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Measures for Assessing Basic Education in the Philippines

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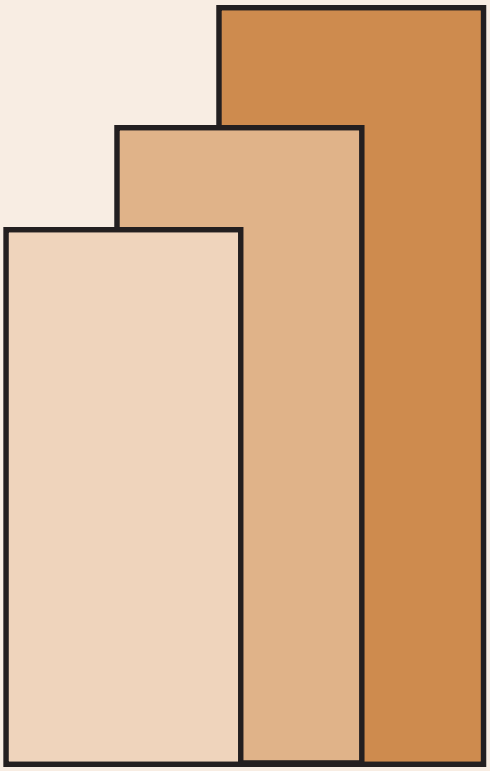

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Abstract

The second goal of the Millennium Development Goals (MDGs) is to achieve universal primary education. The target is to reach all the MDGs by 2015. Trends in education indicators for monitoring the second MDG suggest that Philippines may probably not meet the target on achieving universal primary education. Indicators that monitor gender disparity in primary and secondary education suggest that females are at an advantage over males. In this paper, various education indicators sourced from administrative reporting systems and surveys are looked into for assessing basic education in the country. Issues on the lack of comparability of figures from reporting systems, on the need to improve dissemination of education statistics, and on the need to properly link data with policy through a systematic monitoring and evaluation system are also discussed.

Keywords: MDGs, education indicators, monitoring and evaluation

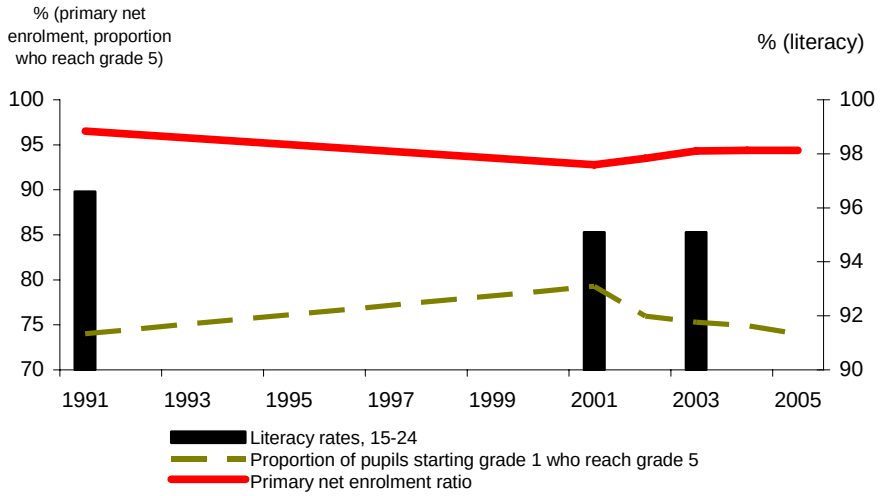
Measures for Assessing Basic Education in the Philippines[1]

Dalisay S. Maligalig and Jose Ramon Albert[2]

1. Introduction

This paper was envisioned to examine existing measures for education with the goal of finding out which of these existing measures are the most effective for policy formulation and monitoring in line with country's development plans. The paper was supposed to scrutinize the indicators that are being used by policy makers, researchers and other stakeholders in the basic education sector, especially vis-à-vis monitoring MDG2, i.e., the second goal of the Millennium Development Goals (MDGs)[3]: achieving universal primary education. The three indicators identified for monitoring MDG2 are the following: (i) literacy rate of 15-24 year olds (youth); (ii) proportion of pupils starting grade 1 who reach grade 5; and (iii) net enrolment ratio. At first glance, the Philippines seems to be on its way to reach this goal since it has a 94% net enrolment ratio in 2004 and 95% youth literacy rate in 2000-2004. However, compared to their 1991 numbers -- 97% for both indicators, the slight decline suggests that Philippines may probably be in danger of not reaching MDG2. Moreover, the proportion of pupils starting grade 1 who reach grade 5 has remained almost at the same level in the last 14 years at 74%.

Figure 1. Indicators for Monitoring MDG 2: PHILIPPINES



Note: Data shown are for 1991and 2001-2005 only. The revised UN Official List of MDG Indicators, effective as of 15 January 2008, presents the "Proportion of pupils starting grade 1 who reach last grade of primary" as the MDG2, Target 2.A, Indicator 2.2. However, due to lack of baseline data (1990) for the Philippines, Figure 1 presents the old indicator "Proportion of pupils starting grade 1 who reach grade 5" using the latest statistics from UNESCO.

Sources: UNSD MDG Indicators website; UNESCO Data Centre; ADB, Key Indicators 2007.

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[3] In September 2000, over 191 nations subscribed to working on the MDGs, eight key global development goals that entail eighteen time-bound targets to be achieved by 2015.

These results on the MDG2 prompted us to have a closer look into state of basic education in the Philippines. Is the state of basic education declining as these MDG2 indicators show? If so, what are the factors causing the trend? Are there growing gender disparities that should be a cause for concern? These questions guided us in our search for measures for assessing basic education in the Philippines that are being used for monitoring and formulation of policies.

A number of studies have already been conducted for this purpose. Foremost of which is the Education For All 2000 Philippine Assessment Report by the National Committee on Education For All[4] (EFA) and more recently, the Philippines Country Case Study, a country profile prepared for EFA Global Monitoring Report 2008 by Rhona Caoli-Rodriguez. Both these reports used a data intensive approach in scrutinizing the state of basic education and they both reached the same conclusion as the one gleaned from the MDG indicators. The summary matrix on the Philippines progress towards education for all 2015 goals (2001-2006) as reported by Caoli-Rodriguez is replicated in Appendix 1. Appendix 2 lists all the concepts and definitions of the indicators that have been used in the summary matrix and also, those that have been discussed in this paper. The comparisons of the latest data with the baseline data (2001) lead to the conclusion that the EFA 2015 goals[5] will not be met with the present trends which for most indicators suggest a worsening situation instead of progress between 2001 and 2006. Quoting from Caoli-Rodriguez: "Overall, concrete results from policy reforms and the supporting programs and projects geared towards empowering field education leaders and formulating field education plans are yet to be seen. Not much progress have been noted five years after the passing of Republic Act 9155[6] in terms of yielding better education outcomes. In fact, access indicators in both elementary and secondary education show declining trends."

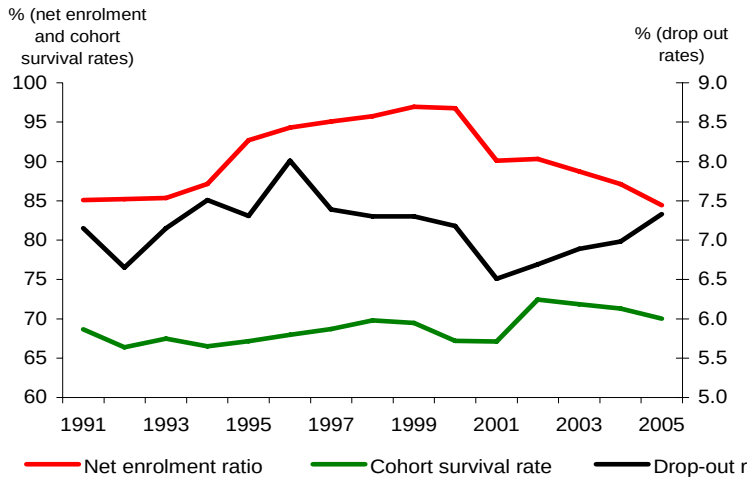
As indicated in Figure 2, net enrolment ratio in the elementary school, which is the ratio of the total number of children between ages 6 to 11 who are in school to the total number of children in the same age group declined slightly at 85.1% in 1991 to 84.4% in 2005. This ratio peaked in 2000 at about 96.8%. At the same time, the dropout rate, i.e., the proportion of pupils who leave school during the year as well as those who fail to enroll in the next grade level to the total number of pupils enrolled during the previous school year, slightly increased from 7.15% in 1991 to 7.33% in 2005 with its lowest point in 2001 at 6.5%. On the other hand, the cohort survival rate, which is the proportion of enrollees at the beginning grade who reach the final grade at the end of the required number of years of study, showed a marginal increase from 68.7% in 1991 to 70% in 2005 with the peak in 2002 at 72.4%.

[4] The Education For All (EFA) global movement was launched in 1990 by governments, the development community and education stakeholders to bring the benefits of education to "every citizen in every society." Two of the eighteen MDG targets are part of the six EFA goals. The Philippine EFA 2015 Goals was officially adopted in 2006. It is mentioned in the Medium Term Philippine Development Plan as the master plan for basic education with a vision and a program of reform that aims at improving the quality of basic education for every Filipino by 2015.

[5] The Philippine EFA 2015 Goals was approved and officially adopted in 2006. It is mentioned in the Medium Term Philippine Development Plan as the master plan for basic education with a vision and a holistic program of reform that aims at improving the quality of basic education for every Filipino by 2015.

[6] Republic Act No. 9155 or the Governance of Basic Education Act provides the overall framework for (i) empowerment by strengthening of the school system's leadership roles; and (ii) school-based management within the context of transparency and local accountability ("the school shall be the heart of the formal education system". The goal of basic education is to provide the school age population and young adults with skill and values to become caring, self-reliant, productive and patriotic citizens. According to RA 9155, primary education is free and compulsory for children aged 7-12. Secondary education is likewise free but not compulsory.

