI that, while less direct, avoids several complications arising from other methods. The main difference arises from the treatment of the real income per capita variable. Per capita income under the new method is gradually *discounted* by taking its logarithm all throughout (see Technical Note). This means effectively that further increases in income are less and less important at increasingly higher levels of income, in keeping with the concept of human development that emphasizes the goal of achieving decent and adequate living standards, rather than the pursuit of unlimited opulence.

For this purpose, a maximum desirable level of per capita income equal to US$40,000 annually and a minimum of US$100 (in purchasing-power parity terms) are posited, and countries' incomes are compared to this scale.

The levels of HDI presented and analyzed thus far are not strictly comparable to international league tables, owing to the difference in the treatment of income. The intraprovincial HDIs are scaled to the income of the richest region, rather than an absolute standard; income is also not discounted. The rationale for this has been that for provinces, the more realistic standard would be a level of income that some locality has actually attained, rather than an absolute; and secondly that the maximum per capita income used (Metro Manila's) was itself quite low by international standards.

To allow comparisons between provinces and other countries, however, this report has converted provincial incomes to make them roughly comparable with the figures that were used in the global *Human development report 1999* and generated a second series of provincial HDIs. The effect of doing this is seen in the league tables in the statistical appendix under the headings Income Index-II and HDI-II. (The computation of the two other components of HDI remains the same.)

The result of doing so is, first of all, to reduce the HDI of the National Capital Region from the previous 0.885 to 0.781. This is not surprising, since the income scale is now no longer based on NCR's but on a higher international standard, where even Manila's income looks modest. All the other provinces' HDIs moreover are pushed up in varying degrees,

TABLE 4.13
Provincial HDI in International Perspective
(all figures for 1997)

Locality/Country	HDI
Korea, Rep. of	0.852
Costa Rica	0.801
Mexico	0.786
NCR	0.786
Malaysia	0.768
Cavite	0.757
Thailand	0.753
Bulacan	0.750
Batangas	0.749
Rizal	0.743
Kazakhstan	0.740
Bataan	0.741
Brazil	0.739
Laguna	0.731
Turkey	0.728
Batanes	0.728
Uzbekistan	0.720
Nueva Ecija	0.719
Pampanga	0.718
Ilocos Norte	0.717
Maldives	0.716
La Union	0.716
Pangasinan	0.713
Benguet	0.705
Isabela	0.702
China	0.701
Tarlac	0.700
Albania	0.699
Ilocos Sur	0.699
Oriental Mindoro	0.697
Tunisia	0.695
Zambales	0.695
Marinduque	0.693
Quezon	0.692
Iloilo	0.692
Abra	0.691
Camarines Sur	0.689
Albay	0.683
Indonesia	0.681
Aurora	0.680
Cebu	0.679
Cagayan	0.676
Catanduanes	0.673
Nueva Vizcaya	0.673
Sorsogon	0.671
Guimaras	0.668
Bohol	0.667
Southern Leyte	0.667
Tajikistan	0.665
Vietnam	0.664
Misamis Oriental	0.664
Camarines Norte	0.664
Syria	0.663
Occidental Mindoro	0.661
Romblon	0.661
Negros Occidental	0.661
Surigao del Sur	0.660
Quirino	0.659
Mt. Province	0.659
Capiz	0.658
Aklan	0.657
Antique	0.654
Bolivia	0.652
Surigao del Norte	0.652
Misamis Occidental	0.652
Biliran	0.650
Camiguin	0.650
Bukidnon	0.650
Leyte	0.648
Davao (del Norte)	0.646
Swaziland	0.644
Siquijor	0.644
Zamboanga del Sur	0.644
Palawan	0.644
Eastern Samar	0.643
Agusan del Norte	0.641
Namibia	0.638
South Cotabato	0.638
Davao del Sur	0.637
North Cotabato	0.636
Negros Oriental	0.634
Apayao	0.632
Kalinga	0.628
Vanuatu	0.627
Sultan Kudarat	0.625
Zamboanga del Norte	0.625
Davao Oriental	0.624
Solomon Islands	0.623
Masbate	0.623
Mongolia	0.618
Sarangani	0.618
Samar (Western)	0.613
Northern Samar	0.608
Gabon	0.607
Agusan del Sur	0.601
Lanao del Norte	0.597
Myanmar	0.580
Ifugao	0.565
Zimbabwe	0.560
Basilan	0.556
Congo	0.533
Maguindanao	0.532
Tawi-Tawi	0.522
Lao PDR	0.491
Sulu	0.491
Nigeria	0.456
Lanao del Sur	0.456
Bangladesh	0.440
Zambia	0.431

Source of HDI for countries:
Human development report 1999

those with high incomes moving up much less than those with low incomes. Hence, for example, Ifugao's HDI increases by 0.117, while that of Batangas increases by only 0.063. Table 4.13 intersperses the highest- and lowest-performing provinces under this methodology with the HDIs of some countries for 1997.

On this absolute scale, there is no province or region in the country that may be regarded as having high human development (HDI 0.8 or greater). On the other hand, two provinces, Lanao del Sur and Sulu, fall in the category of low human development. All others are in the medium category.

It is eye-opening that in an international perspective, the provinces with the lowest HDI are comparable in state to a number of poor African countries, Cambodia, and Myanmar. The highest provincial HDI under this measure, Cavite's, is less than Thailand's. Metro Manila's HDI, the highest for the country, is somewhat lower than Mexico's, better than Malaysia's or Thailand's, but inferior to Costa Rica's or South Korea's, not to mention Hong Kong (0.880) or Singapore (0.888).

