Timor-Leste: Poverty in a Young Nation

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Preface and acknowledgements

This report presents findings on poverty in Timor-Leste based on data from the recent Timor-Leste Survey of Living Standards (TLSLS) for 2007 conducted by the Directorate of National Statistics, Ministry of Finance, Dili, with support from the World Bank. The report is the second major output based on this survey, and follows the publication of the "Final Statistical Abstract: Timor-Leste Survey of Living Standards 2007" in July 2008 by the Directorate of National Statistics.

The report was prepared by Gaurav Datt (EASPR, World Bank) and Martin Cumpa (Consultant) under the overall guidance of Vikram Nehru (Sector Director, EASPR, World Bank), Nigel Roberts (Country Director, Timor-Leste, Papua New Guinea and Pacific Islands), Antonio Franco (Country Manager, Timor-Leste, World Bank) and Sanjay Dhar (Lead Economist, EASPR, World Bank).

From the government side, strategic guidance for this work was provided by the Ministry of Finance, under the overall leadership of the Minister of Finance, Emilia Pires.

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1. Introduction

On May 20th this year, Timor-Leste observed the sixth anniversary of its independence with the President Jose Ramos-Horta reminding the young nation of the challenges it faces: "On this day of independence we have to maintain peace in our nation, fight poverty and protect national unity. This is an obligation of all the people." While the country has been preoccupied with the task of building the basic institutions of the state, economy and society in this early phase, the six years since independence have certainly been turbulent, and economic progress in many respects has remained elusive. Amongst the many challenges faced by the country, poverty reduction is arguably one of the most important. Thus, as the government proceeds with the formulation of the Strategic Development Framework, it is important to take stock of the current and evolving poverty situation in the country, assess how the people of the country have been faring in recent times and thus identify the main developmental challenges for future poverty reduction.

In January 2008, the second national household survey of living standards – the 2007 Timor-Leste Survey of Living Standards (TLSLS) – conducted by the Directorate of National Statistics, successfully completed its yearlong fieldwork. The survey provides a rich array of new information on the living conditions of the Timorese population. Together with the first national living standards survey of 2001, the 2007 TLSLS thus offers an excellent opportunity to review how the poverty situation has evolved over the six years, and assess the current state of poverty in the country. This report aims to present the main findings from such a review and assessment.

Needless to say, poverty is multi-dimensional in nature and its manifestations are both diverse and complex. This report focuses on consumption poverty, i.e. poverty as measured in terms of households' total consumption (relative to the number of persons in the household). While what people consume is only one dimension of their well-being, it is arguably an important one. Total consumption of food and non-food items is a useful summary measure of household welfare and one that is widely used in poverty assessments throughout the world. It has strong theoretical roots in welfare economics, and is well-grounded empirically in survey-based household data.[1] However, the focus on consumption poverty in this report is not intended to suggest that this is a sufficient indicator of all relevant aspects of economic and social wellbeing or deprivation. Evidence on some of the other dimensions, in particular those relating to education and health, will also be presented later in this report. But more importantly, further analytical work on the TLSLS will delve deeper into the non-consumption indicators, and this report should be viewed as first in a series of analytical outputs relevant to a comprehensive assessment of the welfare of the Timorese population.

2. Measuring poverty: a summary of methodology

The analysis of the current poverty situation presented in this report is based on data from the 2007 Timor-Leste Living Standards Survey. The fieldwork for this survey was carried out between January 2007 and January 2008, and covered 4477 households nationwide.[2] Thus, the poverty estimates in this report also relate to the same period January 2007-January 2008, or essentially the calendar year 2007.

Details of the methodology for measuring poverty are presented in Annex 2. But a summary of the key elements of the approach is useful as a prelude to the discussion of the main findings on poverty in Timor-Leste presented later in the report. In brief, the following methodological points about the approach to poverty measurement are notable.

- Per capita consumption is taken to be the basic measure of household welfare, and a household is considered poor if its per capita consumption is below the poverty line. Consumption for a household is the total value of all food and non-food items consumed, including imputed values of

[1] For further discussion of theoretical and empirical issues in poverty measurement, see Deaton (1997), Ravallion (2008).

[2] Further information on the 2007 TLSLS is given in Annex 1.

non-purchased items of consumption such as those self-produced by the household and any items received in kind as gifts or transfers.