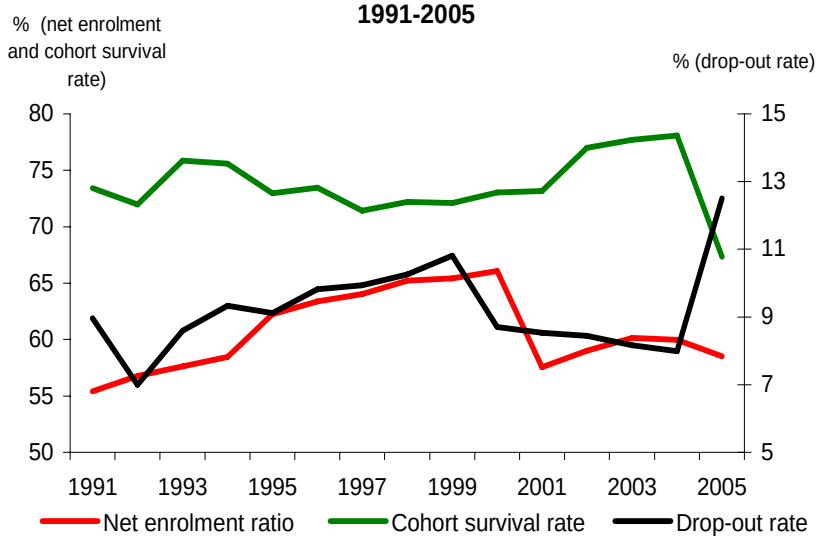
Figure 2. Elementary Education Performance Indicators: 1991-2005



Note: Prior to 2001, net enrolment ratio was computed using the population between the ages of 7-12; from 2001 onwards, the Department of Education revised the methodology and used the population between the ages of 6-11.
Source: Department of Education

Similar trends are manifested for secondary schools. Net enrolment ratio increased from 55.4% in 1991 to 58.5% in 2005 with its peak in 2000 at about 66%. However, drop out rate varies widely across the years with 8.96% in 1991 and registering the biggest increase from 8% in 2004 to 12.5% in 2005. Cohort survival rate declined from 73.4% in 1991 to 67.3% in 2005 with the peak in 2002 at 77%.

Figure 3. Secondary education performance indicators: 1991-2005



Source: Department of Education

The latter two figures validate the two major reports on the EFA. Eight years before Caoli-Rodriguez, the 2000 Philippine Assessment Report concluded that "Significant concrete steps have been made in support of the EFA policies and strategies on universal quality primary

education. These have not made much impact in terms of expected outcomes… The worsening dropout rate for elementary students and negligible improvement in the repetition and cohort survival rates betray weaknesses and constraints."

These reports are publicly available but up until now, there seemed to be no concerted effort to avert the declining trends of basic education. This insight led us to redirect the purpose of the paper to search for indicators on what causes the declining trends on basic education in the hope of initiating discussions that could lead to effective program interventions. In the process, we explored different perspectives and sources of data. Section 2 summarizes our analysis of education-related survey data. We revisited the administrative reporting system in section 3 while some international perspective is presented in section 4. The importance of sub-national estimates is presented section 5 while data issues that were identified through the study are summarized in section 6.

2. What do survey data tell us?

The indicators that have been used thus far for monitoring the EFA initiative and for most of the other studies that we reviewed are mostly from the Department of Education (DepEd) database, the Basic Education Information System (BEIS), which compiles data from reports of heads of schools throughout the country. These indicators, the definitions of which are listed in Appendix 2, measure DepEd's internal efficiency. Some indicators such as teachers-pupil or student ratio, number of teachers, number of schools measure the inputs of the system while net enrolment ratio, dropout rate, cohort survival rate are measures of outputs. These indicators, however, can only assess whether the target outputs have been reached given the level of inputs. They do not indicate the reasons why such levels or trends have occurred. These data cannot be collected from the current reports of heads of schools because the statistics that can be captured through the BEIS administrative data reporting system are only those that involved children who at one time or another entered the school system. Those children that were never part of any school system, whether public or private, are not considered in the indicators presented in previous reports.

To delve into the reasons for the worsening situation of basic education, a good data source would be the Annual Poverty Indicator Survey (APIS) that the National Statistics Office (NSO) conducts in the intervening years of the triennial Family Income and Expenditure Survey (FIES). In the APIS, all members of sampled households aged six to twenty four years old are asked whether he/she is attending school and if not, the reason for not attending school. In addition, since APIS also asks questions on income, the household income distribution can also be estimated.

For the purposes of this paper, results from the 2002 and 2004 APIS were analyzed. Note that the APIS was not conducted in 2005 and the data processing of the 2007 APIS has not yet been completed.

On the basis of the 2002 and 2004 APIS, it is estimated that about 716 thousand and 750 thousand children between the ages of 6 and 11 years old (the primary age group) were not attending school in 2002 and 2004, respectively. These figures represent 6.08% and 5.96% of children in the primary age group who were not in school in 2002 and 2004, respectively. For the secondary age group (12 to 15 years old), about 705 thousand and 896 thousand were not attending school, representing 9.72% and 8.65% of the total in 2002 and 2004, respectively.

Table 1 summarizes the reasons for non-attendance in school. For the elementary age group (6 to 11 years old), 29.0% in 2002 and 29.4% in 2004 cited lack of personal interest as the reason

for not attending school while other children specified other reasons (25.3%, 27.0%) and the high cost of education (14.8%, 15%). For the secondary age group (12 to 15 years old), lack of personal interest is also the primary reason for not attending school (38.2% in 2002 and 43.0% in 2004), while the high cost of education (27.4%, 26.8%) is the second major reason given.

Table 1. Reasons for Not Attending School, National Level: 2002 and 2004

	Primary		Secondary	
	2002	2004	2002	2004
Not currently in school (persons)	715,650	750,474	704,707	896,325
Reasons for not attending school (%)				
Cannot cope with school work	12.1	10.5	4.1	3.3
High cost of education	14.8	15.0	27.4	26.8
Illness/ Disability	6.6	7.7	6.8	6.3
Lack of personal interest	29.0	29.4	38.2	43.0
Schools are far/No school w/n brgy	9.3	8.0	2.7	2.9
Employment/Looking for work	0.6	1.1	12.5	9.2
Finished schooling	0.2	0.0	0.0	0.1
House keeping	0.8	0.7	3.1	3.8
No regular transportation	1.2	0.5	0.2	0.3
Others	25.3	27.0	5.0	4.2

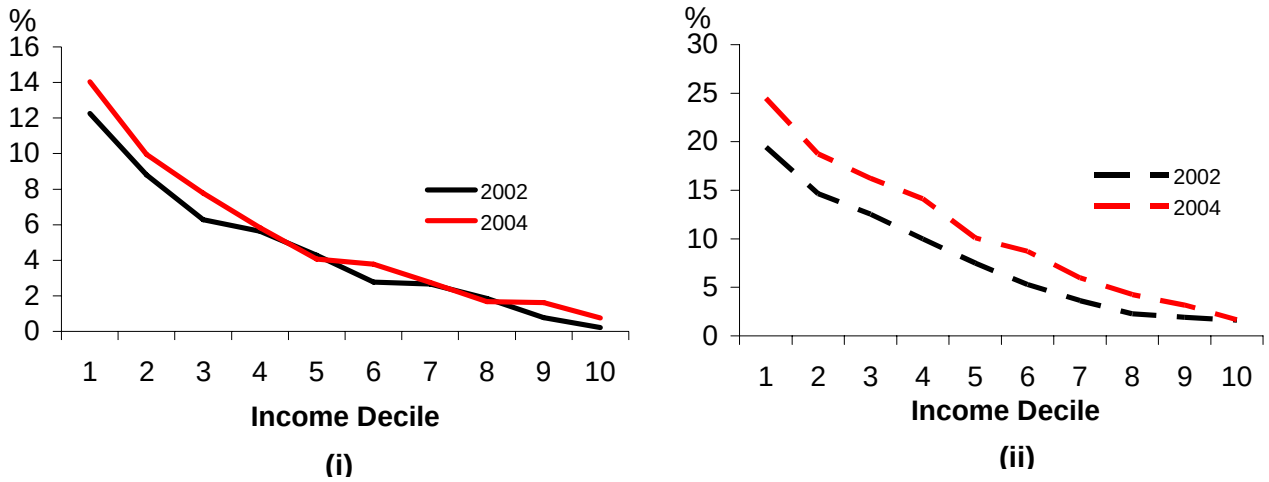
Source: Authors' computations using data from APIS 2002 and 2004.

Some of the factors that may have contributed to the lack of interest in going to school are the lack of support from parents, low quality of schools available, distance of schools, demands of community life and the overwhelming desire to contribute to the family income (Caoli-Rodriguez, 2007). Also, the perception that basic education may not be relevant because what children learn in school are not applicable in daily lives could have also contributed to the lack of interest. Curriculum is overloaded and does not accommodate cultural differences, leading to lack of focus and rote memorization. Language of instruction also remains an issue. (Human Development Network, 2000)

Reasons under “Others” which is the second major reason for not attending school in elementary age group children could be: (i) too young to go to school, (ii) not admitted in school, (iii) lack of documents such as birth certificate. Since the major reason cited by a number of respondents is “Others,” the NSO should provide a breakdown of the specific list of answers supplied by respondents who specified “Others” as the reason for non-attendance in school.

An underlying factor for lack of interest could actually be the lack of financial resources which some respondents may not want to admit as their reason for not attending school. Lack of interest may merely be a euphemism for lack of financial resources. This hypothesis is supported by Figure 4 which shows the percentage of children who are not attending in school decreases as income (of the household to which the children belong) increases. It is also interesting to note that for the primary age group, 72% and 67% of those who were not attending school (or about 518,000 and 500,000) in 2002 and 2004, respectively belong to the bottom 30% of the income distribution. In the case of the secondary age group, 68.1% and 57.5% of those who were not attending school (or about 479,600 and 392,000) in 2002 and 2004, respectively belong to the bottom 30% of the income distribution.

Figure 4. Percentage of children not in school, by income decile: 2002 and 2004, (i) Children aged 6-11; (ii) Children aged 12-15



Source: Authors' computations using data from APIS 2002 and 2004.

The government's 2004-2010 Medium Term Philippine Development Plan (MTPDP) justified public interventions in the education sector from equity considerations, i.e., improving the access of the poor to education, and the consequent social returns of assisting the poor from breaking the cycle of poverty. De Dios (1995) described the high premium society gives to education: "the sterotype of good parents, bordering on caricature, is still those who scrimp and save to send their children to school and on to college." However, these results show that the poor have lesser access to basic education. While education is one of the proven vehicles to get out of poverty, and yet, the results of APIS 2002 and 2004 imply that the poor would be less likely to obtain basic education. Poor families are being constrained from having their children stay in school. Children may actually be driven to work not only due to the cost of staying in school but also as a result of the quality of education, or lack of it (which makes it more rational to work than to stay in school). Both cost and quality factors are inherently tied to the notion of poverty, as poor families have to sacrifice sending their children to school especially during periods of crisis (Tabunda and Albert, 2002) and poor families have limited means of sending their children to schools that provide quality education. This is being further complicated by gender issues.