An international perspective has the advantage of putting in context the amount of effort that must still be done by national and local governments. Human development indicators, however they are computed, do nothing more than inform the people and their leaders about what is wrong and what is possible. Ultimately their value is redeemed only when people — seeing the gap between what is and what could be — begin to demand more of themselves and of those who purport to represent their interests. Then apathy is broken, and what is generated instead is concern, unease, perhaps even discontent, and a desire to take a hand that is the indispensable first step towards real change. ◗

STATISTICAL ANNEX I HUMAN DEVELOPMENT INDEX 1997

Source: National Statistical Coordination Board

Rank in HDI-2	Provinces	Life expectancy at birth (years) 1997	Functional Literacy Rate (%) 1994	Primary and high school enrollment rate (%) 1997	Real per capita income (pesos at 1994 prices) 1997	Life expectancy index	Education index	Income index I	Income index II	HDI (I) 1997	HDI (II) 1997
	NCR	69.0	92.41	91.72	48930	0.73	0.92	1.00	0.69	0.885	0.781
5	Bataan	67.7	88.74	90.71	31095	0.71	0.89	0.56	0.60	0.723	0.736
1	Cavite	69.1	92.80	87.81	29269	0.73	0.91	0.52	0.61	0.721	0.752
7	Batanes	64.1	92.68	84.70	31626	0.65	0.90	0.58	0.62	0.709	0.723
2	Bulacan	69.8	90.59	92.22	26141	0.75	0.91	0.44	0.58	0.700	0.745
4	Rizal	69.3	89.17	88.55	26234	0.74	0.89	0.44	0.58	0.690	0.738
3	Batangas	70.1	90.40	93.83	23546	0.75	0.92	0.38	0.57	0.681	0.744
6	Laguna	67.9	86.09	93.03	25243	0.71	0.88	0.42	0.58	0.673	0.726
9	Pampanga	71.0	79.23	85.82	22716	0.77	0.81	0.36	0.56	0.646	0.713
10	Ilocos Norte	68.9	84.69	85.19	22497	0.73	0.85	0.35	0.56	0.644	0.712
13	Benguet	67.0	83.89	90.90	20788	0.70	0.86	0.31	0.54	0.624	0.700
11	La Union	68.9	87.43	87.51	18169	0.73	0.87	0.25	0.53	0.617	0.711
16	Ilocos Sur	66.6	83.29	90.32	20235	0.69	0.86	0.30	0.53	0.615	0.694
12	Pangasinan	68.5	87.38	90.58	17308	0.72	0.88	0.22	0.51	0.611	0.708
15	Tarlac	68.1	82.22	86.28	18682	0.72	0.84	0.26	0.53	0.604	0.695
14	Isabela	67.0	89.45	87.14	17291	0.70	0.89	0.22	0.50	0.603	0.697
8	Nueva Ecija	69.0	92.42	84.26	15299	0.73	0.90	0.17	0.51	0.602	0.714
20	Quezon	66.6	87.25	82.89	18156	0.69	0.86	0.24	0.51	0.599	0.687
18	Zambales	67.0	81.71	89.97	18306	0.70	0.84	0.25	0.53	0.598	0.690
17	Oriental Mindoro	64.9	91.54	86.16	16801	0.67	0.90	0.21	0.51	0.592	0.692
30	Sorsogon	66.6	79.38	86.87	14154	0.69	0.82	0.25	0.49	0.589	0.666
25	Aurora	64.6	84.16	87.77	18021	0.66	0.85	0.24	0.51	0.585	0.675
21	Iloilo	68.6	83.59	85.47	15678	0.73	0.84	0.18	0.49	0.584	0.686
19	Marinduque	64.9	91.25	88.96	15404	0.66	0.90	0.18	0.49	0.582	0.688
22	Abra	63.9	90.11	93.39	15441	0.65	0.91	0.18	0.50	0.579	0.686
29	Nueva Vizcaya	65.2	78.20	85.83	18438	0.67	0.81	0.25	0.53	0.576	0.668
23	Camarines Sur	68.7	85.97	86.34	12943	0.73	0.86	0.12	0.46	0.568	0.684
26	Cebu	70.5	80.18	83.35	12197	0.76	0.81	0.10	0.45	0.556	0.674
24	Albay	67.6	82.31	84.31	13379	0.71	0.83	0.13	0.49	0.556	0.677
31	Guimaras	67.7	83.59	73.27	14440	0.71	0.80	0.15	0.48	0.555	0.663
42	Aklan	63.8	83.01	74.25	16806	0.65	0.80	0.21	0.51	0.553	0.652
36	Occidental Mindoro	63.9	83.12	80.25	15843	0.65	0.82	0.19	0.50	0.553	0.656
27	Cagayan	65.1	86.72	85.27	13329	0.67	0.86	0.13	0.48	0.552	0.671
40	Quirino	63.5	80.14	86.00	15994	0.64	0.82	0.19	0.50	0.552	0.654
43	Antique	63.3	78.45	83.97	16718	0.64	0.80	0.21	0.51	0.550	0.649
28	Catanduanes	64.7	87.01	83.02	13494	0.66	0.86	0.13	0.49	0.550	0.668
33	Southern Leyte	65.0	86.35	80.08	13865	0.67	0.84	0.14	0.48	0.550	0.661
35	Camarines Norte	63.6	90.01	77.75	14057	0.64	0.86	0.14	0.47	0.549	0.659
41	Capiz	64.6	76.45	85.82	15206	0.66	0.80	0.17	0.50	0.543	0.653

