

Timor-Leste Education The Way Forward



A Summary Report
from the World Bank
December 1, 2003

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Acronyms and Abbreviations

CFET	Consolidated Fund for Timor-Leste
ECE	Early Childhood Education
GDP	Gross Domestic Product
GER	Gross Enrollment Ratio
IMF	International Monetary Fund
MOEYCS	Ministry of Education, Youth, Culture and Sports
NDP	National Development Plan
NER	Net Enrollment Ratio
PSAS	Primary School Achievement Study
PTAs	Parent-Teacher Associations
STR	Student-to-Teacher Ratio

Local Currency: Denominated in US Dollars

Fiscal Year: July 1 to June 30

School Year in 2000: October to June

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TIMOR-LESTE EDUCATION: THE WAY FORWARD

Timor-Leste, which regained its independence on May 20, 2002, is home to 828,000 people who speak 33 indigenous languages. It has a predominantly agrarian economy and a per capita Gross Domestic Product of about \$480. Timor-Leste has an advantage that most lower-income countries do not—oil and gas reserves—that can be harnessed to fund development. However, it is likely to be many years before this can be fully realized. The key question is: What needs to be done in the next three to five years to build the foundation for equitable development of the country? Unquestionably, education is a key part of the answer. It provides a foundation for democratic discourse through literacy, it helps increase productivity, and it provides skills and abilities for an increased formal workforce. Education is so fundamental to the country’s development that seven out of ten Timorese listed it as the top national priority, and the National Development Plan and budget allocation reflect its central role. This brief report reviews accomplishments since the transition and assesses medium-term options for increasing coverage, improving quality, ensuring sustainability of educational finance, and strengthening sectoral management.

History of Educational Development

Investment in education during the pre-independence period was insufficient and as a result, today’s illiteracy rate is high—over 40 percent of the adult population can neither read nor write, including nearly half of the females and about a third of the adult males. During the Indonesian occupation, managerial, administrative, professional, and technical positions were largely filled by Indonesians: 20 percent of primary school teachers and 90 percent of secondary school teachers were not Timorese.

Figure 1 : Enrolment Trends, 1976/77 – 2001/02

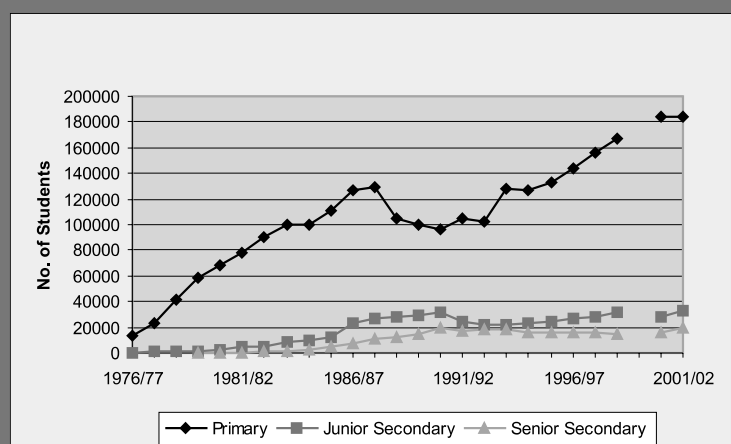
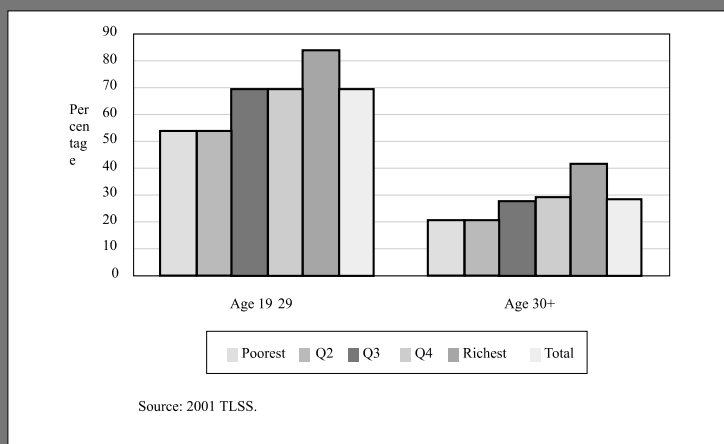


Figure 2 : School Attendance by Income Quintile and Age



Between 1976 and 1999, primary education grew, but junior secondary and senior secondary education expanded much more slowly (Figure 1). As a result, the younger generation has higher levels of educational attainment than the older generation. In 2001, 57 percent of the adult population had little or no schooling, 23 percent only primary education, 18 percent secondary education and 1.4 percent higher education. The generational gap in education attainment between those under the age of 30 and those above it is

evident in Figure 2. The same figure also shows that the poorest two quintiles were the least likely to attend school and that even among the better-off groups, their enrollment rates did not reach 100 percent. This makes building up the human resources a particularly difficult challenge.

Destruction and Recovery of the Education System

After the referendum for independence from Indonesia, about 90 percent of the schools were damaged with four out of five schools destroyed and almost all non-Timorese teachers departed, precipitating the collapse of the education system.

The country embarked on a rapid rebuilding campaign soon after the United Nations peace keepers arrived and a transitional administration was put in place. With the help of many dedicated Timorese educators and technical and financial support of the international community, within two short years, schools were rehabilitated, new teachers were hired, and the education system became operational. Teachers were hired within one year (over 4,000 by August 2000) and the education system was operational by the new school year beginning October 2000, regardless of the condition of the schools.

¹ To encourage speedy reenrolment when the schools reopened, fees were cancelled for all returning students. Since that time there has been a reintroduction of fees. There is as yet no clear policy on this nor regulation of imposition or exemption. The impact of the reintroduced fees should be monitored.

Enrollment increased rapidly, and most of the new enrollees were girls, the poor, and rural children, owing to a surge of optimism and the temporary abolition of school fees (Figure 3).¹

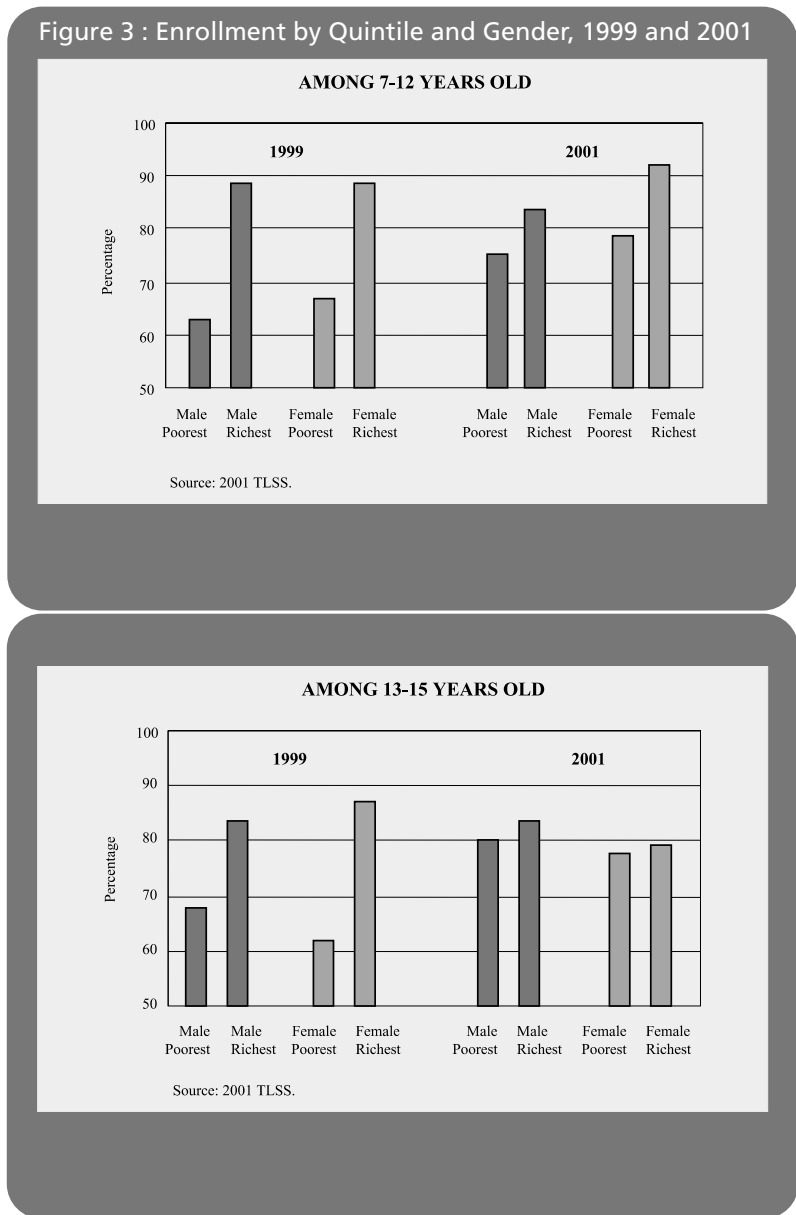
In primary education, the gross enrollment ratio (GER) rose from 89 per cent before the transition to 110 per cent by 2001, and the net enrollment ratio (NER), from 51 to 70 percent. This was a very significant achievement, given the scale of destruction and the short transition period.

Further progress was made between 2001 and 2003. This is evidenced by the increase in the number of primary school teachers from 2,992 to 4,080, and a corresponding fall in the pupil-teacher ratio from 67 to 45; at junior secondary level, the number of students increased from 29,586 to 38,180, the number of teachers from 884 to 1,103.

The National Development Plan (NDP), which was formulated based on nationwide consultation, has a three-year medium-term focus for the fiscal planning framework and a five-year horizon for development planning, from July 1, 2002 to June 30, 2007. Recognizing that the low educational coverage and attainment were due to previously low levels of public investment in education and inefficiencies, the NDP makes education a cornerstone to alleviate poverty and build the nation.

The NDP envisages that by 2020, the Timor-Leste people will be well educated, healthy, highly productive, self-reliant, espousing the values of nationalism, non-discrimination and equity within a global context. The goals are: to improve the educa-

Figure 3 : Enrollment by Quintile and Gender, 1999 and 2001



tion status of the Timor-Leste people; to contribute to the improvement of the economic, social and cultural well being of individuals, families and communities in Timor-Leste; and to promote gender equity and empower women in Timor-Leste.

The eight key programs are to: (1) expand education access and improve internal efficiency; (2) to improve the quality of education; (3) to build internal management capacity and improve service delivery; (4) to promote non-formal education and adult literacy; (5) to promote Timor-Leste culture and arts; (6) to promote physical education and school sports; (7) to promote youth welfare; and (8) to develop tertiary education.

Challenges to Education in the Medium Term

To realize the vision of the NDP, a number of challenges will need to be addressed in the next three to five years. These include (i) improving access and coverage; (ii) ensuring that children complete schooling at a reasonable cost; (iii) raising student achievement, particularly in reading literacy and numeracy; (iv) sustaining education finance; and (v) strengthening the capacity for sectoral management.

Improving access and coverage

In spite of the impressive progress made in enrollment expansion, access to primary schooling is still an issue. About 67,000 children between the ages of 6 and 11 are not in school; the majority are 6 and 7 years old. The problem is most serious in rural areas: half of the out-of-school population live in the Rural Center and 20 percent in the Rural East. The out-of-school population is equally divided between boys and girls. At junior secondary level, GER drops to 51 percent and NER to 25 percent. At senior secondary level, GER goes down further to 28 percent and NER to 17 percent. Many children enter school late and are at risk of dropping out early.

The reasons for not attending school are important to consider in developing successful strategies to reach education objectives. Figures 4a, 4b, and 4c show that children at different ages do not go to school for different reasons. Among children 5-6 years old, about 70 percent considered that they were not of the right school age. Among children 7-12 years old, about 22 percent considered that they were not of the right school age. In the same age group, about 32 percent of the poorest and 26 percent of the richest children had “no interest” in schooling.