Table 2 shows the results of a logistic regression[7] model on the best explanatory variables for not attending school. The analysis covered children of ages 6 to 11 in APIS 2004. The odds

[7] Logistic regression is used to predict a discrete outcome, such as group membership or category from a set of explanatory variables that may be binary, continuous, discrete, or a mix of any of these. In general, the dependent or response variable is dichotomous, such as the presence/absence or success/failure. In the case of this study, the dependent variable is dichotomous – whether a child is not attending school or attending school as distinct categories and with probability of each category occurring respectively as θ and $1-\theta$. The relationship between the response and explanatory variables is not a linear function in logistic regression, rather, it is the log odds that is a linear function of the explanatory variables:

$$\log\left[\frac{\theta(x)}{1-\theta(x)}\right] = \alpha + \beta_1 x_1 + \beta_2 x_2 + \ldots + \beta_l x_l \,,$$

where α is the constant (intercept) of the equation and β_i is the coefficient of explanatory variable x_i. If an explanatory variable is categorical or discrete with say *k* categories, then this variable will be represented by *k-1* x_i

ratios[8] shows that those who belong to the bottom 30% of the income distribution are 1/0.355 or 2.82 times more likely to be out of school compared to those in the upper 70% *ceteris paribus*. In addition, we see that males are 1/0.715 or 1.39 times more likely to not to attend schools than girls, *ceteris paribus*.

Table 2. Logistic Regression Model on predictors for not attending school

Analysis of Maximum Likelihood Estimates

Parameter	DF	Estimate	Standard Error	Wald Chi-Square	Pr > ChiSq
Intercept	1	-2.67	0.0335	6335.4513	<.0001
Incomed Upper 70%	1	-0.5184	0.0299	301.2121	<.0001
COL04_SEX Female	1	-0.1675	0.0237	49.8869	<.0001

Odds Ratio Estimates

Effect	Point Estimate	95% Wald Confidence Limits	
Incomed Upper 70% vs bottom 30%	0.355	0.315	0.399
COL04_SEX Female vs Male	0.715	0.652	0.785

Source: Authors' computations using data from APIS 2004.

These results linking poverty and non-attendance in school, as well as relating gender issues to non-attendance should be a cause for concern and public policy. There ought to be clear policy linkages between efforts to reduce poverty and increase attendance in school, as well as policy actions to address the gender disparities in education. The literature, e.g. Dollar and Gatti (1999), indicates that gender inequalities hinder economic development, and that poverty exacerbates gender disparities. Maintaining, if not reinforcing, gender inequalities can have detrimental effects to societies that ultimately have to pay a price for gender inequality in terms of slower economic growth and reduced income per capita,

The expenditure pattern of families by income deciles, as presented in Table 3, suggests that families give more priority to food and utilities than to education and health. Overall, in 2002, 50.7% of the total family expenses are allocated for food, 7.3% for utilities, 4.5% for education and 2.5% for health. The bottom 10 percent of the income distribution spends two thirds of their total expenditures on food and about two percent of total expenses on education, while the richest income decile spends about a third of their expenses on food, and about one tenth on education. The overall expenditure share for education dropped to 3.0% in 2004, however because of the increase of about 2.5 percentages in food expenditure. Across income deciles, overall share of expenses for education in 2004 dropped compared to the share spent by the corresponding income deciles in 2002. For both 2002 and 2004, as income increases, the food expenditure share decreases while the education expenditure share increases.

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in the model such that x_i = 1 if category *i* and x_i =0 if not category *i*. The last category which is not included in the model is considered the reference category.

[8] The relationships and strengths among categories of explanatory variables could also be inferred from the results of the logistic regression. Since logistic regression gives the odds, i.e., the probability of success over the probability of failure, $\frac{\theta}{1-\theta}$, the parameter estimates of the coefficients or what is usually called logits in are the natural log of the odds

Table 3. Pecent share of basic necessities to family expenditures, APIS 2002 and 2004, by income decile.

Income Decile	APIS 2002				APIS 2004			
	Food	Utilities	Education	Health	Food	Utilities	Education	Health
1	66.0	8.0	2.0	2.0	65.5	7.4	0.8	1.2
2	64.7	7.2	2.5	1.8	63.6	7.2	1.4	1.4
3	62.6	7.2	2.8	2.2	62.2	7.0	1.8	1.4
4	59.9	7.2	3.3	2.2	59.4	7.1	1.9	1.6
5	57.6	7.4	3.5	2.5	56.2	7.3	2.2	1.7
6	54.2	7.7	4.0	2.4	53.4	7.3	2.4	1.9
7	50.9	7.6	4.7	2.6	50.3	7.4	3.2	2.1
8	46.4	7.5	5.5	2.8	46.2	7.4	3.8	2.3
9	41.7	7.1	6.5	3.2	41.6	7.0	4.9	2.6
10	33.2	6.3	8.7	3.6	33.3	6.3	7.1	2.9
TOTAL	50.7	7.3	4.5	2.5	53.2	7.2	3.0	1.9

Source: Authors' computations using data from APIS 2002 and 2004.

These results imply that with the current and continuing increase in food prices, especially rice, the staple food of most Filipinos, the expenditure share in education will probably decrease. Thus, targeted improvements in the net enrolment ratio and the drop out rate may not be achievable in the coming years without specific interventions that are specifically designed to solicit more participation from the poor.

3. What do administrative data tell us?

The administrative data that were previously discussed in this paper pertain to outputs or the coverage (quantity) of basic education. To measure the quality of education, perhaps the best indicators are those achievement rates for major subjects in the National Achievement Test (NAT) that were given in Grade 4 in the school years of 2002/2003 and 2003/2004 and in Grade 6 in succeeding school years by the DepEd's National Educational Testing and Research Center (NETRC). For the elementary level, the same mixed trend is observed for all subjects in the most recent three school years -- a drop in 2005/2006 and a gain the following year, registering a marginal overall increase, except for Science which showed a decline of more than three percentage points and for Filipino with an increase of more than four percentage points. In general, the overall achievement rate has remained low at 59.9% in 2006/07. (Table 4).

Table 4. Primary National Achievement Test (NAT) Mean Percentage Scores, by Subject: National*

Subject	SY2002-03 Grade IV	SY2003-04 Grade IV	SY2004-05 Grade VI	SY2005-06 Grade VI	SY2006-07 Grade VI
Achievement Rate (MPS)	…	…	58.73	54.66	59.94
Mathematics	44.84	59.45	59.10	53.66	60.29
Science	43.98	52.59	54.12	46.77	51.58
English	41.80	49.92	59.15	54.05	60.78
Hekasi	…	…	59.55	58.12	61.05
Filipino	…	…	61.75	60.68	66.02

*National Achievement Test (NAT), for elementary level, were given in Grade IV in SY 2002-2003 & SY 2003-2004 and in Grade VI in SY 2004-2005 to SY 2006-2007; MPS - Mean Percentage Scores.

Source: National Education Testing and Research Center (NETRC) as cited by the Department of Education.

In the case of secondary schools, the NAT was administered for first year students in the school year 2002/03 and to second year students in 2006/2007 and to fourth year students in the three intervening school years. Hence, comparisons can only be made in the three intervening years,

in which the overall achievement rate has remained stagnant at around 44%, with marginal gains in Mathematics and Science but a decline of more than two percentage points in English. (Table 5).

Table 5. Secondary National Achievement Test (NAT) Mean Percentage Scores, by Subject: National*

Subject	SY2002-03 1st Year	SY2003-04 4th Year	SY2004-05 4th Year	SY2005-06 4th Year	SY2006-07 2nd Year
Achievement Rate (MPS)	…	44.36	46.80	44.33	46.64
Mathematics	32.09	46.20	50.70	47.82	39.05
Science	34.65	36.80	39.49	37.98	41.99
English	41.48	50.08	51.33	47.73	51.78
Filipino	…	…	42.48	40.51	48.89
Araling Panlipunan	…	…	50.01	47.62	51.48

*National Achievement Test (NAT), for secondary level, were given in 1st Year in SY 2002-2003, in 4th Year in SY 2003-2004 to SY 2005-2006, and in 2nd Year in SY 2006-2007; MPS - Mean Percentage Scores.

Source: National Education Testing and Research Center (NETRC) as cited by the Department of Education.

The low achievement rates for both elementary and secondary schools are indicative of the low quality of basic education. A contributing factor to the low quality of basic education is the lack of competent teachers who are primary resource for elementary and secondary students in lieu of books and other learning material. For example, Table 6 shows the number of new teachers (graduates of Bachelor of Science in Education is declining and the passing rate for the Licensure Exam for Teachers has remained low and in fact, has decreased from 35.7% in 2000 to 30.8% in 2006.

Table 6. Summary Statistics on Basic Education Teachers

		Teacher Exams		
YEAR	New BSE graduates	No. of Examinees	No. of Passers	% of Passing
2000	54,418	123,503	44,103	35.7
2001	59,852	139,178	47,732	34.3
2002	63,087	141,704	50,832	35.9
2003	55,312	144,210	37,880	26.3
2004	53,268	118,885	32,157	27.0
2005	n.a	128,720	34,462	26.8
2006	n.a	112,615	34,667	30.8

n.a. - not available

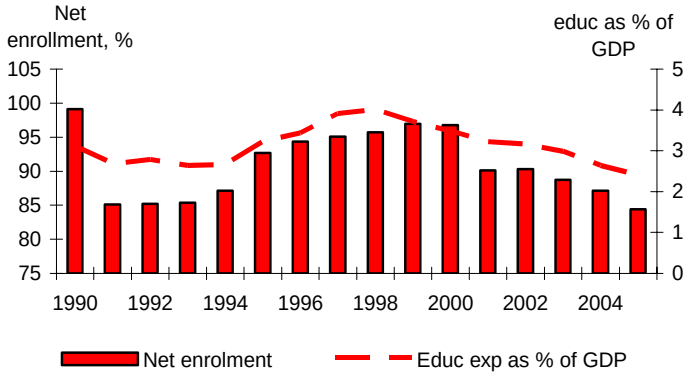
Source: PRC-Educational Statistics Task Force

Information is also scant regarding the capacities of current teachers. In 2005, the NETRC, in cooperation with the University of the Philippines National Institute for Science and Mathematics Education Development (NISMED) piloted a Teachers Test for Science, Mathematics, and English in some Divisions. The test was meant not only to assess teachers' competencies but also to provide a mechanism for identifying specific individual interventions for teachers who took the test. As of this writing, however, the NETRC and NISMED have managed to only yield partial results of the test (with open-ended questions still being processed). These results have been forwarded to the DepEd Secretary and to the Divisions concerned. However, no targets have been made on when the final results of the Teachers Test will be made available whether for the the teachers concerned, the Divisions to which they belong, or for the public. The DepEd, and the NETRC, in particular, should be finding partners, whether within the public or private sectors that could assist it in coming up with the final results of the test, and in

subsequently designing teacher assistance programs. There are already concerns that even if the results of this test will be finally available this year, such information may no longer be timely and relevant. Be that as it may, it could probably be surmised (from the partial results) that the test results would point to the lack of teacher competencies.