STATISTICAL ANNEX I HUMAN DEVELOPMENT INDEX 1997

Rank in HDI-2	Provinces	Life expectancy at birth (years) 1997	Functional Literacy Rate (%) 1994	Primary and high school enrollment rate (%) 1997	Real per capita income (pesos at 1994 prices) 1997	Life expectancy index	Education index	Income index I	Income index II	HDI (I) 1997	HDI (II) 1997
32	Bohol	68.3	84.86	80.80	11071	0.72	0.84	0.07	0.43	0.543	0.662
39	Mt. Province	61.7	81.08	99.10	13953	0.61	0.87	0.14	0.48	0.541	0.654
34	Misamis Oriental	66.9	84.54	76.02	12425	0.70	0.82	0.10	0.46	0.540	0.659
38	Negros Occidental	67.6	78.30	85.02	12320	0.71	0.81	0.10	0.45	0.539	0.656
54	Palawan	62.9	77.35	83.45	15561	0.63	0.79	0.18	0.49	0.535	0.639
37	Romblon	64.3	85.92	86.15	11684	0.65	0.86	0.09	0.45	0.533	0.656
45	Misamis Occidental	64.7	84.83	73.84	13314	0.66	0.81	0.13	0.47	0.533	0.647
48	Bukidnon	65.2	83.15	67.31	14280	0.67	0.78	0.15	0.48	0.533	0.644
63	South Cotabato	66.6	73.63	72.02	15187	0.69	0.73	0.17	0.45	0.532	0.624
47	Camiguin	63.7	85.90	73.76	13565	0.64	0.82	0.13	0.47	0.532	0.645
50	Sultan Kudarat	63.7	78.63	83.68	13852	0.65	0.80	0.14	0.48	0.529	0.642
62	Apayao	61.9	70.35	87.64	16760	0.62	0.76	0.21	0.50	0.529	0.627
44	Surigao del Norte	65.8	81.64	76.31	12380	0.68	0.80	0.10	0.46	0.527	0.647
51	Davao (del Norte)	64.3	85.49	73.78	12450	0.66	0.82	0.10	0.45	0.525	0.641
46	Biliran	65.0	79.45	82.60	11992	0.67	0.81	0.09	0.46	0.522	0.645
64	Kalinga	61.7	70.35	87.00	16085	0.61	0.76	0.19	0.50	0.522	0.623
53	Zamboanga del Sur	65.4	77.23	76.44	13038	0.67	0.77	0.12	0.47	0.521	0.639
49	Leyte	65.9	79.45	75.86	12074	0.68	0.78	0.10	0.46	0.520	0.643
58	Davao del Sur	68.0	68.78	77.27	12974	0.72	0.72	0.12	0.46	0.517	0.632
57	Surigao del Sur	62.6	82.43	77.45	12863	0.63	0.81	0.11	0.46	0.516	0.632
59	North Cotabato	66.0	72.76	81.54	12312	0.68	0.76	0.10	0.45	0.514	0.631
56	Agusan del Norte	62.9	88.16	77.35	10540	0.63	0.85	0.06	0.43	0.512	0.636
55	Eastern Samar	61.6	86.25	90.68	9821	0.61	0.88	0.04	0.43	0.509	0.638
52	Siquijor	64.4	86.27	77.36	9661	0.66	0.83	0.04	0.43	0.509	0.639
65	Zamboanga del Norte	63.5	74.49	75.95	13266	0.64	0.75	0.12	0.47	0.505	0.620
61	Negros Oriental	65.5	73.82	73.55	11006	0.67	0.74	0.07	0.48	0.494	0.629
66	Davao Oriental	65.9	74.61	70.40	10764	0.68	0.73	0.06	0.45	0.492	0.620
68	Samar (Western)	60.9	76.41	76.08	12776	0.60	0.76	0.11	0.46	0.492	0.608
60	Sarangani	66.3	73.63	63.85	11220	0.69	0.70	0.07	0.50	0.489	0.630
67	Masbate	64.0	75.21	80.69	9893	0.65	0.77	0.04	0.43	0.487	0.618
69	Northern Samar	62.1	73.63	80.29	10964	0.62	0.76	0.07	0.43	0.482	0.603
70	Agusan del Sur	61.1	71.84	73.27	12625	0.60	0.72	0.11	0.46	0.478	0.596
71	Lanao del Norte	63.3	73.39	69.57	9637	0.64	0.72	0.04	0.42	0.465	0.592
72	Ifugao	60.9	51.07	76.18	14352	0.60	0.59	0.15	0.49	0.448	0.560
75	Tawi-Tawi	51.9	52.67	67.53	10318	0.45	0.58	0.05	0.52	0.435	0.516
73	Basilan	61.4	48.08	69.45	14053	0.61	0.55	0.14	0.49	0.434	0.551
74	Maguindanao	55.8	68.71	51.70	10841	0.51	0.63	0.07	0.44	0.403	0.527
76	Sulu	52.9	57.73	43.48	8181	0.46	0.53	0.00	0.41	0.331	0.468
77	Lanao del Sur	57.1	59.31	78.81	9497	0.53	0.40	0.03	0.42	0.321	0.451