On the demand side, the lack of interest is cited as the major reason for not attending school, particularly among the older age groups. Given the very small per-

centage of wage employment in the economy, it is difficult for many parents to see their children’s education linked to future income growth. The weaknesses in demand for schooling must be overcome until the economy begins functioning better and generating stronger incentives to acquire education. On the supply side, distance between home and school is a key factor cited for non-enrollment. The majority of students walk to school. Other supply-side related factors that affect the demand for education are poor physical condition of the school, shortage of learning materials, language barriers, poor quality of instruction, teacher absenteeism², and relevance of the curriculum.

Figure 4a : Reasons for Not Enrolling, Ages 5-6, 2001

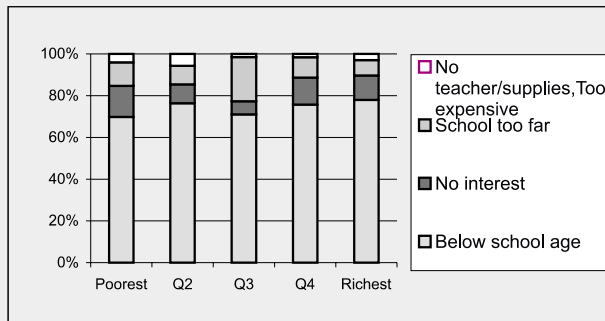
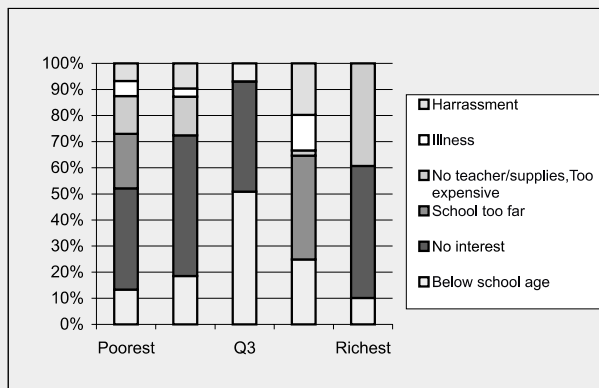
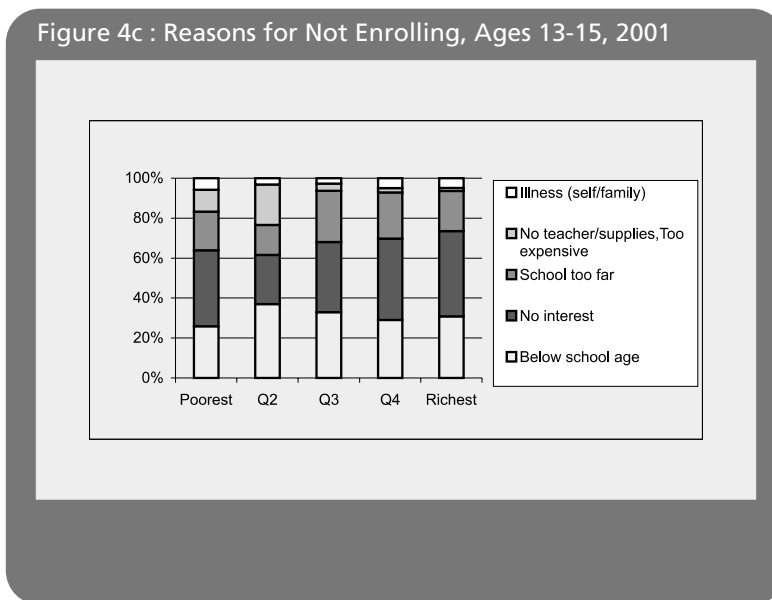


Figure 4b : Reasons for Not Enrolling, Ages 7-12, 2001



² Malaria is a problem, and many teachers have active tuberculosis. Sputum tests for over 400 teachers in August 2000 found 4 to 5 teachers positive for tuberculosis. Many also lack corrective lenses. Their eyeglasses were lost or broken in 1999, and they either cannot afford or now live too far away to have replacements.



Source: TLSS 2001.

Ensuring children complete school at a reasonable cost

Providing universal coverage to all children is important, but ensuring that they complete the primary school cycle and acquire basic literacy and numeracy skills is perhaps even more important. Currently, between 20 and 25 percent of students repeat, and about 10 percent drop out from each grade in primary education and junior secondary education. Senior secondary education has lower dropout and repetition rates in part because students who have survived to that level tend to be more persistent and also tend to come from wealthier families who can afford to keep them in school. Girls have slightly lower repetition and dropout rates and higher promotion rates (Table 1).

If this level of internal efficiency persists, it is likely that only 47 percent of those who enter Grade 1 would eventually complete Grade 6, while 53 percent would drop out. On average, the dropouts would complete four years of schooling after some repetition. Critically, the level of skill acquired by these children are likely to be very low, as they are not in school long enough to master basic literacy and numeracy. When repetition and dropout are high, fewer children acquire the requisite skills and become productive workers, particularly in the formal sector (Table 2).

Table 1: Repetition, Promotion and Dropout Rates by Grade and Gender (%), 2001

Primary Grades	G-1	G-2	G-3	G-4	G-5	G-6
Males						
Repetition	20	24	25	25	25	23
Promotion	70	68	66	67	66	68
Dropout	11	9	9	9	10	9
Females						
Repetition	20	23	24	24	23	20
Promotion	70	69	68	68	69	72
Dropout	10	8	8	8	9	8
Secondary Grades	G-7	G-8	G-9	G-10	G-11	G-12
Males						
Repetition	23	25	24	9	10	11
Promotion	71	68	69	87	86	87
Dropout	6	6	7	3	4	2
Females						
Repetition	21	23	24	9	8	8
Promotion	75	70	70	89	90	90
Dropout	5	7	6	2	3	2

Source: School Mapping 2001.

Table 2: Distribution of Enrollment by Age and Grade (Percentage), 2001

Age	Pre-primary	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11	Grade 12
3	10.1	0.1											
4	26.7	0.3											
5	34.7	2.2	0.2	0.1									
6	24.4	31.1	2.3	0.2									
7	3.7	29.1	16.8	1.5	0.2	0.1							
8	0.4	17.8	26.1	11.3	1.1	0.1							
9		9.1	20.8	20.7	9.3	1.1	0.1						
10		5.2	14.0	23.1	19.9	8.6	0.9						
11		2.4	8.2	16.3	21.0	16.7	6.3	0.4	0.1				
12		1.4	5.6	12.1	20.2	22.2	14.6	6.0	0.8	0.1			
13		0.7	2.8	7.2	13.8	20.3	20.4	12.3	5.9	1.0	0.1		
14		0.4	1.6	3.4	8.6	15.9	21.6	19.2	13.1	4.9	1.6	0.9	0.1
15		0.3	1.0	1.8	4.2	8.9	17.9	22.6	20.9	13.5	9.4	4.2	0.6
16		0.1	0.5	1.3	2.2	4.5	12.7	18.0	24.5	23.3	20.9	9.5	5.5
17			0.2	0.7	0.4	1.2	3.6	13.4	19.4	26.2	27.2	26.1	12.3
18				0.4	0.2	0.4	1.2	6.0	10.9	18.7	24.4	32.3	36.7
19				0.2	0.1	0.1	0.7	2.2	4.5	12.3	16.5	27.0	44.9
20								0.4	0.8	3.0	6.4	15.1	34.8
21								0.1	0.4	1.4	2.4	6.6	21.9
22								0.1	0.1	0.2	0.4	2.1	9.1
23								0.1			0.1	0.6	5.0
24										0.1		0.3	2.9
25										0.1	0.1	0.1	2.1
Total													
%	100	100	100	100	100	100	100	100	100	100	100	100	100
No. of													
Students	2,484	69,772	33,593	24,129	18,706	15,606	14,944	10,743	7,968	6,958	5,535	3,580	2,101

Source: School Mapping 2001.

Note: The dark shading indicates the percentage of students who started schooling at six, which is the normal age in many countries. The light shading indicates those who started school at the official age of seven.

High repetition and dropout is also very expensive. The current estimate of cost per student for six years of primary education is about \$300, while the actual cost per primary school completer is \$600, owing to additional costs incurred when students repeat grades.

Improving student achievement

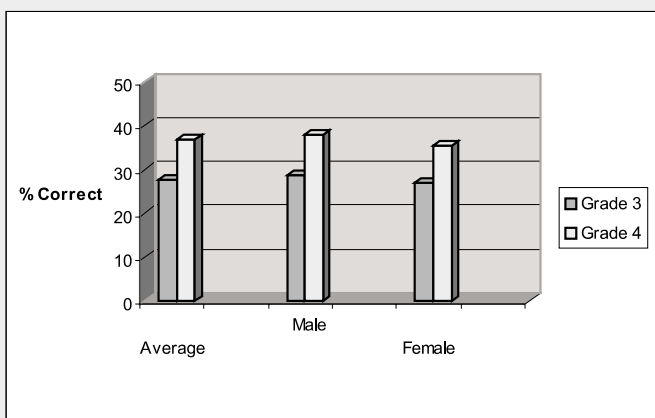
High repetition and dropout rates are closely related to poor quality and low student achievement. The Primary School Achievement Survey (PSAS 2003) of Ministry of Education, Culture, Youth and Sport (MECYS) confirmed this results. The PSAS assessed a sample of 3,478 students in Grades 3 and 4 in 95 schools using the same test in mathematics. The test questions were in Portuguese.³ Accompanying questionnaires were applied to the schools, teachers and students in the sample to collect information on their characteristics so as to assess the determinants of achievement. The findings

provide evidence for the need of educators to focus much more on ways to improve quality.

Differences between grades. Figure 5a shows that on average, third graders scored 28 percent correct. Fourth graders scored an average of 37 percent correct. This difference in scores is interesting because it is slightly higher than the differences in achievement between these two grades in other countries.⁴

Gender differences. Figure 5a also shows that girls scored lower than boys, and improved less between Grades 3 and 4.

Figure 5a : Mathematics Test Score by Grade and by Gender



Source: PSAS 2003.

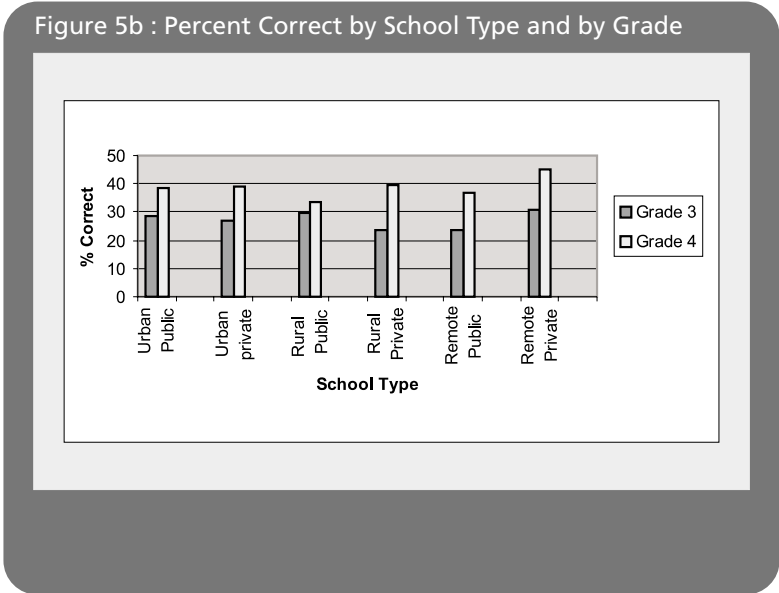
³ The tests were conducted in Portuguese because it is the official language of instruction. Third and fourth graders in the 2002/03 school years were supposed to have been taught in Portuguese ever since they started school in 2000. The questions were set according to what MECYS officials considered to be the appropriate standard for Grade 3. The questions contained a mixture of arithmetic problems and word problems. The exercise thus revealed the challenges of providing instruction in a language that is not familiar to the vast majority of the teachers and the students.

⁴ However, due to the differences in the characteristics of these two cohorts mentioned above, and also due to high dropout rate between Grades 3 and 4, it is impossible to separate what might be attributable to differences in the cohorts, what might be due to selection, and what might be due to the effect of a smaller student-teacher ratio in Grade 4.