The 2000 Philippine Human Development Report suggested that the quality deficit of basic education can be attributed mainly to the inadequate budget for education. Comparison of the most recent three years of NAT achievement rate with the per capita expenditure for basic education seem to support this conjecture (Manasan, 2007). The 2005 NAT achievement rate dipped from 58.73% in 2004 to 54.66% when the per capita expenditure also dipped from 1051.3 pesos to 975.9 pesos and the NAT achieve rate increased to 59.94% when the per capita expenditure for basic education also increased to 1,014 pesos in 2006. However, it is not only quality that may be dependent on the budget for education but also, coverage. Figure 5 below shows the same trend of the expenditure in education as % of GDP and the net enrollment ratio.

Figure 5. Education expenditures as % of GDP and net enrolment



Sources: Department of Education; ADB Statistical Database System.

When expenditure in education rises, net enrollment also increases. In fact, the results of a simple linear regression of the log of the net enrollment ratio on education expenses as a percent of GDP shows that for a 1 percentage point increase in the share of education expenditures (in relation to GDP) from their current share will result to a 9.4% increase in the net enrollment ratio (from its current ratio). However, this analysis has to be revisited when the contribution from the private sector and international development organizations can be valued and integrated into the total expenditure. These contributions as listed in Appendix 3 are quite substantial.

4. Comparisons with neighboring countries

Of the 45 countries that were included in the 2003 Trends International Mathematics and Science Study (TIMSS)[9] on trends in mathematics achievement for grade 8 (second year high

[9] Since 1995 TIMSS has been assessing trends in the achievement of students in mathematics and science on a regular four-year cycle. Countries participate at the fourth and eight grades. Results of the 2003 TIMMS covered 51 countries while 60 countries have participated in the 2007 data collection. These internationally comparative assessments are dedicated to improving teaching and learning in mathematics and science for students around the world.

school), the Philippines ranked fifth from the bottom, well below Singapore, Republic of Korea, Hong Kong, Taipei,China and Japan – the top five countries, and Malaysia and Indonesia. For grade 4, of the 27 participating countries in the 2003 TIMSS, the Philippines ranked third from the bottom with almost the same set of neighboring countries occupying the top ranks. The same trends were observed for science in grades 8 and 4 with the Philippines as fourth from the bottom of 44 countries and third from the bottom of 25 countries, respectively.

In terms of the MDGs for education, the Philippines did not also fare better than its neighboring countries. Table 7 shows that only the Philippines has a downward trend from baseline data (1991) to the latest year for two of three MDG indicators – proportion of pupils starting grade 1 who reach grade 5 and literacy rate of 15-24 year olds. The Philippines, together with Viet Nam, Nepal, Maldives and Myanmar, has also a declining primary net enrolment rate. Meanwhile, Brunei Darussalam, Malaysia, and Thailand have a better net enrollment ratio performances, as well as larger budget allocations for education as a percent of GDP (than the Philippines) (Table 8).

Table 7. MDG 2 Indicators: International Comparison.

Southeast Asia	Net Enrolment Ratio in Primary Education, Total (%)			Proportion of pupils starting grade 1 who reach grade 5, Total (%)*			Literacy Rate of 15-24 Year Olds (%)		
	1991	2000	Latest year	1991	2000	Latest year	1990	2000	Latest year
Brunei Darussalam	92.7	...	96.9 (2005)	...	98.6 [c]	99.5 (2004)	98.1 [e]	...	98.9 (2001)
Cambodia	69.5	91.1	98.9 (2005)	...	62.8	63.1 (2004)	...	76.3 [h]	83.4 (2004)
Indonesia	97.3	97.9	98.3 (2005)	83.6	95.3	89.5 (2004)	96.2	...	98.7 (2004)
Lao PDR	62.8	81.7	83.6 (2005)	48.0	53.2	63.0 (2004)	71.1 [f]	...	78.5 (2001)
Malaysia	94.0 [a]	96.9	95.4 (2004)	97.3	87.0 [d]	98.3 (2002)	95.6 [e]	97.2	...
Maldives	87.0 [a]	96.5	79.7 (2005)	...	...	92.1 (2004)	98.2	98.2	…
Myanmar	98.1	81.8	90.2 (2005)	24.5	55.2	69.9 (2004)	80.9	94.5	96.5 (2005)
Nepal	81.0	72.7	80.1 (2004)	51.3	45.8	78.5 (2005)	49.6 [e]	...	70.1 (2001)
Philippines	96.5	92.3 [b]	94.4 (2005)	74.0	79.3 [d]	74.9 (2004)	96.6	95.1	95.1 (2003)
Sri Lanka	90.0	…	97.1 (2004)	92.2	...	...	...	...	95.6 (2001)
Thailand	75.8	...	93.1 (2006)	...	...	...	98.0	98.0	...
Viet Nam	90.2	95.4	87.8 (2005)	80.0 [b]	85.7	86.8 (2002)	93.7 [g]	93.9 [b]	94.4 (2003-04)

Notes: [a] refers to 1990; [b], 1999; [c], 2003; [d], 2001; [e], 1991; [f],1995; [g], 1989; [h], 1998.

* The revised UN Official List of MDG Indicators, effective as of 15 January 2008, presents the "Proportion of pupils starting grade 1 who reach last grade of primary" as the MDG2, Target 2.A, Indicator 2.2. However, due to lack of baseline data (1990) fo

Sources: UNSD MDG Indicators website, available: http://mdgs.un.org/unsd/mdg/Default.aspx, downloaded 2 April, 2008; UNESCO Data Centre, available: http://stats.uis.unesco.org/unesco/ReportFolders/ReportFolders.aspx, downloaded 1 April 2008; Asian Develop

Table 8. Education Expenditure as a % of GDP

Country	1990	1995	2000	2001	2002	2003	2004	2005
Brunei Darussalam	3.9	4.2	5.8	5.3	6.5	8.2	4.3	5.5
Cambodia	0.8	0.9	1.3	1.4	1.7	1.6	1.5	1.4
Indonesia	1.0	0.7	0.9	0.8	0.9	1.1	n.a.	n.a.
Lao PDR	0.5	0.1	1.0	1.6	n.a.	n.a.	n.a.	n.a.
Malaysia	5.5	4.8	5.6	7.0	7.7	7.0	5.4	5.2
Maldives	n.a.	4.8	7.4	6.7	7.8	8.2	7.8	8.9
Myanmar	2.6	1.1	1.2	1.0	0.9	0.9	1.1	0.6
Nepal	1.7	2.3	2.4	2.7	3.0	2.9	2.9	3.2
Philippines	3.1	3.2	3.5	3.2	3.2	3.0	2.6	2.4
Sri Lanka	3.0	2.9	2.5	2.0	2.3	2.2	2.1	2.7
Thailand	n.a.	3.5	4.5	4.3	4.1	4.1	4.0	n.a.
Viet Nam	n.a.	2.8	2.9	n.a.	n.a.	n.a.	n.a.	n.a.

Sources: ADB Statistical Database System; IMF Government Finance Statistics CD-Rom, January 2008 for Myanmar and Viet Nam.

5. The importance of sub-national level indicators

How can the declining trends of indicators for basic education be arrested? The adversely affected areas and also, those at-risk can be identified and interventions can be designed for these areas to abate the downward trend of the performance indicators. In the same token, areas that are performing better than expected can be identified and studied further so that the factors that contributed to their good performance can be replicated in other areas. It is therefore, necessary to derive estimates of performance indicators presented in this paper at sub-national level for purposes of identifying these areas. For administrative reporting systems, such as the BEIS, aggregates at finer disaggregation levels are not much of a problem. The BEIS aggregates though at fine disaggregations, e.g., cities point to some coverage issues: the private sector does not always comply with reporting systems. For survey data, sub-national estimates are possible only at the domain level at which the sample sizes have been determined such that the sampling errors are at acceptable levels; unless appropriate small area estimation techniques are used to derive estimates at sub-domain levels.

To illustrate, net enrolment rate and other education output indicators are presented in Table 9 together with poverty incidence rates at region level that were computed using the official poverty line methodology and FIES. This table indicates a strong relationship between poverty and the education output indicators. In general, as poverty increases, the drop-out rate also increases but the net enrolment rate and cohort survival rate decreases. Table 9 also shows that the Autonomous Region of Muslim Mindanao (ARMM) is the most adversely affected area, having the high poverty incidence, the highest dropout and the lowest cohort survival rate among the regions.

Table 9. Primary education performace indicators and poverty incidence, by Region: 2000, 2003, and 2006

	2000				2003				2006*			
Region	Poverty Incidence	Net enrolment ratio	Drop-out rate	Cohort Survival Rate	Poverty Incidence	Net enrolment ratio	Drop-out rate	Cohort Survival Rate	Poverty Incidence	Net enrolment ratio	Drop-out rate	Cohort Survival Rate
Philippines	33.0	96.8	7.7	67.2	30.0	88.7	6.9	71.8	32.9	84.4	7.3	70.0
NCR	7.8	101.0	7.3	80.2	6.9	96.8	3.7	84.2	10.4	92.6	3.8	83.5
Region I	35.3	97.7	3.9	80.7	30.2	88.5	3.3	85.6	32.7	84.9	3.1	86.8
Region II	30.4	95.7	5.7	69.9	24.5	85.7	4.8	79.5	25.5	79.9	5.3	77.3
Region III	21.4	98.3	4.8	79.5	17.5	93.6	3.7	84.3	20.7	90.8	4.2	82.0
Region IV-A	19.1	98.5	6.3	74.4	18.4	95.3	5.5	77.2	20.9	92.9	5.2	78.2
Region IV-B	45.3				48.1	89.4	6.7	72.6	52.7	84.4	7.5	69.6
Region V	52.6	95.6	7.1	66.4	48.5	89.3	6.5	73.7	51.1	85.4	6.5	73.9
Region VI	44.5	96.2	6.6	64.0	39.2	83.2	7.3	70.4	38.6	77.1	7.5	69.4
Region VII	36.2	98.6	5.9	68.4	28.3	85.6	6.3	74.0	35.4	80.1	6.4	73.4
Region VIII	45.1	94.6	9.4	58.0	43.0	83.7	7.3	70.4	48.5	80.0	10.0	60.2
Region IX	44.8	93.4	11.6	50.7	49.2	84.8	11.2	57.8	45.3	79.1	11.8	55.7
Region X	43.8	95.6	8.2	61.7	44.0	86.9	8.1	67.4	43.1	80.2	9.7	61.7
Region XI	33.3	93.9	8.6	61.1	34.7	84.4	8.7	65.5	36.6	79.0	10.9	57.8
Region XII	46.8	97.3	12.6	55.7	38.4	81.2	8.7	66.2	40.8	77.4	10.2	60.7
CAR	37.7	94.4	7.7	66.0	32.2	89.2	6.0	75.0	34.5	82.6	7.4	71.4 **
ARMM	60.0	91.3	23.0	33.6	52.8	90.1	21.9	31.0	61.8	87.3	20.3	36.2
CARAGA	51.2	92.9	9.2	62.0	54.0	78.0	7.7	68.6	52.6	74.8	7.8	68.3

*Latest education indicators data are for 2005.