STATISTICAL ANNEX 2 HUMAN DEVELOPMENT INDEX 1994

Source: National Statistical Coordination Board

	Life expectancy at birth (years) 1994	Functional Literacy Rate (%) 1994	Primary and high school enrolment rate (%) 1994	Real per capita income (pesos at 1994 prices) 1994	Life expectancy index	Education index	Income index I	HDI (I) 1994
NCR	67.93	92.41	86.24	37070	0.72	0.90	1.00	0.873
Cavite	67.59	92.80	88.95	27763	0.71	0.92	0.70	0.773
Batanes	62.25	92.68	86.18	28618	0.62	0.91	0.72	0.750
Rizal	67.89	89.17	85.31	24019	0.71	0.88	0.57	0.722
Bulacan	68.64	90.59	86.40	23145	0.73	0.89	0.54	0.721
Laguna	66.18	86.09	85.11	24465	0.69	0.86	0.59	0.710
Batangas	68.84	90.40	82.17	18420	0.73	0.88	0.39	0.666
Pampanga	69.83	79.23	83.41	19368	0.75	0.81	0.42	0.658
Bataan	66.01	88.74	84.57	17853	0.68	0.87	0.37	0.643
Nueva Ecija	67.69	92.42	82.63	14283	0.71	0.89	0.25	0.619
La Union	67.64	87.43	86.09	14810	0.71	0.87	0.27	0.617
Benguet	65.48	83.89	75.42	17701	0.67	0.81	0.37	0.617
Ilocos Norte	67.65	84.69	85.37	15401	0.71	0.85	0.29	0.617
Marinduque	62.75	91.25	81.92	16213	0.63	0.88	0.32	0.609
Isabela	65.42	89.45	76.56	14929	0.67	0.85	0.27	0.600
Pangasinan	67.06	87.38	86.07	13373	0.70	0.87	0.22	0.598
Ilocos Sur	65.17	83.29	81.65	15516	0.67	0.83	0.29	0.597
Cagayan	63.43	86.72	75.71	15610	0.64	0.83	0.30	0.589
Oriental Mindoro	62.81	91.54	76.39	14800	0.63	0.86	0.27	0.589
Nueva Vizcaya	63.30	78.20	74.94	16714	0.64	0.77	0.33	0.581
Occidental Mindoro	61.66	83.12	70.88	16628	0.61	0.79	0.33	0.577
Camarines Sur	67.03	85.97	77.54	12605	0.70	0.83	0.20	0.577
Quezon	64.59	87.25	75.03	13765	0.66	0.83	0.24	0.576
Zambales	65.22	81.71	83.86	13632	0.67	0.82	0.23	0.576
Tarlac	66.43	82.22	81.37	12687	0.69	0.82	0.20	0.570
Iloilo	67.00	83.59	81.16	12071	0.70	0.83	0.18	0.570
Aklan	61.68	83.01	86.97	14239	0.61	0.84	0.25	0.569
Albay	65.85	82.31	82.77	12669	0.68	0.82	0.20	0.569
Catanduanes	62.55	87.01	79.30	13095	0.63	0.84	0.21	0.562
Cebu	69.40	80.18	74.76	11451	0.74	0.78	0.16	0.562
Southern Leyte	63.31	86.35	78.65	12384	0.64	0.84	0.19	0.556
Guimaras	64.88	83.59	79.25	12070	0.66	0.82	0.18	0.556
Misamis Oriental	65.23	84.54	76.30	11935	0.67	0.82	0.18	0.555
Eastern Samar	64.18	86.25	70.94	12494	0.65	0.81	0.20	0.553
Aurora	62.30	84.16	75.63	13292	0.62	0.81	0.22	0.552
Camarines Norte	61.35	90.01	77.14	12094	0.61	0.86	0.18	0.548
Negros Occidental	*65.84*	*78.30*	*72.01*	*12256*	*0.68*	*0.76*	*0.19*	*0.543*
Misamis Occidental	62.62	84.83	75.31	12030	0.63	0.82	0.18	0.541
Davao (del Norte)	62.34	85.49	68.01	12053	0.62	0.80	0.18	0.533
Surigao del Sur	60.20	82.43	67.67	13797	0.59	0.78	0.24	0.533
South Cotabato	64.93	73.63	70.91	12285	0.67	0.73	0.19	0.527

STATISTICAL ANNEX 2 HUMAN DEVELOPMENT INDEX 1994

	Life expectancy at birth (years) 1994	Functional Literacy Rate (%) 1994	Primary and high school enrolment rate (%) 1994	Real per capita income (pesos at 1994 prices) 1994	Life expectancy index	Education index	Income index I	HDI (I) 1994
Sorsogon	64.75	79.38	79.95	10067	0.66	0.80	0.12	0.525
Bohol	66.65	84.86	71.17	8533	0.69	0.80	0.07	0.521
Surigao del Norte	63.70	81.64	69.64	10539	0.64	0.78	0.13	0.518
Abra	61.91	90.11	73.55	9281	0.62	0.85	0.09	0.517
Sarangani	64.12	73.63	64.66	12285	0.65	0.71	0.19	0.516
Quirino	61.71	80.14	71.03	11166	0.61	0.77	0.15	0.512
Siquijor	62.23	86.27	79.81	8598	0.62	0.84	0.07	0.510
Biliran	61.26	79.45	73.00	11157	0.60	0.77	0.15	0.510
Agusan del Norte	61.04	88.16	72.41	9444	0.60	0.83	0.10	0.508
Sultan Kudarat	61.85	78.63	64.97	11557	0.61	0.74	0.16	0.506
Mt. Province	59.69	81.08	67.00	11643	0.58	0.76	0.17	0.503
Bukidnon	63.14	83.15	64.25	9742	0.64	0.77	0.11	0.503
North Cotabato	63.82	72.76	66.48	11268	0.65	0.71	0.16	0.503
Zamboanga del Sur	63.55	77.23	68.30	10189	0.64	0.74	0.12	0.502
Leyte	60.09	79.45	70.81	11158	0.58	0.77	0.15	0.501
Kalinga-Apayao	59.42	70.35	64.14	13631	0.57	0.68	0.23	0.496
Negros Oriental	63.56	73.82	63.91	10749	0.64	0.71	0.14	0.495
Capiz	62.64	76.45	74.35	9399	0.63	0.76	0.09	0.493
Camiguin	61.55	85.90	79.97	7448	0.61	0.84	0.03	0.493
Palawan	60.52	77.35	69.45	10582	0.59	0.75	0.13	0.491
Antique	61.04	78.45	76.80	9289	0.60	0.78	0.09	0.490
Davao del Sur	66.35	68.78	71.01	9121	0.69	0.70	0.08	0.490
Romblon	62.03	85.92	74.76	6533	0.62	0.82	0.00	0.480
Davao Oriental	63.77	74.61	61.10	8434	0.65	0.70	0.06	0.470
Lanao del Norte	61.23	73.39	63.51	8961	0.60	0.70	0.08	0.461
Zamboanga del Norte	61.39	74.49	62.74	8688	0.61	0.71	0.07	0.461
Samar (Western)	59.42	76.41	60.34	9158	0.57	0.71	0.09	0.457
Northern Samar	60.76	73.63	66.74	8381	0.60	0.71	0.06	0.457
Agusan del Sur	59.09	71.84	60.69	9521	0.57	0.68	0.10	0.449
Masbate	61.82	75.21	63.96	6931	0.61	0.71	0.01	0.447
Lanao del Sur	54.88	59.31	66.29	11585	0.50	0.62	0.17	0.427
Basilan	59.12	48.08	54.69	11428	0.57	0.50	0.16	0.411
Maguindanao	53.76	68.71	54.37	9942	0.48	0.64	0.11	0.410
Ifugao	58.85	51.07	59.17	9231	0.56	0.54	0.09	0.397
Tawi-Tawi	49.77	52.67	63.69	11175	0.41	0.56	0.15	0.376
Sulu	50.68	57.73	49.88	8386	0.43	0.55	0.06	0.347