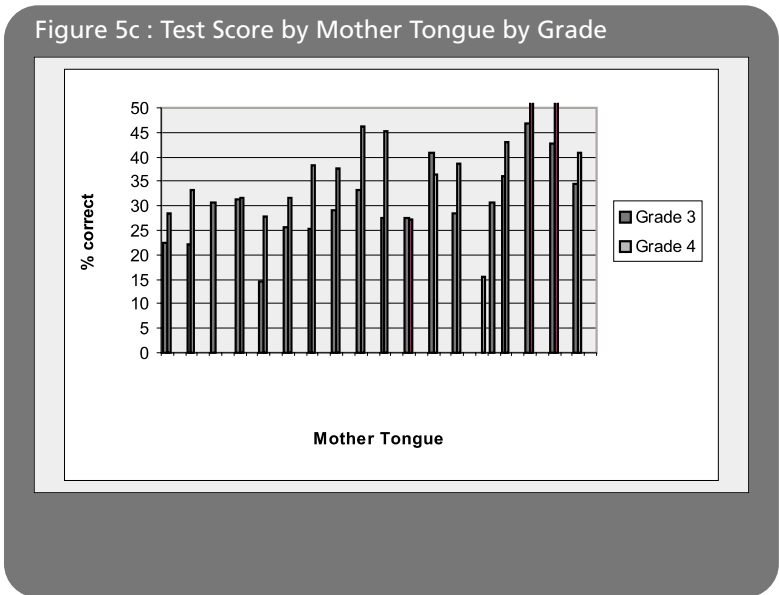
Urban/rural and public/private differences. The sample was stratified into six types of schools: urban public, urban private, rural public, rural private, remote public and remote private. The differences in the average scores in Grade 3 between urban and rural and between public and private schools were small but increased by Grade 4 (Figure 5b).

Differences across language groups. Students who have different mother tongues have scored differently. Figure 5c shows that Midiki and Kairui were the highest scoring group. Surprisingly, some students claiming their mother tongue to be Portuguese had lower average scores than Tetum speakers. Subsequent examination revealed that these students were from traditionally non-Portuguese-speaking poor families.

Differences across districts. Figure 5d shows the differences in test scores across districts. Almost all districts had higher scores in Grade 4 than Grade 3, except for Ermera. Baucau and Lautem did better in Grade 4 scores than other districts. Oecussi had the lowest average scores for both grades.

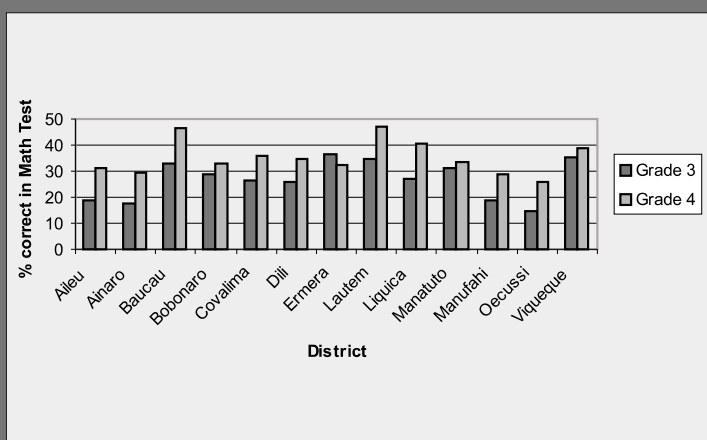


Source: PSAS 2003.



Source: PSAS 2003.

Figure 5d : Test Scores by District and by Grade



Source: PSAS 2003.

teacher, school, and district characteristics, and results of analysis.)

What are the factors that contribute to low student achievement and high repetition and dropout rates? Drawing from the findings of Poverty Assessment Survey of 2001 and PSAS 2003, and from interviews with teachers and students, the factors include shortages of textbooks and teaching and learning materials, short hours of instruction, insufficient teacher preparation, language difficulties, poor physical infrastructure, and high student and teacher absenteeism. Each of these is briefly discussed below. (See Annexes 1-8 for details of test scores, student,

- *Textbooks and learning materials.* More than half of the students have no books. As a result, much teaching and learning takes the form of teachers copying down their notes on the black board and students copying them in their exercise books. This is time consuming and it prevents teachers from utilizing more efficient or effective methods of teaching. The shortage of reading materials makes it impossible for teachers to assign any meaningful homework.
- *Hours of instruction.* Officially schools are to provide five hours of instruction per day for 180 days of the year. Each session in Grades 1 to 3 should last for half an hour and that in the upper grades for 40 minutes. In practice, some schools split those five hours into two shifts - two hours (8-10 AM) for Grades 1 to 3, and three hours (10 AM-1 PM) for Grades 4 to 6, meaning that children receive fewer hours of instruction than required to achieve curricular objectives.
- *Teacher preparation.* Of the 3,000 teachers recruited through examination in 2000, the vast majority had mixed qualifications.⁵ In three successive years, less than 10 percent of the candidates were selected. Teachers need upgrading in content area (which should happen with the new primary curriculum), and also in pedagogy appropriate to each subject area and within the constraints of the Timor classroom with its huge student numbers in the crucial early years. In the school year 2003/04, 65 percent of primary teachers have had some form of education training.

⁵ About 100 had the “required” qualifications. The teachers were examined in mathematics, science, and social science, using questions taken from frequently used Grade 6 textbooks. The older teachers who had taught only in Grade 3 or Grade 4 for many years seemed to have forgotten Grade 6 mathematics and science, unlike the younger high school graduates against whom they were competing. All teachers employed had the equivalent of senior high school qualifications, although older Grade 4 primary graduates from Portuguese times were also employed. These teachers are now employed at all levels to teach Portuguese, with quite a few studying for the bachillerato to upgrade their qualifications.

- *Language of instruction.* The Constitution designates Portuguese and Tetum the official languages with Bahasa Indonesia and English as working languages. Government through MECYS has mandated Portuguese as the language of instruction. The implementation of this policy began with Grades 1 and 2 in 2000 and progressively moved up one grade each year since. Portuguese books are gradually replacing Indonesian books, but are in short supply, and in practice many teachers continue to rely on Tetum to explain lessons to children.
- Implementing the new language policy has been challenging for a number of reasons. (i) For the most part, only those teachers who finished secondary education before 1975 have been exposed to Portuguese. The others, comprising a vast majority of teachers, were educated in Bahasa Indonesia. Government organized training courses for learning Portuguese for a few hours weekly, but this may not be enough for teachers to acquire the new language at a level of proficiency level sufficient to use it as the medium of instruction, e.g., to communicate effectively with students, impart knowledge and skills, and observe and evaluate outcomes across a range of school subjects. (ii) Students studying under teachers who themselves are not proficient in Portuguese are less likely to attain mastery of the language. Since language governs thoughts and the cognitive process, less than full proficiency in the language of instruction would impede mastery of concepts and undermine performance. (iii) For many students, Portuguese is the third or fourth language. Children whose mother tongue is not Tetum would need to learn it first. (Although Tetum is the mother tongue of only 16 percent of the population, it has become the *lingua franca* for many more and appears not too difficult to acquire.) This means that children would learn their mother tongue at home, then Tetum if it is not their mother tongue, and then Portuguese. Students who started school before 1998 also learned Bahasa Indonesia. (iv) Language-learning materials are in short supply. When language learning is not accompanied by books, it would be difficult to develop literacy in any language. (v) Currently, Tetum is more commonly used in schools attended by children of the poorest quintile, and Bahasa Indonesia and Portuguese are more commonly used in schools attended by children of the higher income quintiles. The introduction of a new language of instruction in school is therefore likely to be more challenging in poorer areas than wealthier areas (Table 3).

Table 3: Language of Instruction by Quintile, 2001

	Poorest	Quintile 2	Quintile 3	Quintile 4	Richest	Total
Tetum	52	54	42	47	37	47
Bahasa Indonesia	44	42	48	43	53	46
Portuguese	4	5	10	10	10	8
Total	100	100	100	100	100	100

Source: TLSS, 2001.

- *Physical infrastructure.* Although over 80 percent of the classrooms were restored and useable within 18 months after the disturbances and fires of 1999, many schools are still not in good condition. Many classrooms have no windows so that wind-blown rain can sweep across the rooms. Most have no lights as few schools have electricity. Most schools have no water or toilets, which adversely affects sanitary conditions of the school. The absence of toilets adversely affects girls more and may be a deterrent to their attendance. About 20 percent of the students have a desk and a chair.
- *Teacher and student absenteeism.* Teacher absenteeism is high as is student absenteeism, the latter usually a precursor of dropout. According to the Poverty Assessment Survey, among students who had been absent the week before the survey, illness was cited as the reason for having been away from school, according to 22 percent of students from the poorest quintile and, surprisingly, 46 percent of students from the richest quintile. This finding is also corroborated by PSAS 2003. (See Annexes 2 and 3)

The characteristics of higher performers (those who scored 50 percent or more correct) suggest the following policy may be effective in raising achievement (Annex 8):

- Pre-school attendance increased the probability of scoring above 50 percent correct on the test.
- However, among students who attended pre-school, those whose average absenteeism was low scored higher on the test.
- Fourth graders had a higher probability of scoring 50 percent correct or more than third graders.
- Schools that had low dropout rates more likely to have high average scores.
- Children who repeated grades less were more likely to score higher than children who repeated.
- Controlling for relevant student background variables, in comparison with those who had a mixture of Portuguese and Tetum in the classroom, students whose

language of instruction was purely Tetum would have a higher probability of being a high performer by 9 percent, which is very significant. Instruction only in Portuguese or in a mixture of Portuguese, Tetum, and other languages had no statistical significance. This seems to suggest that Tetum poses less of a barrier to learning than other languages or a mix of languages.

Improving the quality of education. Although the PSAS is the first of its kind in Timor-Leste and the results should be considered only suggestive or indicative, the findings point to some serious issues about the quality of education that warrant urgent attention.

The fact that Grade 3 students scored very low should be a cause of concern and a subject for further investigation. The *curriculum* should be revisited and the test then recalibrated to ensure that future tests measure the appropriate learning level of the students. The relationship between the need for proficiency in official *language* of instruction and mastery of subject matter should be further examined, and experiences from other countries with regard to this sensitive issue should be explored for policy and practice that may be useful for Timor-Leste. Information thus derived can be introduced in teachers guides and in-service teacher training courses.

Expanding *access to pre-school* and encouraging regular attendance in school would likely have a positive effect on achievement, while grade repetition reduces this likelihood. Since *illness* is a major reason for student absenteeism, interventions in prevention and cure may need to be made jointly with the health authorities. *Reducing repetition* by resorting to automatic promotion is not an effective intervention (school completers will include automatically promoted slower learners, even some illiterates, who are unready for further schooling, unproductive at work). Alternatively, other interventions can make schooling more effective and help to reduce repetition: (i) extending the hours of instruction which increases students' opportunity to learn; (ii) providing more textbooks, bilingual primers, and dictionaries of Portuguese and the mother tongue; (iii) training of teachers in subject-specific pedagogy and diagnosis of learning problems; and (iv) soliciting the help of the community to monitor teacher absenteeism and to promote students' regular attendance in school.

As girls tend to score lower than boys, interventions for *improving girls' achievement* should be considered in developing curricula. Scores in Grade 4 are much higher than those of Grade 3, and so *keeping children in school longer* would help them learn more. An effective strategy on the language of instruction, combined with an integrated package of instructional support, should improve student achievement on a major scale.

In summary, improving the quality of education calls for developing a relevant curriculum that addresses the needs of the country, transitioning in the language of instruction

from the child's mother tongue to the official languages of Portuguese and Tetum, providing teaching and learning materials, and undertaking periodic student assessment and continual inservice teacher training. These have resource implications and can be realized if the institutional and expenditure frameworks provide sustained support.