** Data for 2004.

Sources: National Statistical Coordination Board and Department of Education.

In the case of APIS 2002 and 2004, Tables 10a and 10b show that the ARMM consistently has the largest percentage of children not in school for the elementary school age group with 22.5% and 29.5% in 2004 and 2002, respectively.

Table 10a. Reasons for not attending primary school, by Region: APIS 2002

REGION	Not currently in school (persons)	Not currently in school (%)	Reasons for not attending school (%)									
			Cannot cope with school work	High cost of education	Illness/ Disability	Lack of personal interest	Schools are far/No school w/n brgy	Employment/ Looking for work	Finished schooling	House keeping	No regular transportation	Others
NCR	31,701	2.5	10.5	41.2	6.7	13.5	2.1	1.3	…	…	…	24.7
Ilocos Region	32,078	5.3	4.6	8.9	7.7	48.6	4.8	…	…	…	…	25.3
Cagayan Valley	10,696	2.4	1.9	25.9	24.1	36.8	…	…	…	…	…	11.3
Central Luzon	47,518	4.1	0.3	14.4	12.3	35.8	0.3	…	…	…	…	36.9
Southern Tagalog	57,438	3.3	1.4	16.8	12.9	29.8	15.7	…	…	…	2.4	21.0
Bicol Region	48,944	6.0	13.1	7.4	4.1	30.6	5.1	…	…	…	…	39.7
Western Visayas	49,007	5.0	13.6	10.8	10.4	24.1	5.5	…	…	1.3	…	34.3
Central Visayas	72,649	8.7	19.1	6.6	3.9	28.1	8.0	3.5	1.7	1.1	0.2	27.6
Eastern Visayas	46,223	7.1	4.0	14.4	4.1	51.3	5.3	…	…	0.8	…	20.0
Western Mindanao	51,488	9.6	14.1	12.2	1.5	14.6	26.6	0.9	…	1.7	…	28.4
Northern Mindanao	36,513	6.2	7.5	8.7	10.6	21.4	5.5	0.6	…	0.6	…	45.1
Southern Mindanao	37,412	6.7	7.7	28.6	6.9	23.5	6.4	…	…	1.8	…	25.0
Central Mindanao	42,587	7.7	4.7	48.5	6.4	16.4	9.9	0.3	…	…	0.4	13.4
CAR	7,145	3.3	10.6	6.4	2.5	23.3	8.3	…	…	…	…	48.9
ARMM	127,045	29.4	26.5	5.1	1.7	32.8	14.4	0.6	0.2	1.9	5.5	11.3
CARAGA	17,206	4.5	16.1	14.7	13.3	24.2	5.2	…	…	…	…	26.5

Source: Author's computations using data from APIS 2002.

Table 10b. Reasons for not attending primary school, by Region: APIS 2004

REGION	Not currently in school (persons)	Not currently in school (%)	Reasons for not attending school (%)									
			Cannot cope with school work	High cost of education	Illness/ Disability	Lack of personal interest	Schools are far/No school w/n brgy	Employment/ Looking for work	Finished schooling	House keeping	No regular transportation	Others
NCR	45,391	3.3	7.9	33.9	15.9	11.8	1.1	…	…	…	…	29.4
Ilocos	22,175	3.5	10.7	20.4	10.7	36.4	1.8	…	…	…	…	20.0
Cagayan Valley	18,463	3.9	3.6	20.6	10.4	38.1	…	…	…	…	…	27.3
Central Luzon	36,379	2.9	7.2	24.8	12.4	22.2	…	1.3	…	…	…	32.0
CALABARZON	56,853	3.5	6.0	16.3	18.5	29.4	2.8	…	…	1.1	…	26.0
MIMAROPA	24,863	5.7	4.5	9.1	7.8	48.5	14.8	1.0	…	…	1.1	13.2
Bicol	55,991	6.4	11.8	10.2	7.1	29.6	2.3	1.4	…	0.7	…	36.9
Western Visayas	57,430	5.8	9.8	7.6	11.7	27.5	14.1	0.8	…	…	…	28.5
Central Visayas	60,923	6.6	13.8	16.9	4.6	31.7	1.6	3.6	…	…	…	27.8
Eastern Visayas	36,421	5.8	1.8	13.3	5.8	42.7	6.3	2.0	1.0	…	…	27.0
Zamboanga Peninsula	51,039	9.8	13.4	10.5	2.7	42.8	3.6	0.8	…	1.5	1.5	23.2
Northern Mindanao	33,979	5.9	3.5	7.3	3.4	35.3	9.7	1.1	…	…	2.7	37.1
Davao	45,243	7.6	17.5	18.1	8.4	21.9	12.5	…	…	4.1	…	17.6
SOCCSKSARGEN	67,000	12.1	7.4	27.8	6.2	23.0	17.4	0.4	…	…	…	17.8
CAR	6,424	3.0	5.7	13.3	8.1	44.8	11.0	…	…	…	…	17.1
ARMM	116,303	22.5	19.4	5.0	0.6	24.9	14.7	1.9	…	1.1	1.8	30.6
CARAGA	15,599	4.2	1.8	11.0	12.0	32.8	7.9	1.2	…	1.2	…	32.1

Source: Author's computations using data from APIS 2004.

Other adversely affected areas in 2004 were SOCCSKSARGEN (12.1%) and Zamboanga Peninsula (9.8%). In these three regions, the prevailing reasons from not attending school are lack of interest and "others". What is probably a common factor in these three regions is the heightened peace and order situation that could influence parents' decision for not sending their children to school. It is also interesting to note that only in NCR did the high cost education become the major reason for not attending school.

Examining the quality of education across regions, it is clear that the ARMM needs the most attention since it has consistently performed at the bottom for all the subjects tested. Two regions fared well consistently ahead of the others – Eastern Visayas and CARAGA. This result should be studied further and if there is reason to believe that these two regions have better school-based management, or better access to resources than the other regions, or other factors that distinguish them from the rest of the regions, then this could be a good starting point for improving basic education. The tables on the NAT results by region are presented in Appendix 4.

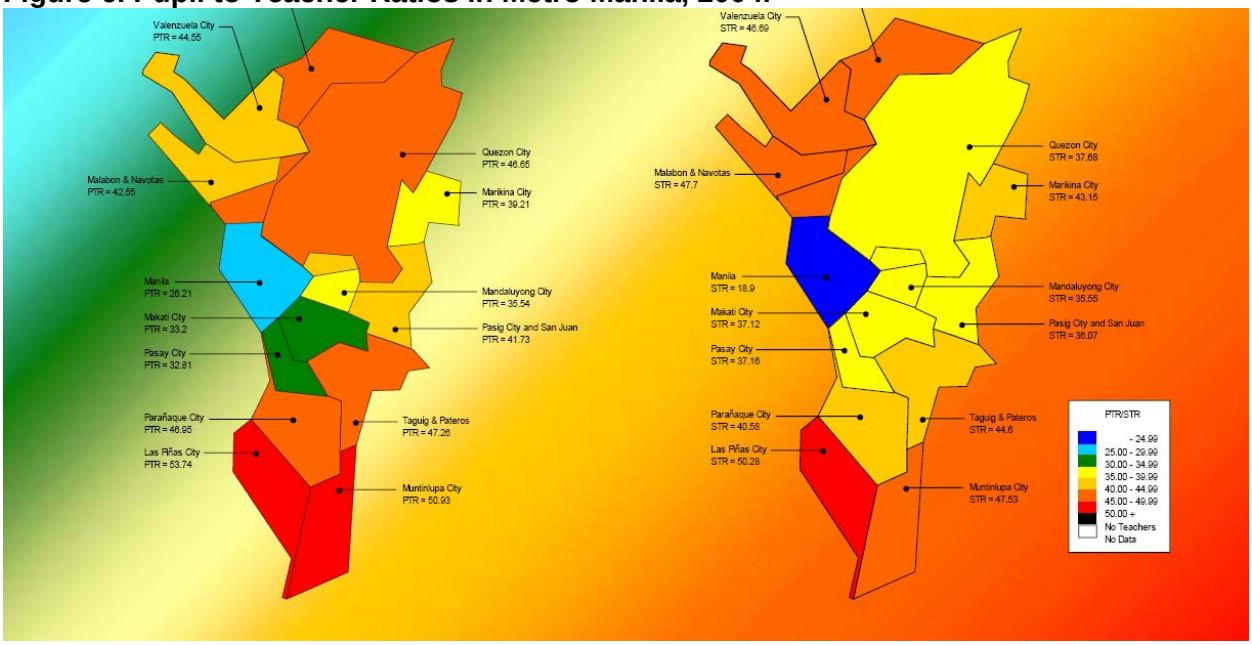
According to Roces and Genito (2004), the DepEd monitors indicators at sub-national level through BEIS. One example is the teacher deployment through the number of teachers and the pupil to teacher ratio (i.e., the ratio of students to teacher items).. Analysis of the ratios is done down to the school level using color codes indicated in Table 11, and this analysis is also performed with aggregates at the district, city/municipality, province, and regional levels using geographic information systems (see, e.g., Figure 6). A target pupil to teacher ratio is set by the DepEd Secretary for the incoming school year, and using this target, needs of each school are analyzed from the BEIS to meet the pronounced target. Preliminary analysis is done by assuming different sets of scenario targets. The derived teacher needs of each school are then further analyzed at each Division, in order to identify the number of new teachers to be hired, or to set programs in place for redeploying existing teachers within each Division.

Table 11. Teacher Deployment Color Coding Analysis Scheme

Pupil to Teacher Ratio	Color Type	Color Code		Remarks
Less than 25	Cool Color	Blue		Excessive surplus teacher provision
25.00 - 29.99	Cool Color	Sky Blue		Surplus teacher provision
30.00 - 34.99	Cool Color	Green		Generous teacher provision
35.00 - 39.99	Cool Color	Yellow		National mean ratio
40.00 - 44.99	Hot Color	Gold		Manageable ratio
45.00 - 49.99	Hot Color	Orange		Moderate teacher surplus
More than 50.00	Hot Color	Red		Severe teacher shortage
No teacher available	Hot Color	Black		No nationally funded teachers

Source: Roces and Genito (2004)

Figure 6. Pupil to Teacher Ratios in Metro Manila, 2004.



Source: BEIS, Department of Education as shown in Roces and Genito (2004)

The latest (2007) estimates of pupil to teacher ratio are at 35 and 39, for primary and secondary schools, respectively. While such information and analysis is extremely helpful, the current system does not take into account teacher attrition due to resignations and retirement. Neither does this monitoring system take into account the supply side of teachers.