STATISTICAL ANNEX 3 LIFE EXPECTANCY (IN YEARS)

Source: National Statistical Coordination Board

	1994			1997		
Province	Male	Female	Total	Male	Female	Total
Philippines	62.6	67.8	65.2	64.6	69.9	67.2
NCR	65.4	70.3	67.9	66.6	71.3	69.0
CAR						
Abra	59.2	64.7	61.9	61.2	66.6	63.9
Apayao				58.9	65.1	61.9
Benguet	62.6	68.4	65.5	64.1	69.9	67.0
Ifugao	55.6	62.2	58.8	57.6	64.2	60.9
Kalinga-Apayao	55.9	62.1	59.4	n.a.	n.a.	n.a.
Kalinga	n.a.	n.a.	n.a.	58.7	64.9	61.7
Mt. Province	56.5	63.0	59.7	58.3	65.2	61.7
Region I						
Ilocos Norte	65.1	70.2	67.7	66.4	71.3	68.9
Ilocos Sur	61.4	68.9	65.2	62.9	70.2	66.6
La Union	65.2	70.1	67.6	66.4	71.4	68.9
Pangasinan	64.4	69.7	67.1	65.9	71.0	68.5
Region II						
Batanes	60.8	63.8	62.2	62.7	65.6	64.1
Cagayan	61.2	65.7	63.4	62.7	67.6	65.1
Isabela	63.3	67.7	65.4	64.8	69.3	67.0
Nueva Vizcaya	61.9	64.7	63.3	63.8	66.7	65.2
Quirino	60.9	62.6	61.7	62.8	64.3	63.5
Region III						
Bataan	63.7	68.4	66.0	65.4	70.1	67.7
Bulacan	66.1	71.2	68.6	67.3	72.4	69.8
Nueva Ecija	65.6	69.9	67.7	66.8	71.3	69.0
Pampanga	67.1	72.7	69.8	68.2	73.8	71.0
Tarlac	64.4	68.5	66.4	65.9	70.4	68.1
Zambales	63.2	67.3	65.2	64.9	69.0	67.0
Region IV						
Batangas	65.4	72.3	68.8	66.7	73.5	70.1
Cavite	63.2	72.0	67.6	65.0	73.1	69.1
Laguna	62.5	69.8	66.2	64.4	71.3	67.9
Marinduque	60.5	65.1	62.8	62.5	67.3	64.9
Occidental Mindoro	58.9	64.6	61.7	61.2	66.8	63.9
Oriental Mindoro	60.5	65.2	62.8	62.6	67.4	64.9
Palawan	57.8	63.5	60.5	60.1	65.9	62.9
Quezon	61.6	67.7	64.6	63.6	69.7	66.6
Rizal	64.4	71.4	67.9	65.9	72.7	69.3
Romblon	59.1	65.0	62.0	61.3	67.2	64.3
Aurora	59.7	65.1	62.3	62.0	67.3	64.6

STATISTICAL ANNEX 3 LIFE EXPECTANCY (IN YEARS)

	1994			1997		
Province	Male	Female	Total	Male	Female	Total
Region V						
Albay	63.1	68.6	65.8	64.8	70.5	67.6
Camarines Norte	59.5	63.3	61.3	61.6	65.7	63.6
Camarines Sur	64.3	69.8	67.0	66.1	71.3	68.7
Catanduanes	60.3	64.9	62.5	62.4	67.1	64.7
Masbate	59.7	64.0	61.8	61.8	66.2	64.0
Sorsogon	62.2	67.4	64.7	64.1	69.3	66.6
Region VI						
Aklan	58.7	64.7	61.7	60.8	66.9	63.8
Antique	58.0	64.2	61.0	60.2	66.4	63.3
Capiz	59.7	65.6	62.6	61.7	67.6	64.6
Guimaras	62.0	67.9	64.9	64.9	70.6	67.7
Iloilo	63.9	70.1	67.0	65.7	71.6	68.6
Negros Occidental	62.5	69.2	65.8	64.2	71.0	67.6
Region VII						
Bohol	64.5	68.8	66.6	66.0	70.6	68.3
Cebu	67.4	71.4	69.4	68.4	72.6	70.5
Negros Oriental	62.1	65.1	63.6	63.9	67.1	65.5
Siquijor	60.4	64.0	62.2	62.5	66.3	64.4
Region VIII						
Biliran	59.2	63.4	61.3	62.8	67.3	65.0
Leyte	57.9	62.3	60.1	59.6	63.7	61.6
Eastern Samar	62.1	66.3	64.2	63.7	68.1	65.9
Northern Samar	58.2	63.4	60.8	59.7	64.6	62.1
Samar (Western)	57.9	61.0	59.4	59.5	62.5	60.9
Southern Leyte	61.2	65.6	63.3	62.8	67.3	65.0
Region IX						
Basilan	56.1	62.2	59.1	58.3	64.4	61.4
Zamboanga del Norte	59.1	63.8	61.4	61.2	65.9	63.5
Zamboanga del Sur	60.7	66.5	63.6	62.5	68.4	65.4
Region X						
Bukidnon	60.7	65.7	63.1	62.8	67.8	65.2
Camiguin	59.1	64.1	61.6	61.2	66.3	63.7
Misamis Occidental	60.0	65.3	62.6	62.0	67.4	64.7
Misamis Oriental	62.2	68.3	65.2	63.9	69.9	66.9
Region XI						
Davao (del Norte)	59.3	65.6	62.3	61.4	67.5	64.3
Davao del Sur	64.3	68.4	66.4	66.0	70.1	68.0
Davao Oriental	61.2	66.5	63.8	63.2	68.7	65.9
Sarangani	61.9	66.5	64.1	64.4	69.0	66.6
South Cotabato	62.7	67.3	64.9	64.1	68.6	66.3
Sultan Kudarat	59.6	64.3	61.8	61.5	66.2	63.7