Sustaining education finance

There are many competing demands for investment in the system, from improving infrastructure to building capacity and ensuring the supply of learning materials. It is important for government to develop a process for prioritizing investments and ensuring that the most critical recurrent cost items are adequately financed. To date, public spending has been supported by substantial external assistance flows, amounting

Table 4: Financing of education sector 2000/1 – 2005/6

Year	CFET	TFET	Bilateral	Total External Aid	GDP (\$ Million)
Total (\$ Million)					
2000/01	10.1	10.5	21.2	45.1	321
2001/02	11.8	8.8	23.7	50.1	385
2002/03	17.7	4.5	18.3	41.1	377
2003/04	17.6	15.8	16.8	50.2	336
2004/05	19.4	0	14.5	33.8	427*
2005/06	20.2	0	13.5	33.7	457*
Shares of the three sources					
2000/01	22%	23%	47%	100%	
2001/02	24%	18%	47%	100%	
2002/03	43%	11%	45%	100%	
2003/04	35%	31%	33%	100%	
2004/05	57%	0%	43%	100%	
2005/06	60%	0%	40%	100%	
As % of GDP					
2000/01	3.1%	3.3%	6.6%	14.0%	
2001/02	3.1%	2.3%	6.2%	13.0%	
2002/03	4.7%	1.2%	4.9%	10.9%	
2003/04	5.2%	4.7%	5.0%	14.9%	
2004/05	4.5%	0.0%	3.4%	7.9%	
2005/06	4.4%	0.0%	3.0%	7.4%	

Source: MOF, MECYS and bilateral agencies; IMF for GDP estimates.

Note: CFET for 2000/01 and 2001/02 are actual expenditures, and that for 2002/03 is revised budget. GDP in 2004/5 and 2005/6 are previous IMF estimates. The earlier years are the Fund's recent estimates

to over 60 percent of the GDP in FY2002. Roughly half of Government's expenditure is covered by domestic revenues; external sources cover the rest. Education commands the largest share of Government's budget, at about 4 percent of GDP. The Trust Fund for East Timor adds 2-3 percent, and bilateral aid, 6-7 percent. In total, external aid provides the equivalent of 12-14 percent of GDP to fund education in Timor-Leste. The large sum of aid flow made it possible to rebuild the country in two years. While those investments represent perhaps a unique opportunity for reconstruction, Government now needs to start preparing budgets for the time when aid commitments begin to recede (Table 4).

To meet Government's objectives, the medium-term requirement for recurrent cost financing alone in the education sector is projected to grow from \$14.0 million in 2002 to \$17.0 million in 2006. Overall, the intrasectoral resource allocation shows a strong emphasis on primary education, consistent with the priorities of the NDP. To expand other sub-sectors, such as early childhood education, secondary education, and tertiary education, additional resources would have to be found either through increased public expenditure, cost recovery at the post primary level, or external finance.

Table 5 : Medium term expenditure framework, CFET education sector⁶

Subsector	2002/3	2003/4	2004/5	2005/6
Early childhood development	1%	1%	1%	1%
Primary education	46%	42%	43%	43%
Junior secondary education	16%	16%	17%	17%
Senior secondary education	10%	10%	10%	10%
Technical and vocational education	4%	4%	4%	4%
Nonformal education	3%	2%	2%	2%
University education	6%	8%	7%	7%
100%	100%	100%	100%	100%
Total (\$ million)	17.7	17.7	19.4	20.3

Source: MOF.

When capital expenditure is included, the total financing requirement increases, to \$17.7 million and \$20.3 million over the same period (Table 5). The challenges in education finance are: (i) managing aid flows for continuity and stability of funding; (ii) ensuring equity in spending by ensuring sufficient spending at the primary level; (iii) directing sufficient resources to support complementary inputs such as textbooks, instructional materials and guides, curriculum development; (iv) identifying cost drivers and adopting cost-effective strategies; and (v) structuring incentives to induce better performance.

⁶ 2002/3 is the revised budget, 2003-6 are the budget projections from the original budget framework.

Strengthening the capacity of sectoral management

Focusing on four strategic areas would help position Government to make lasting and significant progress strategically: (i) strengthening capacity for management and administration, to implement policies successfully; (ii) clarifying policies on key issues and building shared understanding with stakeholders, to work toward a common goal; (iii) providing predictable and adequate resources to enable the sector to develop toward its priority goals in a sustainable manner; and (iv) conducting a public campaign to inform parents and the community of their rights and responsibilities within the system

There is an urgent need to build up administrative and management capacity. At the central ministry level, key positions need to be filled; the management information system needs to be further developed, so that basic enrollment statistics can be collected regularly (preferably semestrially rather than yearly), accurately (organized by district, grade age, and gender), and in a timely manner, to provide the basis of planning and budgeting; and the financial management system needs to provide information on budget execution. At the district level, superintendents and their deputies need to be provided with tools with which to strengthen their links with schools, e.g., effective communications, interactive management, and technical guidance to teachers and principals. At the school level, principals need to be more empowered through the provision of financial and technical resources to support their autonomous search for local solutions to their local problems.

A process for developing formal policy positions, informed by research and wide debate, is helping to guide development toward priority goals and to preclude piecemeal or even contradictory solutions. Addressing the following key policy questions would help create a solid framework for development: (i) the targets and justification for access at each level of education, in order to define the scope of work, level of funding, and measurement of progress; (ii) the annual instructional hours, double-shifting, textbook provision, strategy for transition from the mother tongue to Portuguese, the desired teacher qualifications, and the pupil-teacher ratio, in order to set the standards for the quality of inputs and the bases for the costing of schooling; and (iii) the relationship between Government and the private sector in the provision and financing of education, in order to delineate the total capacity of and the resource requirements for service delivery. A legislative framework that governs the sector would then provide the legal basis for operation and to establish the lines of authority and clarify levels of responsibility at the Ministry of Education vis-à-vis the stakeholders and private service providers.

The Way Forward

Policy-makers face a fourfold challenge: (i) improving access and coverage and ensuring completion at a reasonable cost; (ii) enhancing student achievement; (iii) achieving sustainability of public sector financing while facing large demands for resources; and (iv) improving the management of the sector, from the central level to the district and school levels where the need to build professional staff capacity would have a significant and immediate payoff.

Improving access and coverage, ensuring completion at a reasonable cost. For primary education, where universal enrolment and completion is the goal, the supply-side interventions include providing more teachers, classrooms, learning materials and interesting co-curricular activities to make the schooling experience engaging for students. However, these are expensive interventions, which would best be pursued in combination with efforts to improve efficiency. Improving school quality and addressing the causes of repetition have the potential to improve school effectiveness by freeing up to a quarter of the places and teachers. In locations with greater growth of the school-age population or in underserved remote areas, extension classrooms or small multigrade schools may need to be built and teachers hired or redeployed. For the population that has never attended schools, a strategy to stimulate demand would be helpful, including public information campaigns to inform parents about the correct age of schooling and the importance of enrolment and daily attendance, school meals or similar subsidies to poor families. An enhanced government-private sector-NGO partnership framework would help to expand service provision in various levels of education.

Improving achievement. PSAS 2003 results clearly demonstrate the need to focus on quality. If quality cannot be improved, meeting other objectives will not be meaningful. The suggested strategies are the revision and updating of the curriculum to make it relevant, a systematic development of education in the mother tongue to ease transition to the official languages, provision of textbooks to all students, continuous teacher in-service training and provision of teachers guides and instructional aids, monitoring and evaluation of student learning on a regular basis with systematic feedback to teachers and students, continuous teacher training to provide better prepared teachers, with specific focus on learning outcomes and the monitoring of teacher inputs, and expansion of pre-school education. In addition, an expansion of early childhood education (ECE) with parent centers, playgroups and other communal ECE activities may enhance the cost-effectiveness of interventions at the primary level.

Building a sustainable financing system. In the medium term, aid flow management is critical. With adequate policy preparation and strategic planning, it is possible to attract and direct donor financing to priority areas. This requires detailed statistical records and monitoring systems, to provide the information needed by Government to assess needs and program impact. Building up this system should proceed simultaneously with developing the capacity to formulate policies. Focusing on cost-effective interventions such as a multiple, integrated package that combines new syllabus, learning materials, teachers guides, in-service training, testing and feedback, and school-based management will make the system work better. Providing more discretionary funds to the district and schools could create the enabling environment to the administrators, principals, and teachers to do their jobs better. New revenue may be created by increasing cost sharing in senior secondary and tertiary education in order to subsidize primary education.

Strengthening management capacity. Given that many of Timor-Leste's administrative and professional staff are relatively new in their jobs, continuous professional development in specific areas is needed and should be adequately planned and funded. Internal administrative accountability and control need to be strengthened to improve systemic efficiency. Creating a framework for community participation would help improve oversight at the school level and strengthen governance of the system.

The demands on the education sector are numerous and there is a need to prioritize and sequence interventions by focusing on those parts of the system which need most urgent attention and are most likely to have a significant and lasting impact on development. Ministries of education worldwide normally take decades to develop the capacity to manage the sector, formulate policies, expand and improve service delivery, and monitor and evaluate outcomes. Timor-Leste has found itself having to compress the normal time frame into a few years in order to meet the extraordinary challenges that arose after independence while at the same time moderate the magnitude of investments and expenditures, to maintain the levels projected under the Government's medium-term expenditure framework.

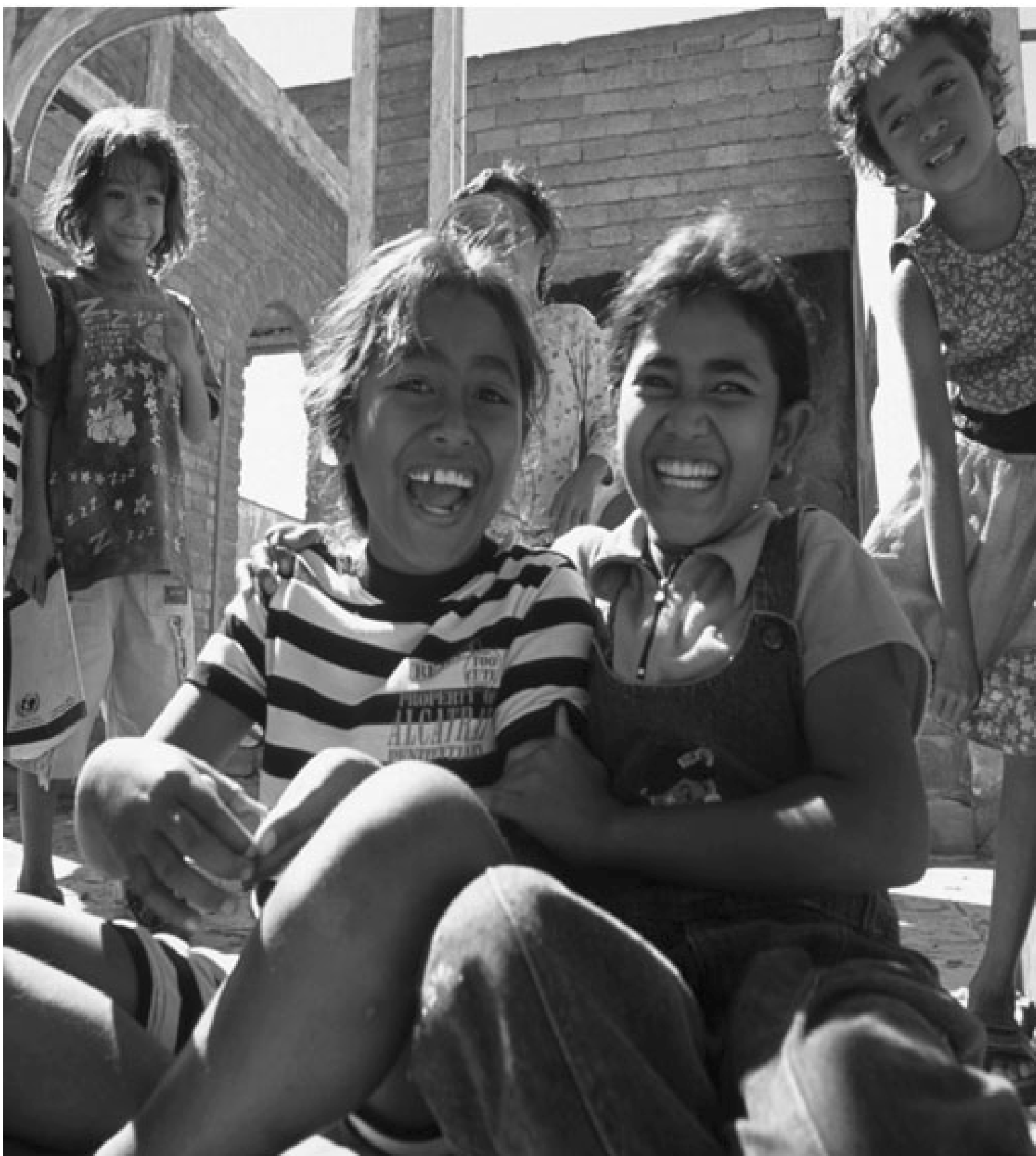
While making these strategic interventions, it is very important not to neglect the political process of popular participation and coalition-building. This should take place on a regular basis, although the results may not be immediately felt. Policy formulation necessitates widespread consultation with civil society and stakeholders. Education expenditure management and allocation should also be consultative. Making information public makes for a transparent and accountable system.