Another example of monitoring at sub-national level rendered a surprising conclusion that is probably unique only to the Philippines in the Southeast Asia countries. As shown in Table 12, girls tend to stay in school more than boys: the proportion of female pupils starting Grade 1 who reach Grade 5 is larger than their male counterparts. All these data does not necessarily mean that the gender balance has already been achieved. The difference between the proportions of girls and of boys staying in school may even suggest a different set of disparities between the sexes in the country. The MDGs for literacy and education pertain to providing education for all, regardless of sex. When one sex, whether female or male, is at a disadvantage over the other, then, this indicates that barriers to equal opportunities, particularly for going to school, may have been established as a result of different expectations for the sexes.

Table 12. MDG2 Indicators, by Sex

MDG 2 Indicators	Year	Sex		Both Sexes
		Male	Female	
Net Enrollment Ratio in Primary Education (%)	1991	97	96	97
	2000	92	92	92
	2005	93	96	94
Proportion of Pupils Starting Grade 1 who Reach Grade 5 (%)	1991	69	79	74
	2000	76	83	79
	2005	71	80	75
Literacy Rate of 15–24 Year Olds (%)	1991	96	97	97
	2000	95	96	95
	2003	94	97	95

Sources: UNSD MDG Indicators website, available: http://mdgs.un.org/unsd/mdg/Default.aspx, downloaded 2 April, 2008; UNESCO Data Centre, available: http://stats.uis.unesco.org/unesco/ReportFolders/ReportFolders.aspx, downloaded 1 April 2008

6. Data Issues

Some of the issues that have been raised in this paper seem to have been covered by the Philippine EFA 2015 plan and RA 1955. For example, RA 1955 school-based management strategy gives more authority, resources and accountability to school heads and provides a mechanism for involving the participation of the community to improve basic education. A report card for each school has been designed to monitor the performance of the school head and the progress school. This report card presumably has indicators that have been identified for this purpose. But what are these indicators? Are they the same as those of the EFA 2015 in Appendix 1? To monitor the EFA 2015 goals, the indicators that are used should also be estimated at the sub-national level so that non-performing areas can be identified and interventions to improve their performance can be implemented. One problem, however, is how can the net enrolment ratio, which is one of the key indicators, can be measured for a school or even for a municipality, when there is no readily available data[10] on the denominator-- the total population in the same age range for a given municipality?

Another data issue is data inconsistency across time, some examples of which have been mentioned in the earlier discussions. After 2002, indicators defined the primary age group as 6-11 years, but prior to 2002, the primary age group was defined as 7-12. For some years, NAT were administered to grade IV and for the three most recent years, to grade VI. Similarly, there were some years that NAT was administered to first year, then to fourth year and to second year high school. Because of these differences in grade levels, the achievement rate which is the indicator that measures performance cannot be compared across years. Another example of inconsistency across time is manifested by the changing regional composition, and perhaps, provincial boundaries, too. For example, the 2003 Region IV has become Calabarzon and Mimaropa by 2006. The performance of these two newly created regions can only be monitored if data from previous years can be recomputed to reflect the change in the regional composition.

Inconsistency across space are likely to arise if the concepts and methodology for computing the indicators are not implemented correctly. For example, pupil to teacher ratio may vary if the teachers who have retired or resigned are not taken out of the denominator.

Another example of inconsistency is that of the net enrolment ratio in the MDGs and the DepEd's data series. (See Table 13.) The note on the UNESCO website states that "Nationally-published figures may differ from the international ones because of differences between national education systems and ISCED97; or differences in coverage (i.e. the extent to which different types of education – e.g. private or special education – or different types of programmes e.g. adult education or early childhood care and education - are included in one rather than the other) and/or between national and UNPD population data". While this explanation is perfectly acceptable, the question now is how can the Philippines' standing in terms of this MDG be improved, when the data series that is being monitored by DepEd is different?

[10] The total number of population in a particular age range can be derived on the basis of the most recent census and assuming some parameters like the survival rate for a particular age group, migration, etc. This type of analysis is usually done by a demographer or a statistician.

Table 13. MDG 2 Indicators: International and Local Data Sources.

Source	Net Enrolment Ratio in Primary Education, Total (%)			Proportion of pupils starting grade 1 who reach grade 5, Total (%)*			Literacy Rate of 15-24 Year Olds (%)			
	1991	2000	Latest year	1991	2000	Latest year	1990	2000	Latest year	
UNSD	96.5	92.3 [b]	94.4 (2005)	…	…	…	96.6	95.1	95.1	(2003)
UNESCO	96.4	91.9 [b]	91.4 (2006)	74.0	79.3 [c]	74.0 (2005)	96.6	95.1	95.1	(2003)
DepEd	99.1 [a]	90.1	84.4 (2005)	69.7	69.5	70.0 (2005)	96.6	95.1	96.6	(2003)

Notes: [a] refers to 1990; [b], 1999; [c], 2001. Education data from the UNSD MDG website were last updated in July 2007, while the UNESCO database was last updated in April 2008.

* The revised UN Official List of MDG Indicators, effective as of 15 January 2008, presents the "Proportion of pupils starting grade 1 who reach last grade of primary" as the MDG2, Target 2.A, Indicator 2.2. However, due to lack of baseline data (1990) for the Philippines, as most of the countries, Table 13 presents the old indicator "Proportion of pupils starting grade 1 who reach grade 5" using the latest statistics from UNESCO.

Sources: UNSD MDG Indicators website, available: http://mdgs.un.org/unsd/mdg/Default.aspx, downloaded 22 April, 2008; UNESCO Data Centre, available: http://stats.uis.unesco.org/unesco/ReportFolders/ReportFolders.aspx, downloaded 22 April 2008; Department

Tasks 8 and 9 of the 2015 EFA are to create network of community-based groups for national and local attainment of EFA goals and to establish a measurement and accountability network. The report card mentioned above must be one of the mechanisms for supporting .these tasks that are geared towards evidenced-based management that has been proven to be an effective policy and program implementation approach. The current information system, however, needs a major overhaul to be able to support these tasks. At present, the database of performance indicators that can be used for monitoring is not well-organized and automated. Data on various measures from reporting systems prior to 2002 are available only through the DepEd publications, i.e., they are not available in softcopy format. Researchers have to spend so much time in data compilation before analysis can be performed.

Surveys like APIS are valuable tools for validating and supplementing the results of administrative reporting systems such as BEIS. There are, however, issues regarding this process that need careful attention. While surveys can provide more information about households and individuals enriching the analysis and estimates that can be derived which are not at all possible from administrative data reporting tools, the reporting level for surveys is limited only up to the domain level. Estimates at lower disaggregation levels may not be reliable because sample size may be too small to render an acceptable sampling error level. Small area estimation techniques may be applied to get estimates at lower disaggregation level. The discrepancies between the APIS and BEIS results should also be fully explained. For example, in APIS 2002, there are only 6.08% who were not in school but the net enrollment ratio is about 90.3%. Similarly, for APIS 2004 there were 5.96% who were not in school against 87.11% net enrolment ratio. The denominator that was used in computing the net enrollment ratio can be a source of the discrepancy. However, we could not find any technical documentation for computing the indicators mentioned in the 2015 EFA, except for what is in Appendix 2 which are only definitions. The DepEd will have to pay more attention to developing appropriate metadata, aside from improving its data dissemination.

7. Conclusions and Recommendations

In this paper, we illustrate how survey data provides another perspective in our search for reasons on the declining state of basic education. Results from the APIS highlighted that a critical factor that hinders the achievement of education for all is poverty. The poor has marginal access to basic education and allocates a minimal portion of their meager income to education. In fact, this small portion has also declined through the years, with an increasing share of expenditures devoted to food. The nexus between poverty and education has gender issues intertwined, with boys less likely to stay in school than girls, especially among poor families.

The surveys have also showed that the number of children who are not attending school is alarmingly large. This number is not fully captured, except perhaps in net enrolment ratio, in the statistics provided by the BEIS, or the administrative reporting system for education. Surprisingly, the prevailing reasons for not attending school are lack of interest and "others". To address this finding, there should be a review of the curriculum that other studies have claimed to be overloaded to make it more responsive to children's interests and assist them in their daily lives. The importance of basic education must also be promoted especially in depressed areas.

Clearly, the government budget allocation is not adequate to support the thrust to provide education for all, much less to improve the quality of education that it can provide. While there is substantial financial support from other sources, these too, do not seem to have a positive effect on the performance indicators. However, this conjecture has yet to be validated after the financial assistance from external sources has been integrated into the monitoring system and examined vis-à-vis the performance indicators.

The comparison with other countries in terms of the MDGs, expenditure in education and internationally comparable achievement tests provided another dimension in assessing the status of basic education. The Philippines is one of the leaders in education in Asia some decades ago, but we find our country in the bottom of the list at present. This conclusion should compel our government to intensify its effort in improving basic education. To address the lack of interest of children in attending school, one of the production tasks of EFA 2015 is to increase the level and quality of effort in curriculum development and instruction. Tasks 4 and 5 – promote practice of high quality teaching and add two more years to basic education are also geared to improve the quality of basic education. There was little mention, however, on how to assist the poor to have more access to education and also, how to increase the number and quality of new eligible teachers. It is critical to design interventions that will help the poor to have more access to basic education, and eventually, to quality education. In addition, the declining number of new teachers, the low passing rates in the Teachers' Licensure Exam, the lack of interest among children and other reasons for not attending school should be further studied.

In August 2005, the DepEd developed the 2006-2010 Basic Education Sector Reform Agenda (BESRA) to systematically, institutionally, and sustainably improve nationwide basic education outcomes. The BESRA identifies key reform thrusts: schools, teachers, social support to learning, complementary interventions, and DepEd's institutional culture. The DepEd has developed coordination mechanisms to implement BESRA (DepEd, 2008b) and has come up with a number of priority interventions to arrest the worsening trends in the state of education (DepEd, 2008a). However, for a policy agenda, such as BESRA, and its components, to be effective, a Monitoring and Evaluation (M & E) system is required. The policy agenda must have defined goals. With each goal, measurable indicators must be identified, and realistic targets must be set to help policy makers lay down priorities.

To monitor the development process, indicators for each milestones – for inputs, outputs, outcome and impact, should be formulated. These indicators must be consistently measured using standard definitions and methods across time and space. Sub-national estimates of the indicators are also important in identifying areas that need more attention or supervision. These set of indicators should be made accessible to the public to promote transparency and accountability at all levels. Also, statistics on education can be a powerful instrument for getting the attention of policy makers and the public in general on the condition of the state of basic education. It is therefore, essential that the set of indicators for the EFA 2015, including the report card for schools, should be reviewed so that each development milestones is

represented. The indicators must also be measurable and consistent across time and space to support effective monitoring of the goals. Issues such as incomplete coverage because of the non-compliance of the private schools to report timely data to the lack of information about children who have not been part of the education system must be addressed by carefully studying the proposed set of indicators. To maintain comparability, definitions and compilation methods must be standardized. If definitions are changed, it is important for parallel runs of the old and the new series of statistics to be maintained for a reasonable length of time to allow assessment of the comparability and consistency of the figures.