STATISTICAL ANNEX 3 LIFE EXPECTANCY (IN YEARS)

	1994			1997		
Province	Male	Female	Total	Male	Female	Total
Region XII						
Lanao del Norte	53.0	56.8	54.9	60.9	65.8	63.3
North Cotabato	61.0	66.8	63.8	63.3	68.8	66.0
Autonomous Region of Muslim Mindanao						
Lanao del Sur	58.8	63.7	61.2	55.1	59.0	57.1
Maguindanao	51.9	55.8	53.8	53.9	58.0	55.8
Sulu	48.8	52.7	50.7	50.9	54.9	52.9
Tawi-Tawi	47.9	51.8	49.8	50.0	54.0	51.9
Caraga Region						
Agusan del Norte	58.9	63.2	61.0	60.7	65.1	62.9
Agusan del Sur	57.2	61.1	59.1	59.0	63.3	61.1
Surigao del Norte	60.6	66.8	63.7	62.9	68.7	65.8
Surigao del Sur	57.6	62.9	60.2	59.8	65.5	62.6

Note: Male and female figures for Kalinga-Apayao are 1990 data.

STATISTICAL ANNEX 4 INCOME

Source: National Statistical Coordination Board

PROVINCE	INCOME				
	1997 Consumer price index (1994=100)	Annual per capita income in current pesos (1997)	Annual real per capita income 1994 prices (1997)	Annual income in PPP US$ (1997)	Annual per capita income in current pesos (1994)
NCR	125	61211	48930	6244	37070
CAR					
Abra	126	19486	15441	1988	9281
Apayao	121	20213	16760	2062	n.a.
Benguet	119	24759	20788	2525	17701
Ifugao	128	18413	14352	1878	9231
Kalinga	121	19399	16085	1979	n.a.
Kalinga-Apayao					13631
Mt. Province	125	17469	13953	1782	11643
Region I				0	
Ilocos Norte	122	27536	22497	2809	15401
Ilocos Sur	119	23978	20235	2446	15516
La Union	128	23275	18169	2374	14810
Pangasinan	124	21479	17308	2191	13373
Region II				0	
Batanes	126	39785	31626	4058	28618
Cagayan	133	17754	13329	1811	15610
Isabela	117	20282	17291	2069	14929
Nueva Vizcaya	125	22955	18438	2341	16714
Quirino	123	19657	15994	2005	11166
Region III				0	
Bataan	117	36319	31095	3705	17853
Bulacan	120	31343	26141	3197	23145
Nueva Ecija	137	20959	15299	2138	14283
Pampanga	123	27827	22716	2838	19368
Tarlac	127	23745	18682	2422	12687
Zambales	125	22919	18306	2338	13632
Region IV					
Batangas	124	29126	23546	2971	18420
Cavite	129	37816	29269	3857	27763
Laguna	126	31806	25243	3244	24465
Marinduque	124	19116	15404	1950	16213
Occidental Mindoro	123	19534	15843	1992	16628
Oriental Mindoro	126	21153	16801	2158	14800
Palawan	120	18673	15561	1905	10582
Quezon	116	21025	18156	2145	13765
Rizal	125	32792	26234	3345	24019
Romblon	128	14920	11684	1522	6533
Aurora	118	21319	18021	2175	13292