Summary of Challenges and Strategies

Challenges	Suggested Strategies for Moving Forward
<p><i>Limited access and coverage--reasons for not enrolling</i></p> <ul style="list-style-type: none"> ■ Parental belief that their child is below school age or not of the right age (too old for school) ■ No interest in attending ■ Too expensive ■ Work at home or agricultural work ■ Security, harassment (mostly for girls) ■ School too far 	<p><i>Improving access and coverage</i></p> <ul style="list-style-type: none"> ■ Conduct information campaigns, support parent education programs on the benefits of early enrolment and higher educational attainment. ■ Make curriculum relevant by introducing more science-based topics (to improve health, agriculture, environment). ■ Adopt strict regulations and enforce penalties on harassment and violence by teachers and students. ■ Establish small schools for remote communities, develop bilingual, self-paced, learning materials for multi-age, multigrade settings.
<p><i>High repetition and dropout, low completion, low student achievement</i></p> <ul style="list-style-type: none"> ■ Lack textbooks and learning materials. ■ Short hours of instruction, particularly in double-shifting "multigrade" schools which halve daily instructional time; schools not meeting required hours of instruction. ■ Poor preservice preparation of primary school teachers, no preservice preparation for over 90% of current secondary teachers. ■ Language of instruction a possible barrier to learning: children speak different mother tongues; teachers not proficient in Portuguese; language-learning materials in short supply. ■ Poor physical infrastructure, including lack of water or toilets, adversely affecting girls more than boys. ■ High teacher absenteeism owing to illness such as malaria or tuberculosis ■ High student absenteeism due to illness. 	<p><i>Ensuring school completion, enhancing student achievement</i></p> <ul style="list-style-type: none"> ■ Revise curriculum. ■ Provide Timor-developed student textbooks and self-instructional materials. ■ Enforce instructional hours in all schools to increase opportunity to learn. ■ Develop teachers guides, provide teacher in-service training and pre-service training, with focus on diagnosis of learning problems and multigrade teaching. ■ Develop children's dictionaries of Tetum and Portuguese, Tetum and various languages; develop bilingual primers, particularly for the early primary grades. ■ Regularize student assessment and provide feedback to teachers, parents and students on how to improve it. ■ Provide extra classes after school and summer classes to accelerate learning of over-aged students and performers. ■ Coordinate with the Ministry of Health on interventions. ■ Support cost-effective early childhood programs. ■ Provide discretionary funds to schools to buy supplies, furniture and reading materials; provide assistance with financial management and guidelines for accountability. ■ Public information campaigns for parents on good child rearing practices, importance of school attendance and homework to raise achievement, and benefits of education This entails encouraging parental participation in school-based management to strengthen community involvement in education.

<p><i>Uncertainty of education finance</i></p> <ul style="list-style-type: none"> ■ Heavy dependency on external finance. ■ Insufficient prioritization in education finance. ■ Inadequate capacity to assess cost-effective interventions and formulate relevant policy. 	<p><i>Building a sustainable financing system</i></p> <ul style="list-style-type: none"> ■ Manage aid flows for continuity and stability of funding. ■ Ensure equity in spending by ensuring sufficient spending at the primary level may entail cutting subsidies in other areas or increasing cost sharing in post-primary education. ■ Support complementary inputs such as curriculum development, textbooks, instructional materials and guides. ■ Identify cost drivers, adopt cost-effective strategies, performance-inducing incentives.
<p><i>Limited sectoral management capacity</i></p> <ul style="list-style-type: none"> ■ Many problems inherited from pre-independence; since independence not enough experience and staff to effectively confront the challenges. 	<p><i>Strengthening sectoral management capacity</i></p> <ul style="list-style-type: none"> ■ Provide professional development in planning, budgeting, policy formulation. ■ Strengthen internal administrative accountability. ■ Create framework for community participation to improve oversight at the school level and strengthen governance of the system.

Annexes



Annex 1: Average Percent Correct in Mathematics Test of Grades 3 and 4 Students

	Grade 3			Grade 4			Difference in standard deviation between grades
	Average % correct	Standard deviation	Coefficient of variation	Average % correct	Standard deviation	Coefficient of variation	
Average in sample	27.75	16.54 (n=1790)	0.60	36.79	17.8 (n=1688)	0.48	0.55
Male	28.69	15.7 (n=918)	0.55	37.9	17.5 (n=863)	0.46	0.59
Female	26.82	17.2 (n=870)	0.64	35.34	18 (n=824)	0.51	0.50
School type							
Urban: Public	28.65	17.3 (n=609)	0.60	38.68	18.7 (n=593)	0.48	0.58
Private	26.68	14 (n=180)	0.52	39.27	15.5 (n=176)	0.39	0.90
Rural: Public	29.51	15.4 (n=557)	0.56	33.62	16.1 (n=516)	0.49	0.27
Private	23.58	16.0 (n=191)	0.71	39.6	19.4 (n=233)	0.49	1.00
Remote: Public	23.63	15.0 (180)	0.59	36.64	16.3 (n=150)	0.44	0.93
Private	30.56	23.6 (73)	0.77	44.95	24.5 (n=83)	0.55	0.61
Mother tongue							
Portuguese	22.40	13.5 (n=92)	0.60	28.62	15.3 (n=88)	0.53	0.46
Tetum	22.28	14.7 (n=375)	0.66	33.07 (n=374)	16.3 0.49	0.73	-
Bahasa Indonesia	30.76	11.3 (n=4)	-	-	-	-	-
Bunak	31.29	14.1 (n=59)	0.45	31.76	19.3 (n=62)	0.61	0.03
Baikeno	14.70	11.7 (n=68)	0.80	27.81	17.6 (n=73)	0.63	1.12
Mambae	25.61	14.8 (n=343)	0.58	31.58	14.3 (n=313)	0.45	0.40
Tokodede	25.33	11.9 (n=17)	0.47	38.25	13.8 (n=19)	0.36	1.09
Kemak	29.22	16.8 (n=152)	0.57	37.79	20.8 (n=69)	0.55	0.51
Makasae	33.1	17.6 (n=295)	0.53	46.32	17.5 (n=342)	0.38	0.75
Makalero	27.41	16.8 (n=31)	0.61	45.26	12.5 (n=26)	0.28	1.06
Naueti	27.43	8.5 (n=19)	0.31	27.32	12.1 (n=19)	0.44	-0.01
TetumTerik	40.71	11.8 (n=29)	0.29	36.44	19.8 (n=40)	0.54	-0.36
Galole	28.57	16.9 (n=65)	0.59	38.62	14.1 (n=47)	0.37	0.59
Lacede	-	-	-	15.38	(n=2)	-	-
Carhili	30.76	(n=1)	-	-	-	-	-
Waimoa	36.04	17.9 (n=62)	0.50	43.15	16.2 (n=59)	0.38	0.40
Midiki	46.93	19.8 (n=5)	0.42	70.38	14.9 (n=10)	0.21	1.18
Kairui	42.83	9.5 (n=22)	0.22	58.87	11.8 (n=13)	0.20	1.69
Other	34.46	16.9 (n=129)	0.49	40.77	16.1 (n=108)	0.39	0.37

Source: PSAS, 2003

Annex 2: Student Characteristics by School Type, 2003

	Urban Private	Urban Public	Rural Private	Rural Public	Remote Private	Remote Public
Grade 3 students	180	609	191	557	73	180
Of which Girls	43.9%	51.9%	48.2%	47.0%	57.5%	44.4%
Of which Overage	29.4%	39.2%	50.8%	49.9%	21.9%	45.0%
Average Age in Grade 3						
Grade 4 students	176	593	170	516	83	150
Of which Girls	51.1%	49.2%	44.7%	48.3%	49.4%	51.3%
Of which Overage	38.1%	48.2%	57.6%	63%	68.7%	56.0%
Average Age in Grade 4	10.60	10.85	11.35	11.35	10.88	11.05
Mother tongue						
Tetum	36.0%	29.3%	11.7%	16.3%	0%	18.6%
Portuguese	0%	3.0%	0%	10.2%	0%	11.3%
Others	64%	67.7%	88.3%	73.5%	100%	70.1%
Household size						
Number of persons in home	7.52	7.39	7.04	7.29	7.24	7.41
Parental Education						
Mother attended School	52.7%	55.0%	27.7%	32.0%	32.7%	33.3%
Father attended School	58.0%	56.8%	29.6%	34.3%	30.8%	34.2%
Highest grade mother attended	7.65	7.76	7.04	6.57	5.91	6.55
Highest grade father attended	8.60	8.55	6.74	7.30	6.12	7.32
Parents read newspaper?	37.3%	43.1%	16.1%	11.0%	7.1%	24.2%
Home Resources						
Have :						
32.1% Running water		53.9%	54.5%	34.1%	24.3%	13.5%
Electricity	60.1%	61.2%	10.8%	10.2%	4.5%	8.2%
Radio	62.6%	61.8%	43.5%	42.3%	25.6%	28.5%
Television	20.8%	27.9%	1.7%	2.6%	2.6%	1.2%
Refrigerator	8.7%	14.1%	0.8%	0.7%	2.6%	0%
Have breakfast :						
Always	79.4%	75.4%	72.0%	74.8%	59.0%	72.7%
Schooling Experience						
Morning Shift	82.0%	71.5%	89.2%	83.2%	100%	96.1%
Attended pre-school	6.2%	14.7%	15.0%	15.8%	15.4%	14.8%
Age when starting school	7.39	7.31	7.25	7.32	7.26	7.62
Given food in school	0.6%	1.0%	0.8%	2.8%	0.6%	5.1%
Get to school by walking	94.9%	95.7%	99.4%	99.1%	99.4%	97.3%
Like school because :	99.7%	100.0%	98.9%	98.5%	100%	99.4%
Like to learn	94.9%	93.0%	93.4%	90.2%	94.2%	94.8%
Help to earn more money	3.4%	3.1%	4.4%	5.5%	3.8%	4.2%
Student absent last week	32.1%	38.9%	41.0%	42.8%	44.2%	37.9%
Days absent	2.19	2.23	2.38	2.33	2.33	2.15
Reason Absent						
Illness	57.3%	60.4%	67.4%	54.5%	76.3%	69.4%
Help family	32.3%	34.7%	26.5%	40.1%	23.7%	25.1%
Help friends	2.1%	0.5%	0.8%	0.5%	-	-
Not interested in school	3.1%	1.2%	2.3%	1.9%	0%	0.9%
School far from home	2.1%	0.7%	0%	0.9%	0%	1.8%
Rain	3.1%	2.6%	3.0%	2.1%	0%	1.8%