One specific issue of comparability that needs urgent attention is the grade level at which NAT will be administered. This must be fixed so that data series will be comparable across time. If one goal is to perform better at TIMMS, which administer science and mathematics tests at grades 4 and 8, then these grades must also be considered in the decision process.

While the DepEd already monitors a number of key performance indicators of basic education, including the MDG and EFA indicators, there is a sense that these measures and other measures that describe the state of basic education are not being effectively disseminated to the public and to the education stakeholders. Currently, the information available in the DepEd website especially time-series and disaggregated data, is sparse. Data have to be compiled from many sources and in the process, consistency across time and space may not be maintained. While staff of DepEd and NETRC were helpful to the authors in providing appropriate data sources for the indicators that we needed for this paper, it is important for education statistics to be more widely disseminated for use by researchers, and the public, in general. An effective approach is to put this set of indicators in a statistical database in which a clear set of standards (meta-data) are implemented. The database, including the meta-data or data attributes, that can be disseminated through the Internet, from the DepEd website. It requires a process flow that involves an efficient reporting system that has a clear set of definitions and concepts which can be done through existing e-mail systems and a simple database architecture. Good examples of this, though not solely on education, can be viewed through the Internet (MDG Official website: http://mdgs.un.org/unsd/mdg/Default.aspx and the Asian Development Bank's Statistical Database System: http://sdbs.adb.org)

External validation of the EFA 2015 can be done through survey data. With the forthcoming APIS in 2008, the NSO should be asked by the DepEd to review the possible responses for not attending school and decompose the "others" response choice. Small area estimation may also be performed on APIS and FIES to generate provincial level estimates which are important for planning and targeting purposes.

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APPENDIX 1. Summary Matrix on the Philippine Progress Towards EFA 2015 Goals (2001-2006) (Caoli-Rodriguez, 2007)

<table>
<tr><th rowspan="2">EFA 2015 Goals</th><th colspan="2">Indicators</th></tr>
<tr><th>Baseline</th><th>Latest</th></tr>
<tr><td>1. Expanding and Improving early childhood care and education</td><td>2001
GER in ECE: 17.86%
Percentage of
Grade 1 with ECE Experience:
55.81%</td><td>2005
GER in ECE: 20.53%
Percentage of
Grade 1 with ECE Experience:
60.72%</td></tr>
<tr><td>2. Ensuring that by 2015 all children have access to and complete, free and compulsory primary education of good quality</td><td>2001
NER : 96.77%
GER : 109.85%
NIR : 40.83%
GIR/AIR : 130.40%</td><td>2005
NER : 84.44%
GER : 101.13%
NIR : 35.81%
GIR/AIR : 115.39%</td></tr>
<tr><td>3. Ensuring that the learning needs of all young people and adult are met through equitable access to equitable learning and life skills programs</td><td>(BLP-LSCS only)
No. of Learners : 58,360
No. of Completers: 6,791</td><td>(BLP-LSCS only)
No. of Learners: 38,563
No. of Completers: 32,754

19% of 15 yrs old and above that availed of literacy and Life skills Training Programs</td></tr>
<tr><td>4. Achieving a 50% improvement in levels of adult literacy by 2015, especially for women, and equitable access to basic and continuing education for all adults</td><td>1994 FLEMMS
Simple Literacy : 93.9
Male 93.7
Female 94

Functional Literacy:
Male 81.7
Female 85.9</td><td>2003 FLEMMS
Simple Literacy 93.4
Male 92.6
Female 94.3

Functional Literacy:
Male 81.9
Female 86.3</td></tr>
<tr><td>5. Eliminating gender disparities in primary and secondary education by 2005, and achieving gender quality in education in 2015, with a focus on ensuring girls' full and equal access to and achievement in basic education of good quality</td><td>2000
Parity Index
(Female/Male)
<table><tr><th></th><th>Elem</th><th>Sec</th></tr><tr><td>NIR</td><td>1.07</td><td></td></tr><tr><td>GIR/AIR</td><td>0.94</td><td></td></tr><tr><td>NER</td><td>1.01</td><td>1.11</td></tr><tr><td>GER</td><td>0.99</td><td>1.08</td></tr><tr><td>CSR</td><td>1.09</td><td>1.12</td></tr><tr><td>CR</td><td>1.09</td><td>1.13</td></tr><tr><td>Achievement</td><td>-</td><td>-</td></tr></table></td><td>2005
Parity Index
(Female/Male)
<table><tr><th></th><th>Elem</th><th>Sec</th></tr><tr><td>NIR</td><td>1.23</td><td></td></tr><tr><td>GIR/AIR</td><td>0.94</td><td></td></tr><tr><td>NER</td><td>1.02</td><td>1.18</td></tr><tr><td>GER</td><td>0.98</td><td>1.09</td></tr><tr><td>CSR</td><td>1.15</td><td>1.19</td></tr><tr><td>CR</td><td>1.16</td><td>1.24</td></tr><tr><td>Achievement</td><td>1.07</td><td>1.05</td></tr></table></td></tr>
<tr><td>6.Improving all aspects of the quality of education and ensuring excellence of all so that recognized and measurable learning outcomes are achieved by all, especially in literacy, numeracy and essential life skills</td><td>Achievement Level :

Elem: 51.73

Sec: 53.39</td><td>Achievement Level

Elem : 54.66

Sec: 44.33</td></tr>
</table>

AIR – Apparent Intake Rate; BLP- Basic Literacy Program; CR – Completion Rate; CSR – Cohort Survival Rate; ECE – Early Childhood Education; FLEMMS – Functional Literacy, Education and Mass Media Survey; GER – Gross Enrolment Ratio; GIR – Gross Intake Rate; LSCS – Literacy Service Contracting Scheme; NER – Net Enrolment Ratio; NIR – Net Intake Rate

APPENDIX 2: CONCEPTS AND DEFINITION OF INDICATORS[11]

Cohort Survival Rate is the proportion of enrollees at the beginning grade or year who reach the final grade or year at the end of the required number of years of study.

Completion Rate is the percentage of first year entrants in a level of education who complete/finish the level in accordance with the required number of years of study.

Dropout Rate is the proportion of pupils/students who leave school during the year as well as those who complete the grade/year level but fail to enroll in the next grade/year level the following school year to the total number of pupils/students enrolled during the previous school year.

Functional Literacy, Education and Mass Media Survey (FLEMMS) is a nationwide survey conducted every five years, FLEMMS seeks to gather information on functional literacy status, educational and skills qualification, and exposure to mass media of the population.

Gross Enrolment Ratio refers to the total enrolment in a given level of education as a percentage of the population which according to national regulations should be enrolled at this level. It is a measure of the "capacity" of a region's elementary and secondary schools.

Literacy rate of 15–24 year-olds, or the **youth literacy rate**, is the percentage of the population aged 15–24 years who can both read and write with understanding a short simple statement on everyday life. It is an official indicator used by the United Nations to measure Goal 2 of the Millennium Development Goals (MDG).

Mean Percentage Score (MPS) indicates the ratio between the number of correctly answered items and the total number of test questions or the percentage of correctly answered items in a test.

National Elementary Assessment Test (NEAT) is the national examination which aims to measure learning outcomes in the elementary level in response to the need of enhancing quality education as recommended by the Congressional Commission on Education. It is designed to assess abilities and skills of Grade VI pupils in all public and private elementary schools.

National Secondary Assessment Test (NSAT) is the national examination which aims to assess abilities and skills of Fourth (4th) year high school students in all public and private secondary schools.

Net Enrolment Ratio or Participation Rate is the ratio between the enrolment in the school-age range to the total population of that age range. The Philippine official school-age population for elementary and secondary are 6-11 and 12-15, respectively.

Proportion of pupils starting grade 1 who reach grade 5 is also known as the "percentage of cohort reaching grade 5", and as defined by UNESCO, is the percentage of a cohort of pupils (or students) enrolled in grade 1 of primary level of education in a given school year who are expected to reach grade 5. It was an official indicator used by the United Nations to measure Goal 2 of the Millennium Development Goals (MDG), but had been replaced by the indicator

[11] Definitions are from the Department of Education, unless indicated otherwise.

"**Proportion of pupils starting grade 1 who reach last grade of primary education"** effective 15 January 2008.

Proportion of pupils starting grade 1 who reach last grade of primary education, known as the **Survival Rate to last Grade of primary**, is the percentage of a cohort of pupils enrolled in grade 1 of the primary level of education in a given school year who are expected to reach the last grade of primary school, regardless of repetition. It is an official indicator used by the United Nations to measure Goal 2 of the Millennium Development Goals (MDG), effective 15 January 2008, replacing the indicator "**Proportion of pupils starting grade 1 who reach grade 5"**.

Pupil (or Student) / Teacher Ratio is the average number of pupils/students per teacher in a grade/year in a given school year.

Survival Rate to Grade VI/Year IV, definition is the percentage of a cohort of public/students who enrolled in the first grade/year of a certain level of education in a given school year who eventually reach grade VI/Year IV. Its purpose is to assess the holding power and internal efficiency of an education system.

Appendix 3
Assistance to Basic Education

Project	Project Period	Description	Fund Source/ Responsible Agency	Estimated Proj Cost
Government of Spain and Government of the Philippines School building Project I	2006-2007	Type of ODA: Grant	…	PhP65.2 M
Country Program for Children (CPC VI)	2005-2009	Type of ODA: Grant	…	PhP251.44 M
Strengthening Implementation of Basic Education in Selected Provinces in Visayas Project (STRIVE) I	2005-2007	Type of ODA: Grant	…	PhP125.48 M
Phils-Australia Basic Education Assistance for Mindanao (PA-BEAM) Phase II	2004-2008	Project that helped selected divisions in Mindanao formulate their education development plans (per RA 9155). Type of ODA: Grant	Australian Agency for International Development (AusAID)	PhP892.46 M
Sagip Eskwela (Save School)	Started in 2004	Started in 2004, brings in cash donation from various private organizations and individuals for the construction of new classrooms and repair of school buildings damaged by typhoon and other calamities	Managed by the Adopt-a- School Secretariat	…
Classroom Galing sa Mamamayang Pilipino Abroad (CGMA)	Started in 2003	Through the Department of Labor and Employment the Classroom Galing Sa Mamayang Pilipino Abroad (CGMA) project solicits support from Filipinos to build 10,000 classrooms in identified priority elementary and secondary schools across the Philippines. The initiative began in 2003.	Implemented in cooperation with the DOLEOWWA	…
Brigada Eskwela	Started in 2002	Started in 2002, the nationwide mobilization activity is community-led program that involves parents and other members of the community to give in-kind contributions (e.g., labor, cleaning instruments, plants, etc.) to repair classroom and furniture as well as other contributions to improve the school environment at the beginning of every school year.	Managed by the Adopt-a- School Secretariat	…