STATISTICAL ANNEX 4 INCOME

PROVINCE	INCOME				
	1997 Consumer price index (1994=100)	Annual per capita income in current pesos (1997)	Annual real per capita income 1994 prices (1997)	Annual income in PPP US$ (1997)	Annual per capita income in current pesos (1994)
Region V					
Albay	140	18758	13379	1913	12669
Camarines Norte	120	16798	14057	1713	12094
Camarines Sur	123	15920	12943	1624	12605
Catanduanes	134	18068	13494	1843	13095
Masbate	134	13256	9893	1352	6931
Sorsogon	127	18032	14154	1839	10067
Region VI					
Aklan	124	20755	16806	2117	14239
Antique	122	20379	16718	2079	9289
Capiz	131	19981	15206	2038	9399
Guimaras	119	17155	14440	1750	12070
Iloilo	119	18625	15678	1900	12071
Negros Occidental	121	14883	12320	1518	12256
Region VII					
Bohol	116	12853	11071	1311	8533
Cebu	120	14575	12197	1487	11451
Negros Oriental	155	17071	11006	1741	10749
Siquijor	132	12781	9661	1304	8598
Region VIII					
Biliran	131	15757	11992	1607	11157
Eastern Samar	129	12620	9821	1287	11158
Leyte	131	15865	12074	1618	12494
Northern Samar	120	13190	10964	1345	8381
Samar (Western)	123	15753	12776	1607	9158
Southern Leyte	123	16985	13865	1732	12384
Region IX					
Basilan	136	19042	14053	1942	11428
Zamboanga del Norte	123	16251	13266	1658	8688
Zamboanga del Sur	129	16793	13038	1713	10189
Region X					
Bukidnon	126	17964	14280	1832	9742
Camiguin	122	16509	13565	1684	7448
Misamis Occidental	122	16177	13314	1650	12030
Misamis Oriental	126	15656	12425	1597	11935
Region XI					
Davao (del Norte)	119	14753	12450	1505	12053
Davao del Sur	122	15789	12974	1610	9121
Davao Oriental	132	14208	10764	1449	8434
South Cotabato	128	19378	11220	1977	12285
Sarangani	128	14317	15187	1460	12285
Sultan Kudarat	123	17066	13852	1741	11557

STATISTICAL ANNEX 4 INCOME

PROVINCE	1997 Consumer price index (1994=100)	INCOME: Annual per capita income in current pesos (1997)	Annual real per capita income 1994 prices (1997)	Annual income in PPP US$ (1997)	Annual per capita income in current pesos (1994)
Region XII					
Lanao del Norte	123	11863	9637	1210	8961
North Cotabato	120	14762	12312	1506	11268
Autonomous Region of Muslim Mindanao					
Lanao del Sur	130	12337	9497	1258	11585
Maguindanao	124	13486	10841	1376	9942
Sulu	141	11502	8181	1173	8386
Tawi-Tawi	124	22753	10318	2321	11175
Caraga Region					
Agusan del Norte	124	13049	10540	1331	9444
Agusan del Sur	124	15693	12625	1601	9521
Surigao del Norte	129	15908	12380	1623	10539
Surigao del Sur	123	15783	12863	1610	13797

TECHNICAL NOTES

THE HUMAN DEVELOPMENT INDEX (HDI) in this report is computed based on three indicators: longevity, knowledge, and standard of living. These are measured respectively by life expectancy at birth; functional literacy and the combined elementary and high school enrollment ratio, also called the basic education enrollment ratio; and real income per capita.

Maximum and minimum values

Computing the index begins by setting minimum and maximum levels for each of the indicators:

Indicator	Maximum	Minimum
life expectancy	85 years	25 years
functional literacy	100 percent	0 percent
basic education enrollment ratio	100 percent	0 percent
income per capita I	highest income per capita in a given year	lowest income per capita in a given year
income per capita II	$40,000 purchasing-power parity	$100 purchasing-power parity

An index for each indicator is then arrived at in the following manner:

$$\text{Index} = \frac{\text{actual x value - minimum x value}}{\text{maximum x value - minimum x value}}$$

If, for example, the life expectancy for Albay is 67.65, then the life expectancy index for Albay is computed as:

$$\text{Life Expectancy Index (Albay)} = \frac{67.65 - 25}{85 - 25} = \frac{42.65}{60} = 0.711.$$

Similarly, for Albay's functional literacy rate of 82.3 and enrollment ratio of 84.3, the following indices are obtained:

$$\text{Functional Literacy Index (Albay)} = \frac{82.3 - 0}{100 - 0} = 0.823$$

$$\text{Enrollment Index (Albay)} = \frac{84.3 - 0}{100 - 0} = 0.843.$$

These two indices are averaged to obtain the Education Index, i.e.,

$$\text{Education Index} = (1/2)(\text{Functional literacy index} + \text{Enrollment index})$$

Hence in this specific example:

$$\text{Education index (Albay)} = (1/2)(0.843 + 0.823) = 0.830$$

Two income indices

The treatment of income is more involved. The first income indicator is used in the intra-country comparison of provinces and computed for 1994 and 1997, yielding the computation of HDI-I. The second income variable was used to generate HDI-II, comparing provinces with other countries using the method followed in the global *Human development report* of 1999. Two different indices of income are thus generated.

Income Index I

To arrive at Income Index I is simple. Suppose a province's real per capita income for a certain year is y, and the maximum and minimum income levels for that year are Y_{max} and Y_{min}, respectively. Then the income index is given by:

$$\text{Income Index I} = \frac{y - Y_{min}}{Y_{max} - Y_{min}}$$

giving a number between zero and one. A province obtains a higher index, the closer its income is to the highest income for that year, relative to what other provinces have achieved. In practice, the NCR income is always the maximum, although the minimum may change. In 1997 the maximum and minimum incomes per capita were P48,930 (NCR) and P8,181 (Sulu), respectively. It is obvious from the formula that Sulu's index would be zero and NCR's would be one. For the 1994 computations the maximum and minimum levels of income used were P37,070 (NCR) and P6,533 (Romblon). One problem cited with this practice has been that the scale changes annually as the maximum and minimum incomes change. It is therefore possible that a province's income index may fall even if its income has not actually declined, simply because it has fallen relative to the highest income province. In other words, this index is sensitive to changes in a province's ranking within the country.

Again following the case of Albay, which had an income per capita of P13,379 in real terms in 1997:

$$\text{Income Index I} = \frac{13379 - 8181}{48930 - 8181} = 0.128$$

Income Index II

To allow comparison between a province's income and that of other countries, its income must first be converted into purchasing-power parity terms, that is conceptually valued according to a common set of commodities that it may purchase, regardless of where the income is earned.