	Urban Private	Urban Public	Rural Private	Rural Public	Remote Private	Remote Public
Teacher absent last week	12.0%	23.4%	21.9%	21.2%	25.6%	23.6%
No replacement teacher	74.1%	79.1%	79.2%	82.9%	67.9%	81.5%
Language of instruction						
Portuguese	0.3%	3.1%	0.3%	4.2%	5.2%	7.9%
Tetum	0.6%	1.4%	2%	42.0%	0%	0.3%
Portuguese & Tetum	37.9%	32.0%	48.9%	30.9%	35.7%	31.5%
Portuguese, Tetum & Indonesian	47.8%	53.5%	47.5%	51.5%	49.4%	43.9%
Portuguese, Tetum & other	13.5%	10.0%	2.8%	9.4%	9.7%	16.4%
School tools, books, and homework						
Have :						
40.9%	Textbooks	44.1%	36.4%	17.7%	35.7%	52.6%
Notebooks	97.2%	84.9%	86.4%	85.2%	76.3%	84.5%
Pencils/Pens	89.6%	80.2%	77.3%	82.4%	74.4%	80.9%
Given homework	96.6%	98.4%	97.0%	97.8%	86.7%	80.8%
Times per week	2.58	2.14	2.62	2.40	1.92	2.45
Who helps with homework?						
No one	70.5%	64.9%	80.9%	72.4%	85.7%	59.2%
Father	6.4%	8.8%	4.6%	6.8%	5.6%	7.7%
Mother	3.2%	6.2%	4.0%	4.0%	2.4%	8.5%
Siblings	14.3%	15.9%	8.3%	15.9%	6.4%	17.9%
Others	5.6%	4.2%	2.2%	0.9%	0%	6.7%
Textbooks given by:						
School	34.0%	26.0%	12.2%	29.4%	30.1%	35.2%
Parents	1.7%	4.2%	4.4%	2.8%	10.3%	2.4%
Repetition (including multiple)						
Grade 1	15.2%	13.1%	9.2%	14.6%	6.4%	10.9%
Grade 2	12.9%	14.5%	7.2%	9.6%	7.7%	8.8%
Grade 3	10.1%	12.8%	8.6%	8.8%	9.6%	5.5%
Grade 4	3.9%	4.5%	4.2%	2.8%	4.5%	0.6%
Teacher-rated ability						
Good	50.3%	35.1%	37.5%	23.5%	47.4%	22.9%
Medium	44.3%	52.4%	58.9%	51.9%	41.7%	61.6%
Poor	5.4%	12.6%	10.6%	17.7%	10.9%	15.5%
Labor market experience						
Do you work?	96.2%	95.3%	93.6%	92.6%	87.2%	91.5%
What do you do for work?						
Take care of younger siblings	30.3%	30.9%	23.8%	30.2%	37.2%	29.7%
Help with housework	53.9%	57.6%	61.8%	63.6%	57.1%	55.5%
Help in agricultural work	23.3%	27.6%	23.5%	20.6%	19.2%	26.7%
Work in street	0.7%	0	0%	0.3%	-	-

Source: PSAS 2003

Notes on Student Characteristics

Student family characteristics. There was not much variation in students' background characteristics across the six school types, in terms of household size, age when starting school, having to walk to school, liking school, liking learning, and having to work by helping their family. But there were large urban and rural differences in parental education (with urban students parents having a 20 percentage-point advantage over rural students), parents who read a news-

paper and had resources at home. There was also big difference between urban and rural areas in access to amenities: over half of urban students had access water and electricity, compared to only 5 to 8 percent of remote school students.

Language spoken at home. Tetum was the mother tongue of 36 percent of private school students, 29 percent of public school students, and less than 20 percent of rural and remote school students. The vast majority of students in all school types spoke a language other than Tetum and Portuguese. None of the children in private schools, spoke Portuguese at home; even in urban public schools, only 3 percent of students did so.

Language of instruction. About 40 to 50 percent of the students reported that the languages used in the classroom were a combination of Portuguese, Tetum and Bahasa Indonesia. A very low percentage of students, (0.3-0.8 percent) reported that only Portuguese was used as the language of instruction.

Schooling experience. Only between 18-50 percent of students across all school types had textbooks, and one-third of them reported that they were given by schools. Between 95-99 percent of these children walked to school. Around 95 percent of them worked, over half of whom helped with housework, under one-third took care of siblings, and about a quarter helped in agriculture.

Student absenteeism. 32 percent of students in urban private schools to 39 percent in urban public schools, and 40-43 percent in rural schools reported that they were absent the previous week. The number of days absent was on average over 2.2 days across all school types, which is almost half of a five-day week. The main reason for being absent was illness, ranging from 55 percent of students in rural public schools to 76 percent students in remote private schools. The second most cited reason was to help families. Students also reported high teacher absenteeism, ranging from 12 percent in private schools to 25 percent in remote schools. About 70-80 percent of students reported that there were no replacement teachers to each classes. The lost days of learning either due to student absenteeism or teacher absenteeism appeared huge.

Repetition and overage. Between 10 and 15 percent of students have repeated Grade 1; 9-15 percent repeated Grade 2; 7.5-13 percent repeated Grade 3, and under 5 percent repeated Grade 4. Rural private and remote private schools had lower repetition rates than others. Overage was a major problem across the board but more so in Grade 4 (38-63 percent) than Grade 3 (29-51 percent). It was also far more serious in public schools than in private schools.

Annex 3: Teacher Characteristics by School Type, 2003

	Urban Private	Urban Public	Rural Private	Rural Public	Remote Private	Remote Public
Demographics						
Number of teachers in sample	28	104	22	60	10	19
% women	50.0%	54.8%	31.8%	20.0%	10.0%	10.5%
% teaching in morning shift	71.4%	66.3%	95.5%	86.7%	100%	73.7%
Age	40.0	42.3	37.3	35.9	35.7	38.3
% Speak excellent Portuguese	3.6%	10.6%	3.3%	-	-	-
% Speak excellent Tetum	14.3%	26.0%	18.2%	35.0%	-	10.5%
% Speak excellent Indonesian	10.7%	15.4%	10.7%	15.4%	9.1%	26.7%
Born in district	89.3%	73.1%	95.5%	86.7%	100%	73.7%
Academic qualifications						
Primary (SD)	-	10.6%	4.5%	-	-	5.3%
Presecondary (SMP)	3.6%	6.7%	4.5%	1.7%	10.0%	5.3%
Secondary (SMU)	14.3%	11.5%	27.3%	35.0%	10.0%	10.5%
Technical-vocational (SMK)	46.4%	50.0%	45.5%	35.0%	40.0%	68.4%
University	-	1.9%	4.5%	5.0%	-	-
Other	35.7%	19.3%	13.7%	23.3%	40.0%	10.5%
Years of teaching experience	12.3	14.6	9.7	9.0	11.00	8.68
Taught under Indonesians	64.3%	76.0%	81.8%	65.0%	90.0%	63.2%
No. of in-service training programs attended	1.11	1.94	1.32	1.20	0.70	0.95
Received training in Portuguese	53.6%	62.5%	50.0%	35.0%	50.0%	36.8%
Would like to leave teaching	21.4%	5.8%	22.7%	25.0%	30.0%	5.3%
Work conditions						
Type of contract						
Permanent	60.7%	95.2%	77.3%	95.0%	70.0%	84.2%
One-year contract	1.0%	14.3%	4.5%	1.7%	-	10.5%
Volunteer	1.9%	10.7%	13.6%	-	10.0%	5.3%
Hours in school per week	33.2	30.5	30.2	29.4	33.2	31.3
Hours preparing lessons	2.93	2.76	2.93	2.77	2.82	2.21
Gives homework to students	100.0%	100.0%	100%	100%	100%	100%
Hours marking homework	2.20	2.17	2.21	2.20	2.18	2.21
Delay receiving salary	3.6%	-	4.5%	5.0%	20.0%	5.3%
Teaching tools						
Have : Portuguese guide	14.3%	26.9%	31.8%	28.3%	20.0%	21.1%
Mathematics guide	10.7%	24.0%	22.7%	35.0%	20.0%	36.8%
Students' lack of access to textbooks						
Portuguese textbooks	64.3%	65.4%	54.5%	65.0%	80.0%	84.2%
Math textbooks	75.0%	57.7%	40.9%	55.0%	60.0%	73.7%
Teacher absenteeism						
Absent last week	10.7%	8.7%	9.1%	16.7%	30.0%	5.3%
Days absent	3.33	3.43	1.0	3.5	1.6	1.0
Has other paid job	3.6%	5.8%	9.1%	5.0%	10.0%	15.8%
Hours in other paid job	3.0	1.3	3.0	2.33	2.0	14.3
Perceived problems in education (big or very big):						
Poor infrastructure	32.1%	32.7%	36.3%	51.6%	50.0%	52.6%
Lack of water and sanitation	17.8%	21.2%	18.2%	30.0%	40.0%	21.1%
Lack of textbooks	60.7%	46.1%	50.0%	65.0%	80.0%	68.4%
Use of Portuguese	17.8%	17.3%	18.1%	41.7%	30.0%	36.9%
Inadequate teacher training	7.2%	15.4%	31.7%	50.0%	30.0%	47.4%
Confusing Ministry directions	-	16.3%	31.8%	26.7%	40.0%	26.3%
Irrelevant curriculum	14.3%	25.9%	27.2%	41.7%	70.0%	42.1%

	Urban Private	Urban Public	Rural Private	Rural Public	Remote Private	Remote Public
Lack of transport for teacher	21.4%	26.9%	50.0%	51.6%	70.0%	63.2%
Student absenteeism	-	6.7%	36.4%	58.3%	-	26.3%
Lack of parental involvement	3.6%	12.5%	4.5%	13.4%	-	36.9%
Lack of discretionary resources	42.4%	39.2%	31.8%	56.7%	50.0%	52.6%
Lack of contact with district	17.9%	25.9%	22.7%	35.0%	50.0%	26.4%
Main reason for low student achievement						
Lack of family support	21.4%	39.4%	9.1%	28.3%	20.0%	21.1%
Inadequate materials	53.6%	47.1%	72.7%	46.7%	70.0%	73.7%
Language barrier	25.0%	9.6%	13.6%	18.3%	10.0%	5.3%
Need more of the following to help your work?						
Mathematics text	67.9%	64.4%	54.5%	58.3%	40.0%	78.9%
Portuguese text	71.4%	65.4%	45.5%	58.3%	50.0%	73.7%
Bilingual text	75.0%	73.1%	54.5%	58.3%	60.0%	78.9%
Audio visual materials	71.4%	76.9%	59.1%	63.3%	40.0%	84.2%
Distance learning materials	75.0%	77.9%	59.1%	61.7%	50.0%	89.5%
Reading materials for library	78.6%	67.3%	50.0%	58.3%	30.0%	78.9%
Would like training on:						
Teaching mathematics	67.9%	70.2%	77.3%	85.0%	100%	73.7%
Teaching Portuguese	60.7%	71.2%	77.3%	88.3%	100%	73.7%
Teaching multigrade settings	53.6%	70.2%	68.2%	76.7%	80.0%	68.4%
Evaluation of student achievement	28.6%	51.9%	40.9%	76.7%	60.0%	63.2%
Classroom management	35.7%	52.9%	36.4%	75.0%	60.0%	57.9%
Psychological development	60.7%	56.7%	36.4%	85.0%	60.0%	68.4%
Principals' characteristics						
Age	42.8	39.2	37.0	39.2	40.0	40.2
Female	44.4%	22.6%	10.0%	10.0%	30.0%	-
Academic qualifications						
Primary	-	-	3.3%	-	-	-
Pre-secondary	-	-	-	10.0%	10.0%	-
Secondary	-	9.7%	3.3%	-	10.0%	-
Teacher's college	-	71.0%	90.0%	90.0%	70.0%	100%
University degree	-	19.4%	3.3%	-	10.0%	-
Teaching certificate	88.9%	83.9%	90.0%	90.0%	90.0%	100%
Years of teacher experience	17.78	19.42	13.67	11.30	10.80	14.20
Years of experience as principal	6.22	5.48	4.36	3.90	3.90	4.00

Source: PSAS 2003

Notes on Teacher Characteristics

Age, gender and place of birth. About half or more of the urban teachers were female, but women accounted for only 23 percent of teachers in rural schools and 10 percent in remote schools, possibly indicating a limited pool of educated females in rural areas. Urban teachers were older, in the early 40s, while rural teachers were in their mid-30s. The years of teaching experience ranged from an average of 12 years in private schools to 15 years in public schools, and 9-10 years each in rural and remote schools. An overwhelming majority were born in the district they teach in, regardless of school type, particularly among rural and remote school teachers. Also, between 63-90 percent across various school types were teachers during the Indonesian time.