Social Expenditures Management Project (SEMP II)	Dec 2002-June 2006 Dec 2002-June 2007	Project whose activities and outputs include the construction and repairs of school buildings, as well as provision of texbooks to school children. Type of ODA: Loan	…	PhP3069.89 M
Mindanao Sustainable Settlement Area Development Project (MINSSAD)	Sept 2001-June 2007	Project whose activities and outputs include the construction and repairs of school buildings, and the provision of desks and seats to schools. Type of ODA: Loan	…	PhP103.36 M
Adopt-a-School	Started in 2000	Established through the Adopt-a-School Act of 1998, serves as an invitation and campaign for private entities to become active partners in the delivery of basic education services by giving assistance in the provision of classrooms, among others-launched in 2000.	The program is managed by a Secretariat attached to the Office of the Secretary of DepEd	…
Secondary Education Development and Improvement Project (SEDIP)	ADB May 1999-Dec 2007 JBIC March 2000-Sept 2008	Adaptation of TEEP in secondary education. Type of ODA: Loan	Asian Development Bank (ADB) and JBIC	PhP3481.34 M
Early Childhood Development Project	1998-2003	Improvement of child health programs; enhancement of the micro-nutrient status of children; greater access to foods fortified with iron, iodine and Vitamin A; improvement of the Grade 1 curriculum and ECD services in 69 municipalities in at least 10 provinces.	World Bank & ADB	US$ 40 M
Third Elementary Education Project	1997-2004	Targets resources to communities and schools in 26 poor provinces. Uses a grant mechanism and in-service training (INSET) to bring innovative approaches and improve learning outcomes. Will test decentralised models of education management which, if successful could be applied more broadly throughout the Philippines	World Bank	US$113 M
Project on Basic Education (PROBE)	1995-2001	Improvement of teaching/learning in English and Math in the elementary and secondary levels; training and facilities for teacher education institutes, elementary and secondary schools and regional learning materials centres	AUSAid	US$ 26 M

Support Programme for the Universalisation of Quality Primary Education through Strengthening of the Multigrade (MG) Programme in Philippine Education.	1995-2000	Production and printing of teaching and learning materials (MLMs and Lesson Exemplars) to cover all grade levels and subject areas, capacity building of DECS through the training of multigrade teachers and orientation of school administrators at all levels, mobilisation of GOs, NGOs, LGUs, COs and POs in support of the MG programme through advocacy, networking and resource sharing.	UNDP/UNICEF	US$ 1 M
Non-Formal Education Project	1994-1999	Development of functional education and literacy, continuing education and capacity building of non-formal education staff in DECS.	ADB	US$ 25 M
Elementary Education Project	1991-1996	Construction, replacement and rehabilitation of academic classrooms, multi-purpose workshop buildings and toilets for elementary schools	OECF	US$ 200 M
Second Elementary Education Project	1990-1993	Financed part of the 1990-92 sub-sector investment plan, including essential civil works, school equipment, textbook production and distribution, INSET for teachers and administrators, and MIS development.	World Bank	US$ 200 M
Operation Barrio School	…	Through its Operation Barrio School, the Federation of Filipino-Chinese Chambers of Commerce and Industry (FFCCCI) is building 2,500 schools in poor areas throughout the Philippines. FFCCCII builds and then turn the school building over to DepEd.	Federation of Filipino-Chinese Chamber of Commerce and Industries, Inc. (FFCCCII) and DepEd	…

… Not Available

Sources: Development Academy of the Philippines, World Bank and Educational Development Projects Implementing Task Force (EDPITAF), PROBE as cited in *The EFA 2000 Assessment: Philippine Country Report* ; Caoli-Rodriguez, R., 2007, *The Philippines country case study. Country Profile Prepared for the Education for All Global Monitoring Report 2008. Education for All by 2015: Will we make it?*. UNESCO.

Appendix 4. Primary National Achievement Test (NAT) Mean Percentage Scores, by Region

Table A4.1. Primary National Achievement Test (NAT) Mean Percentage Scores, by Region: MATHEMATICS*

Region	SY2002-03	SY2003-04	SY2004-05	SY2005-06	SY2006-07
Ilocos Region	46.27	62.37	65.82	58.00	62.37
Cagayan Valley Region	42.22	58.36	52.65	51.45	58.36
Central Luzon Region	45.56	63.28	57.02	50.96	63.28
CALABARZON	47.01	64.37	64.68	56.37	64.37
MIMAROPA	45.91	68.95	62.13	62.71	68.95
Bicol Region	44.12	52.20	53.89	48.08	52.20
Western Visayas Region	40.95	49.91	54.05	45.90	49.91
Central Visayas Region	42.88	60.05	63.67	57.84	60.05
Eastern Visayas Region	50.24	77.77	72.06	71.19	77.77
Western Mindanao Region	45.78	64.34	59.64	56.83	64.34
Northern Mindanao Region	41.44	56.08	54.71	52.61	56.08
Southern Mindanao Region (D)	48.66	59.65	54.78	51.85	59.65
Central Mindanao Region (S)	44.21	49.87	52.63	47.71	49.87
National Capital Region	40.26	59.14	56.91	44.99	59.14
CAR	40.27	56.71	54.98	54.27	56.71
ARMM	45.95	43.34	46.18	43.22	43.34
CARAGA	56.55	75.18	71.94	72.64	75.18

Table A4.2. Primary National Achievement Test (NAT) Mean Percentage Scores, by Region: SCIENCE*

Region	SY2002-03	SY2003-04	SY2004-05	SY2005-06	SY2006-07
Ilocos Region	44.23	54.00	58.93	48.99	54.00
Cagayan Valley Region	41.40	48.34	49.13	44.94	48.34
Central Luzon Region	43.67	55.93	52.92	45.57	55.93
CALABARZON	46.06	55.28	57.97	48.06	55.28
MIMAROPA	44.90	59.71	55.75	53.26	59.71
Bicol Region	43.38	45.22	50.28	42.77	45.22
Western Visayas Region	42.29	45.06	52.58	42.49	45.06
Central Visayas Region	43.56	48.27	55.22	46.11	48.27
Eastern Visayas Region	48.86	66.65	63.74	59.01	66.65
Western Mindanao Region	43.98	55.09	53.75	50.40	55.09
Northern Mindanao Region	40.93	47.26	50.52	47.15	47.26
Southern Mindanao Region (D)	46.52	51.07	51.87	45.70	51.07
Central Mindanao Region (S)	43.12	43.58	50.11	43.10	43.58
National Capital Region	41.70	52.16	52.80	41.28	52.16
CAR	42.00	49.94	51.34	48.05	49.94
ARMM	39.45	37.42	42.71	39.13	37.42
CARAGA	52.49	65.41	63.35	62.95	65.41

Table A4.3. Primary National Achievement Test (NAT) Mean Percentage Scores, by Region: ENGLISH*

Region	SY2002-03	SY2003-04	SY2004-05	SY2005-06	SY2006-07
Ilocos Region	…	62.76	64.58	56.80	62.76
Cagayan Valley Region	…	59.95	53.83	52.78	59.95
Central Luzon Region	…	63.31	58.05	52.67	63.31
CALABARZON	…	62.39	62.48	55.64	62.39
MIMAROPA	…	66.72	59.99	61.27	66.72
Bicol Region	…	54.65	54.91	48.93	54.65
Western Visayas Region	…	55.31	56.46	48.61	55.31
Central Visayas Region	…	63.50	61.82	56.31	63.50
Eastern Visayas Region	…	74.89	69.97	68.06	74.89
Western Mindanao Region	…	62.19	59.48	57.55	62.19
Northern Mindanao Region	…	58.76	56.26	54.22	58.76
Southern Mindanao Region (D)	…	58.97	55.80	51.99	58.97
Central Mindanao Region (S)	…	51.52	53.81	48.69	51.52
National Capital Region	…	59.39	57.59	46.88	59.39
CAR	…	59.99	56.00	57.30	59.99
ARMM	…	45.84	49.30	45.35	45.84
CARAGA	…	72.64	69.87	70.95	72.64

Table A4.4. Primary National Achievement Test (NAT) Mean Percentage Scores, by Region: FILIPINO*

Region	SY2002-03	SY2003-04	SY2004-05	SY2005-06	SY2006-07
Ilocos Region	…	67.11	65.59	60.58	67.11
Cagayan Valley Region	…	65.31	57.18	59.81	65.31
Central Luzon Region	…	69.21	61.40	60.57	69.21
CALABARZON	…	69.72	67.45	63.88	69.72
MIMAROPA	…	71.18	65.12	67.50	71.18
Bicol Region	…	63.73	59.27	58.42	63.73
Western Visayas Region	…	63.12	58.42	56.74	63.12
Central Visayas Region	…	66.23	62.24	59.99	66.23
Eastern Visayas Region	…	76.04	70.60	69.30	76.04
Western Mindanao Region	…	65.75	58.78	59.97	65.75
Northern Mindanao Region	…	62.37	56.65	58.41	62.37
Southern Mindanao Region (D)	…	65.06	57.75	57.58	65.06
Central Mindanao Region (S)	…	59.56	56.04	55.67	59.56
National Capital Region	…	69.15	62.73	59.50	69.15
CAR	…	64.84	56.53	62.06	64.84
ARMM	…	51.42	49.22	50.01	51.42
CARAGA	…	73.49	70.10	71.60	73.49

Table A4.5. Primary National Achievement Test (NAT) Mean Percentage Scores, by Region: HEKASI*

Region	SY2002-03	SY2003-04	SY2004-05	SY2005-06	SY2006-07
Ilocos Region	…	62.16	64.51	59.36	62.16
Cagayan Valley Region	…	58.13	54.68	56.82	58.13
Central Luzon Region	…	65.41	58.50	56.64	65.41
CALABARZON	…	64.84	64.24	61.02	64.84
MIMAROPA	…	68.94	62.33	67.13	68.94
Bicol Region	…	57.45	56.73	54.00	57.45
Western Visayas Region	…	55.34	57.70	52.90	55.34
Central Visayas Region	…	56.53	59.90	57.43	56.53
Eastern Visayas Region	…	74.98	69.36	70.73	74.98
Western Mindanao Region	…	61.69	57.87	60.67	61.69
Northern Mindanao Region	…	56.10	55.04	57.73	56.10
Southern Mindanao Region (D)	…	59.24	56.07	56.19	59.24
Central Mindanao Region (S)	…	52.05	54.21	53.44	52.05
National Capital Region	…	61.07	59.28	52.47	61.07
CAR	…	58.00	53.49	58.76	58.00
ARMM	…	47.37	47.39	48.63	47.37
CARAGA	…	72.95	69.40	76.03	72.95

*National Achievement Test (NAT), for elementary level, were given in Grade IV in SY 2002-2003 & SY 2003-2004 and in Grade VI in SY 2004-2005 to SY 2006-2007.

*Source: Department of Education.