To obtain the PPP$ equivalent of a province's per capita income in 1997, it is first converted to US currency using the average 1997 peso-dollar exchange rate of P30. This is then converted into PPP$ by multiplying it with 3.06, the implicit ratio of one PPP$ to one current US$ in the 1999 *Human Development Report*. The result is the province's 1997 per capita income in purchasing-power parity terms.

The income index-II proper is based on a scale defined by a minimum income of PPP$100 and a maximum of PPP$40,000. First, the gap between a province's PPP$ income and the minimum income of PPP$100 is computed as the difference between their logarithms. This difference is then taken as a proportion of the gap between the maximum income of PPP$40,000 and the minimum income of PPP$100, again taken as the difference between their logarithms, or 2.6062. In general, if y is a province's per capita income, the index is computed as

$$\text{Income Index II} = \frac{\log y - \log 100}{\log 40000 - \log 100}$$

Hence, for instance, take Albay's per capita income in 1997 of P18,758 in current pesos. This is equivalent to $625 (=18,758 / 30), or PPP$ 1,912 (= 625 x 3.06). Hence one computes:

$$\text{Income Index II (Albay)} = \frac{\log (1912) - \log 100}{\log 40000 - \log 100} = \frac{1.281}{2.606} = 0.492$$

Computing the HDI

The HDI in all cases is simply an average of three indices: the Life Expectancy Index, the Education Index, and the relevant Income Index, i.e.,

HDI = (1/3)(Life Expectancy Index + Education Index + Income Index)

To compute HDI-I, one uses Income Index-I:

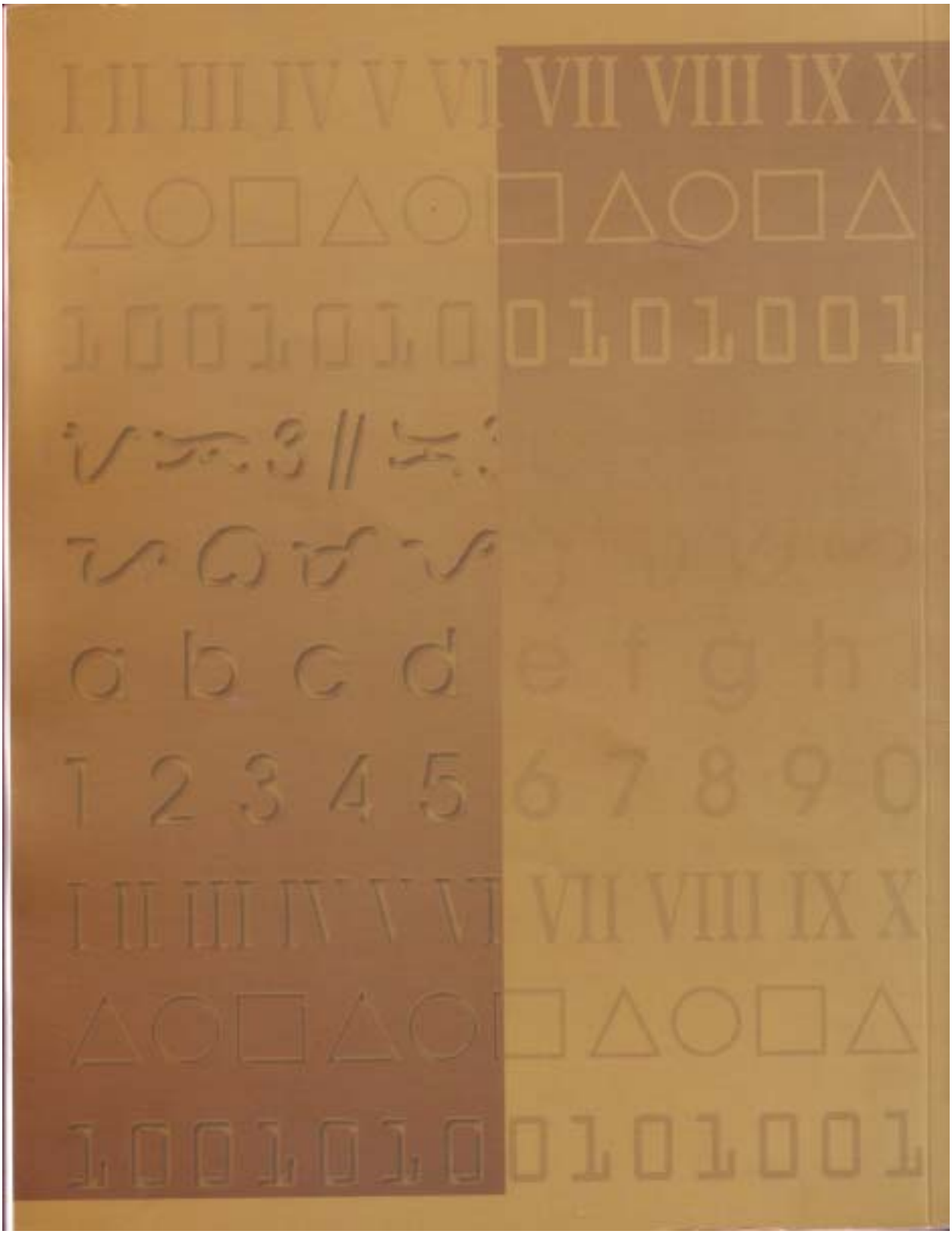
HDI-I = (1/3)(Life Expectancy Index + Education Index + Income Index-I)

Analogously, one uses Income Index II to obtain the HDI-II used for international comparisons:

HDI-II = (1/3)(Life Expectancy Index + Education Index + Income Index-II)

These formulas yield the following HDI levels for the specific case of Albay, which are given in the statistical annexes.

HDI-I(Albay) = (1/3)(0.711 + 0.830 + 0.128) = 0.556
HDI-II(Albay) = (1/3)(0.711 + 0.830 + 0.492) = 0.677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