Qualifications. 11 percent of teachers in urban public schools, 5 percent of teachers in rural private schools and 4.3 percent of teachers in remote public schools had only primary education.

The qualification that largest number of teachers possessed across all school types was technical/vocational training (SMK) - 72 percent in private schools, 62 percent in urban public schools, 46 percent in rural schools and 74 percent in remote schools. The second largest was general secondary education (SMU), accounting for 22 percent in private schools, 14 percent in urban public schools, 40 percent in rural schools and 13 percent in remote schools.

Motivation. Between 86 and 93 percent became teachers because they liked teaching. More urban teachers felt like this than rural teachers. About 10 percent of remote school teachers said that they chose teaching because there were no other employment opportunity. Between 14 and 24 percent of rural teachers would like to leave teaching vs. 6 percent in urban public schools and 21 percent in private schools.

Teaching-learning materials. A very low percentage of teachers had guides in Portuguese, Mathematics, Social Science and Science, while a high percentage of students did not have textbooks in these subjects. Some 10 percent of remote school teachers reported delays in receiving salaries. Only about 14-27 percent of teachers had guides to teach Portuguese, and about 10-37 percent had guides to teach Mathematics. Teachers reported that over half to 84 percent of their students did not have Portuguese textbooks, and over 40-75 percent of their students did not have Mathematics textbooks.

Absenteeism and other employment. About 14-16 percent of rural teachers were absent during the previous week, while 9 percent of public schools and 11 percent of private school teachers were absent. These figures reported by teachers, however, were lower than the teacher absenteeism reported by their students. The students report that their teachers were absent for more than 3 days in private, public and rural schools, and 1.5 days in remote schools. Some 14 percent of remote school teachers had another paid job, compared with 6 percent of rural and urban public school teachers, and 4 percent of private school teachers. Hours worked in other paid job ranged from 1.3 to 11.3 hours per week, over and above the 30-33 hours of school hours and 2-3 hours of lesson preparation and about 2 hours of home work correction at home.

Teachers' perception of problems in education reflected a high consensus that lack of textbooks is a big or very big problem in education across all school types. A lot more rural and remote teachers than urban teachers considered poor infrastructure, lack of water and sanitation, use of Portuguese, inadequate teacher training, confusing directives from the Ministry, irrelevant curriculum, lack of transport for teachers, lack of discretionary resources, and lack of contact with district as big or very big problems. For urban public school teachers, the rank order of big or very big problems were lack of discretionary resources, poor infrastructure, irrelevant curriculum, lack of transport, lack of contact with district, and lack of water and sanitation. As for the language of instruction, twice as many rural and remote school teachers than urban teachers cited this as a problem, although in terms of teachers own indication of proficiency in Portuguese, there was not much variation across school type.

Teachers considered that the main reason for low student achievement was inadequate materials. Next was the lack of family support, and the third is language barrier. Over one-half to three-fourths of teachers considered that they needed more Mathematics textbooks, Portuguese textbooks, bilingual textbooks, audiovisual materials, distance learning materials and reading materials to help their work. This was across all school types. They also indicated that they would like training on teaching Mathematics, Portuguese, Portuguese as a second language, teaching in a multigrade setting, and psychological development and school and classroom management. To a lesser extent, they claimed to need training in student assessment.

Annex 4: School Characteristics by School Type, 2003

	Urban Private	Urban Public	Rural Private	Rural Public	Remote Private	Remote Public
No. of schools in the sample	9	31	10	30	5	10
Average size of school (no. of students)	245	379	244	236	180	171
Grade 1	71	98	71	73	51	58
Grade 2	48	77	59	51	39	37
Grade 3	40	67	44	43	26	34
Grade 4	32	48	28	30	22	17
Grade 5	30	43	21	21	24	14
Grade 6	25	43	21	18	17	12
Student-teacher ratio						
Grade 1	na	na	na	na	na	na
Grade 2	43	43	40	41	39	33
Grade 3	34	36	32	38	26	29
Grade 4	22	27	21	28	22	15
Grade 5	22	28	21	19	24	13
Grade 6	20	29	18	16	17	12
Repetition rate						
Grade 1	11.7%	11.9%	24.2%	16.2%	7.0%	20.9%
Grade 2	12.5%	13.5%	20.5%	12.1%	2.2%	17.0%
Grade 3	13.7%	13.3%	27.0%	10.6%	1.3%	16.2%
Grade 4	15.1%	10.0%	8.5%	7.2%	2.5%	7.3%
Grade 5	12.3%	7.0%	2.4%	7.2%	1.0%	3.4%
Grade 6	4.5%	6.0%	2.8%	3.2%	11.8%	10.3%
Dropout rate						
Grade 1	27.0%	8.4%	23.5%	13.9%	13.0%	5.0%
Grade 2	21.3%	9.5%	24.1%	9.4%	14.8%	1.5%
Grade 3	22.6%	10.8%	21.2%	9.2%	13.5%	0.7%
Grade 4	22.3%	10.3%	27.2%	10.2%	19.2%	2.3%
Grade 5	17.5%	11.4%	30.0%	14.0%	18.4%	-
Grade 6	14.0%	8.6%	22.9%	15.1%	41.8%	4.2%
School resources						
Has Library	-	22.2%	10.0%	13.3%	20.0%	-
Teachers' room	44.4%	25.8%	60.0%	30.0%	40.0%	40.0%
Drinking water	88.9%	71.0%	70.0%	56.7%	20.0%	80.0%
Electricity	44.4%	45.2%	-	3.3%	-	10.0%
Toilets for students	88.9%	67.7%	80.0%	83.3%	60.0%	90.0%
Each student has a desk	88.9%	64.5%	70.0%	63.3%	80.0%	90.0%
Government subsidy	55.6%	48.4%	80.0%	23.3%	40.0%	20.0%
Amount of subsidies	\$29.0	\$54.8	\$28.5	\$10.0	\$14.0	-
School supervision						
Frequency of visit						
Monthly or more	14.3%	12.0%	16.7%	15.0%	33.3%	-
Quarterly	28.6%	16.0%	-	10.0%	-	50.0%
Twice a year	-	12.0%	-	-	-	-
Annually	42.9%	16.0%	50.0%	25.0%	-	25.0%
Occasionally	14.3%	44.0%	33.3%	50.0%	66.7%	25.0%
Did the inspector						
Observe class	44.4%	61.3%	50.0%	50.0%	60.0%	30.0%
Check the records	44.4%	54.8%	60.0%	50.0%	20.0%	20.0%

Source: PSAS 2003

* Only a very small sample of schools answer the questions on school finance. The figures reported from the remote private schools, are not credible.

Notes on School Characteristics

School size and student-teacher ratios (STR). Urban schools were undoubtedly bigger in size, with as many as 379 students on average. Urban private schools, and rural public and private schools had 235-245 student on average. Even the remote schools had about 171 to 180 students on average. The average STR in Grade 3 ranged from 43:1 in urban public to the low of 26:1 in remote private or 29:1 in remote public schools. The STR declined with each grade, probably due to a combined reason of a much larger birth cohort in later years and high drop out rates by grade.

Internal efficiency. Repetition and dropout rates were high, particularly in the first four lower grades. Private schools had lower repetition and much higher drop out rates than public schools. Rural schools had higher repetition and drop out rates than urban schools, and remote schools had low dropout rates.

School resources. Schools were poorly resourced across the board, but rural schools were much more disadvantaged. None of the urban private and remote public schools had a library; only 22 percent of urban public and 13 percent of rural public schools had a library. Electricity was predominantly urban, as both 45 percent of urban public and private schools had it, compared with only 3 percent of rural public schools, 10 percent remote schools, and none of the rural or remote private schools. More private schools in both rural and urban areas, however, had the basic facilities for their teachers and students, in terms of teachers' room, a desk for every students, drinking water, and toilets for students.

School inspection was not very frequent. About 40-50 percent of urban and rural public schools and only 25 percent of remote schools reported they had been visited occasionally; 50 percent of remote schools, quarterly. About 40-50 percent of private schools were visited annually.

Annex 5: Characteristics of District Offices, 2003

	Mean or percentage
Superintendent	13
Deputy superintendent	13
Total interviewed	26
Female (%)	11.5
Age	44.2
30-39	23%
40-49	58%
50 and over	19%
Born in the same district	77%
Live near office	50%
Live with own families	85%
Education Level – Highest attainment	
Secondary (SMU)	19%
Technical-vocational (SMK)	23%
University	58%
Subject Specialty	
Mathematics and science	8.3%
Arts and humanities	25%
Social science and management	66.7%
Have studied abroad	27%
Have studied in Indonesia	23%
Language spoken	
Portuguese	27%
Tetum	100%
Bahasa Indonesia	27%
Other	50%
Excellent proficiency in	
Portuguese	15%
Tetum	46%
Bahasa Indonesia	31%
Previous position	
Ministry of Education	8%
District education office	32%
Principal or head teacher	28%
Teacher	32%
Path to this position	
By promotion within this office	90%
By promotion or transfer from other office	10%
Worked in the district office in Indonesian times	85%
Years of experience as administrator	14
Years as administrator in this district	7
Have observed teaching in school visits	
Never	4%
Sometimes	62%
Always	35%
Provides advice to improve teaching in school visits	
Never	4%
Sometimes	39%
Always	58%
Provide advice on curriculum in school visits	
Never	12%
Sometimes	46%

	Mean or percentage
Always	42%
Meets with parents during school visits	
Never	4%
Sometimes	77%
Always	19%
Main reasons for school visits	
Infrastructure	8%
Teacher issues	39%
Textbook delivery	4%
Inspect teaching and learning	42%
Meeting parents	8%
Transport to make school visits	
Own motorcycle or vehicles	29%
Friend's motorcycle or vehicles	4%
District office's transport	67%
School visits made last months	
None	8%
1-5 times	69%
6-10 times	4%
Over 10 times	19%
Distance of further school visited last month	
< 1 hour by car/motorcycle	23%
1-2 hours by car/motorcycle	35%
>2 hours by car/motorcycle	42%
Visit to Ministry in Dili last month	
None	12%
1-5 times	76%
6-10 times	4%
Over 10 times	8%
Transport to visit Ministry in Dili	
Own motorcycle or vehicles	10%
Friend's motorcycle or vehicles	5%
District office's transport	60%
Bus	25%
Ever visited other district to exchange experience?	
Yes	31%
Visits per year to exchange experience	
1	44%
2	22%
3	22%
4	11%
What is the most serious problem in education?	
Infrastructure	15%
Lack of textbooks	12%
Use of Portuguese	8%
Lack of water and sanitation	12%
Inadequate teacher preparation	15%
Confusing decision from Ministry	8%
Irrelevant curriculum	19%
Lack of transport	19%
Lack of discretionary resources	12%
Lack of parental involvement	0
Teacher absenteeism	8%
Student absenteeism	4%

Source: PSAS, 2003

Notes on District Office Characteristics

District officers had an average age of 44, and only 12 percent were female. About 77 percent were born in the district they are now serving. About 58 percent of them possessed a university education, 23 percent technical and vocational education, 19 percent secondary education. About 27 percent had studied abroad, 23 percent in Indonesia. Given the high percentage of university graduates and the exposure outside Timor-Leste, the merit-based selection criteria is quite apparent.

All district officers spoke Tetum, 27 percent spoke Portuguese, and 27 percent Bahasa Indonesia. About 50 percent spoke an indigenous language. A lower percentage reported excellent proficiency in Tetum (46 percent), Bahasa Indonesia (31 percent), Portuguese (15 percent).

Only 8 percent of district officers had worked in the Ministry of Education during Indonesian times. But 32 percent worked in District Office, 28 percent were principals or head teachers, and 32 percent were teachers. About 90 percent came to the current position by promotion, and the rest by transfer. The social mobility created by the new government is also apparent from their background. 85 percent worked in the district during Indonesian time. On average, they had 14 years of experience as administrator and 7 years in the district.

What district officers considered serious problems in education was not consistent with teachers' opinions. Only 4 percent considered student absenteeism and only 8 percent considered teacher absenteeism to be a serious problem. None considered the lack of parental involvement as affecting education. More were concerned with the curriculum and the lack of transport (19 percent respectively), than with inadequate teacher education and infrastructure (15 percent respectively). Only 12 percent considered the lack of textbooks a serious problem. (In fact, the lack of textbooks has been so pervasive that it has impeded the teaching and learning process.) While 39 percent claimed that the purpose of their visits to schools was to address teachers issues and 42 percent to inspect teaching and learning, the lack of recognition of the non-availability of textbooks and student and teacher absenteeism as key issues raised questions about the role of the district office in addressing the issues of repetition, dropout and student achievement.

More district superintendents and their deputy (76 percent) traveled to Dili for meetings in the Ministry in the previous month than those visited schools (69 percent). Because of bad roads, it would take one-half day or more to travel from the district to Dili. Including the time for the meetings themselves, a trip to Dili could mean 2 or 3 days absence from the district office. The need to travel to the capital is usually necessitated by the lack of efficient communication - telephone or electronic mail. All directives are written and delivered by courier, with little possibility of immediate feedback and response. Thus, the time of district officials is not used efficiently to maximize the impact of their leadership and service.

Annex 6: Parental Participation and School Decision Making Power, 2003

	Urban Private	Urban Public	Rural Private	Rural Public	Remote Private	Remote Public
Parental participation						
Has parents-teachers association	66.7%	80.6%	90.0%	53.3%	100%	70.0%
Frequency of meeting						
Monthly or more	22.2%	16.1%	20.0%	10.0%	50.0%	20.0%
Quarterly	44.4%	41.9%	50.0%	40.0%	-	60.0%
Twice a year	-	12.9%	20.0%	-	20.0%	-
Annually	-	6.5%	-	3.3%	-	20.0%
Most common topic discussed in association (not mutually exclusive)						
Expenses and budget	66.7%	64.5%	60.0%	43.3%	80.0%	40.0%
Facilities	55.6%	67.7%	70.0%	33.3%	60.0%	70.0%
Fundraising	55.6%	38.7%	60.0%	33.3%	100%	40.0%
Instructional Methods	22.2%	29.0%	20.0%	20.0%	20.0%	-
Student discipline	66.7%	64.5%	80.0%	50.0%	100%	50.0%
Student performance	33.7%	61.3%	70.0%	46.7%	100%	40.0%
Autonomy and decision-making						
Principal is influential or very influential in the following decisions						
Hiring teachers	25.0%	21.4%	26.7%	22.2%	60.0%	28.6%
Dismissing teachers	37.5%	24.1%	44.4%	50.0%	60.0%	50.0%
Evaluating teacher performance	37.5%	35.7%	37.5%	35.7%	77.8%	46.7%
Setting teacher salaries	37.5%	10.7%	33.3%	23.3%	40.0%	14.3%
Selecting teachers for training	22.2%	25.0%	44.4%	46.7%	60.0%	42.9%
Choosing teaching methods to use	25.0%	26.7%	66.7%	46.7%	60.0%	42.9%
Developing teaching materials	37.5%	31.0%	66.7%	46.7%	80.0%	28.6%
Adapting curriculum to local conditions	37.5%	27.6%	44.4%	43.3%	80.0%	42.9%
Determining teachers working hours	37.5%	32.5%	66.7%	40.0%	60.0%	28.6%
Determining class size	25.0%	32.1%	55.6%	43.3%	60.0%	28.6%
Selecting students for admission	33.3%	41.4%	60.0%	53.3%	60.0%	25.0%
Setting standards for student promotion	50.0%	36.7%	77.8%	56.7%	60.0%	28.6%
Evaluating students	25.0%	35.7%	55.6%	53.3%	60.0%	28.6%
Closing a school	25.0%	32.1%	22.2%	60.0%	80.0%	28.6%
Adding new grades to existing school	33.3%	13.8%	40.0%	30.0%	60.0%	-
Setting school fees	50.0%	25.0%	66.7%	40.0%	100%	28.6%
Deciding which students are exempted from fees	25.0%	31.0%	66.7%	40.0%	60.0%	28.6%
Deciding on the construction of school facilities	25.0%	14.3%	44.4%	43.3%	60.0%	28.6%
Maintaining and rehabilitating facilities	12.5%	32.1%	66.7%	53.3%	80.0%	28.6%
Deciding on how to spend school funds	22.2%	32.1%	44.4%	43.3%	60.0%	28.6%
Scheduling meetings with community	50.0%	42.9%	66.7%	53.3%	60.0%	42.9%
School finance						
Schools where students pay tuition (% of schools that responded to answer)	4 (44.4%)	3 (9.7%)	5 (50.0%)	5 (16.7%)	2 (40.0%)	1 (10.0%)
Average amount each students paid per year in those schools (\$)	\$15.7	\$20.3	\$23.4	\$43.0*	\$6.5	\$5.0

Source: PSAS 2003

Notes on Parental Participation and School Decision Making

The PSAS shows variation in parental participation in school affairs and decision-making in schools. Since public expenditure finances mainly salaries, schools tend to resort to fund raising with parents to supplement the need for supplies and, in some cases, even for hiring of extra teachers. The above table provides some descriptive statistics.

Parental participation. About 80 percent of urban public schools, 53 percent rural public schools and 100 percent remote public schools had parent-teacher associations (PTAs). A high percentage of rural and remote private schools also had PTAs. However, these PTAs did not appear to be very active as only 40 to 60 percent met quarterly. When they met, the common topics for discussion were expenses, budget, fundraising, facilities, and discipline; a lower percentage of PTAs discussed student performance and much lower percentage discuss instructional methods.

School-level finance. Unfortunately, most schools were not able to provide information on how much money they raised either through tuition fees, parents' contribution, or from other sources such as business and external donors. That is why the information provided in the above table should only be taken as suggestive. The information from two remote private schools is deemed to be non-credible because of the extremely small sample size. Nonetheless, anecdotal evidence exists that schools have gone back to the former practice of raising fees with parents, even though this was stopped during the transition period. The issue to watch in the future is whether this practice would end up discouraging poor children from attending school.

School autonomy. Private schools in both urban, rural and remote locations enjoyed far more decision making power in the area of dismissing teachers, setting salaries, selecting teachers for training, choosing teaching methods to use, developing teaching materials, adapting the curriculum to local conditions, determining working hours of teachers, setting standards for students, setting the amounts of school fees, adding new grades to the school, and scheduling meetings with their community.

Rural schools, public or private, enjoyed more autonomy than urban schools in determining working hours of teachers, determining class size, setting standards for students, evaluating students, closing a school, deciding which students were exempted from fees, deciding on the construction of school facilities, maintaining schools, and how to spend school funds. Such decision power should be balanced with accountability so that powers are exercised judiciously and student welfare and standards are maintained.

In summary, for principals and teachers to manage their school well, they have to develop very good outreach skills with the community, to involve the parents, to raise funds, to exercise decision about exempting students from fees or to provide additional support to students in a judicious manner, to send teachers for training, to lobby for textbooks and guides for the schools, and to be an instructional leaders to raise teacher performance and student achievement. All of these will call on the administrative and entrepreneur skills of the principal or the head teacher. To develop these skills requires specific training. Having competent school leaders would make it possible to develop school-based management with accountability to the community. In turn, this would make the system more responsive to the needs of the stakeholders and improve service delivery.

Annex 7: Cross Level Effects of Student and School Characteristics on Outcomes, 2003				
	Coefficients	Standard Errors	p-value	Effects Size
Mean scores	26.72	1.66	0.000	
Students characteristics				
% of boys in school	2.23	0.54	0.000	0.131
% of overage students for grade at school level	1.19	0.47	0.012	0.07
Mother tongue (compared with Tetum)				
Portuguese	-4.1	1.36	0.003	0.242
Mambae	-0.82	1.52	0.588	0.048
Makasae	3.63	1.17	0.002	0.214
Other	3.16	0.99	0.002	0.186
Family background				
% of parents read newspaper in school	1.52	0.65	0.019	0.09
Home resources aggregated to school level	0.25	0.18	0.177	0.014
Schooling experience and opportunity to learn				
Multigrade	-6.23	1.95	0.002	0.361
Attending pre-school				
School mean days absent (1)	1.71	4.43	0.699	0.147
% Attended pre-school	1.92	4.83	0.690	0.123
Student has books	0.16	0.55	0.766	0.009
Student repeated a grade	-0.38	0.55	0.485	0.022
Teacher was absent last week	-1.08	0.079	0.080	0.23
Teacher rating of student ability	3.5	0.45	0.000	0.063
Additional year of schooling by enrolling in Grade 4				
School mean of teacher rating of student ability	8.84	0.9	0.000	0.523
Pupil-teacher ratio in Grade 3	2.84	2.12	0.182	0.128
Changes in STR between Grades 3 and 4	-0.11	0.05	0.016	0.398
	-2.41	2.29	0.293	0.128
Language of Instruction				
(compared with Portuguese & Tetum)				
Portuguese	1.15	1.66	0.487	0.095
Tetum	1.62	2.04	0.426	0.043
Portuguese, Tetum, other	0.73	0.69	0.288	0.131

Source: PSAS 2003

Annex 8: Estimated probabilities associated with 50 percent correct or higher, 2003						
	Estimated Log Odds	se	p-value	Estimated Probability	Difference	Relative Effect
Mean	-1.975	0.108	0.00	12.2%		
Student characteristics						
Boys' advantage over girls	0.272	0.075	0.00	15.4%	3.2%	31.3%
Overage for grade	0.016	0.071	0.83	12.4%	0.2%	1.6%
Mother tongue (compared with Tetum)						
Portuguese	0.098	0.176	0.58	13.3%	1.1%	10.3%
Mambae	-0.390	0.168	0.02	8.6%	-3.6%	-32.3%
Makasae	0.608	0.144	0.00	20.3%	8.1%	83.7%
Other	0.287	0.129	0.03	15.6%	3.4%	33.2%
Father read newspaper	0.092	0.097	0.35	13.2%	1.0%	9.6%
Home resources	-0.005	0.026	0.85	12.1%	-0.1%	-0.5%
Schooling experience						
Effect of attending pre-school						
School mean days absent (1)	-0.482	0.214	0.03	10.8%	-1.4%	-38.2%
Attended pre-school	0.372	0.249	0.56	18.7%	6.5%	45.1%
Multigrade	-0.456	0.197	0.02	8.1%	04.1%	-36.6%
Student Has Books	0.094	0.079	0.23	13.2%	1.0%	9.9%
Student repeated a grade	-0.110	0.067	0.07	11.1%	-1.1%	-10.4%
Teacher was absent last week	-0.131	0.079	0.10	10.9%	-1.3%	-12.3%
Teacher rating of student ability	0.323	0.073	0.00	16.1%	3.9%	38.1%
Additional year of schooling						
Grade 4	0.806	0.099	0.00	23.7%	11.5%	123.8%
School mean of teacher rating of student ability (2)	0.685	0.230	0.00	32.8%	20.6%	98.4%
Pupil-teacher ratio in Grade 3	-0.020	0.005	0.00	23.5%	11.3%	-2.0%
Changes in STR between Grades 3 and 4	-0.597	-1.690	0.09	17.3%	5%	-45.0%
Language of instruction						
(compared with mixed Portuguese and Tetum)						
Language of Instruction: Portuguese	0.331	0.259	0.20	16.2%	4.0%	39.2%
Language of Instruction: Tetum	0.671	0.228	0.00	21.3%	9.2%	95.6%
Language of Instruction: Port, Tetum, Other (3)	0.019	0.097	0.84	12.4%	0.2%	1.9%

Source: PSAS 2003

Notes:

- (1) The probability presented is the effect of a student who is in a classroom that is one standard deviation above average in student absenteeism against a student who is in a classroom that is one standard deviation below average in student absenteeism.
- (2) The probability presented is the effect of a student who is in a classroom that is one standard deviation above average in mean teacher rating of ability against a student who is in a classroom that is one standard deviation below average in mean teacher rating of ability.
- (3) Left out group instruction, Portuguese and Tetum.



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