- The poverty line is determined using a cost of basic needs approach which involves the evaluation of a food and a nonfood poverty line. The sum of the food and the nonfood poverty lines determines the overall poverty line.
- For 2007, the food, nonfood and overall poverty lines are determined separately for six domains which relate to the rural and urban sectors of three regions, namely, the East, Center and West.
- The East includes the districts of Baucau, Lautem and Viqueque;
- The Center includes the districts of Aileu, Ainaro, Dili, Ermera, Liquica, Manufahi, and Manututo; and
- The West includes Bobonaro, Cova Lima and Oecussi districts.
- The food poverty line is anchored to a daily intake of 2100 calories per capita. The domain-specific average food bundle of the poor is scaled to yield 2100 calories per capita per day.[3] This bundle valued at median prices of food items paid by the poor in each domain yields the food poverty line for that domain.
- The nonfood poverty line is estimated in terms of what the poor actually spend on nonfood items. Two sets of nonfood poverty lines are estimated. The lower nonfood poverty line for a domain corresponds to the average per capita non-food consumption of the population whose per capita *total* consumption is within plus/minus 5% of the food poverty line for that domain. The upper nonfood poverty line for a domain, on the other hand, corresponds to the average per capita non-food consumption of the population whose per capita *food* consumption is within plus/minus 5% of the food poverty line for that domain.
- The upper (lower) poverty line for a domain is the sum of the food poverty line and the upper (lower) nonfood poverty line for that domain.
- Three sets of poverty measures are calculated: (i) the headcount index which gives the percentage of population below the poverty line, (ii) the poverty gap measure which measures the depth of poverty, and (iii) the squared poverty gap measure which measures the severity of poverty and takes into account the distribution of per capita consumption below the poverty line giving greater weights to those who are the poorest.

3. The basic needs poverty line for 2007 is estimated at $0.88 per person per day

The poverty lines for 2007 based on the above methodology are shown in Table 1. Thus, for 2007 the average upper poverty line nationally is determined at $26.68 per person per month or $0.88 per person per day at average national prices of December 2007. The average lower line is $21.53 per person per month or $0.71 per person per day. The lower line could be interpreted as representing extreme poverty. The food poverty line is about $16 per person per month, and accounts for about 62% (73%) of the upper (lower) poverty line.[4]

[3] The group of poor are of course not known before the poverty lines are determined. Hence, an iterative process is used, where in the first iteration the bottom 40% of the national population is taken to be the reference group of the poor. Once the poverty lines are determined with this bottom 40% reference group, the group of poor in each domain is determined and the food and nonfood poverty lines are recalculated for this "new" reference group of the poor. The process is repeated till there is convergence of the poverty lines. The convergence criterion is set at less than 5% average absolute change in the poverty lines.

[4] The food poverty line varies a little for the lower and upper lines. This is on account of the iterative process of determining poverty lines where, for the lower and upper lines, somewhat different sets of poor households are identified as the reference group after the first iteration.

The interpretation of the $0.88 per person per day poverty line as an absolute poverty line is straightforward: it represents, in December 2007 prices, the typical cost of attaining 2100 calories per person per day and meeting some basic non-food needs.

Exactly the same methodology was used to determine comparable poverty lines for 2001. The comparable upper poverty line for 2001 was thus determined at $0.52 per person per day at September 2001 average national prices. In other words, while $0.52 per person per day was needed in (September) 2001 to attain 2100 calories per capita per day and basic non-food needs, in (December) 2007 the cost of attaining the same food and non-food needs had risen to $0.88 per person per day.

Table 1 : Poverty lines for 2007 and comparable poverty lines for 2001

	2007					
Poverty lines in $/person/MONTH, at average national prices of December 2007						
	Lower			**Upper**		
	Food	**Non-food**	**Total**	**Food**	**Non-food**	**Total**
East rural	11.53	3.63	15.16	12.02	6.64	18.66
East urban	12.75	4.62	17.37	13.24	8.49	21.73
Center rural	17.57	6.09	23.66	17.81	9.55	27.36
Center urban	18.39	7.11	25.50	19.89	15.15	35.03
West rural	14.88	5.84	20.72	15.50	9.94	25.44
West urban	15.99	6.42	22.41	16.03	11.10	27.12
National	**15.82**	**5.71**	**21.53**	**16.45**	**10.23**	**26.68**
Poverty lines in $/person/DAY, at average national prices of December 2007						
National	**0.52**	**0.19**	**0.71**	**0.54**	**0.34**	**0.88**
	2001					
Poverty lines in $/person/DAY, at average national prices of September 2001						
National	**0.31**	**0.12**	**0.43**	**0.31**	**0.21**	**0.52**

Sources and notes: TLSLS 2007 and TLSS 2001.

The cost of basic needs is higher in urban areas and in the Central region

As seen in Table 1, the urban poverty lines are higher than the rural lines reflecting the higher cost of living in urban areas; urban prices are 7-28% higher. Similarly, poverty lines for Center are higher than those in the West, while the Eastern region seems to have the lowest cost of living.

4. About half of the Timorese population lives below the basic needs poverty line of $0.88 per person per day

The poverty estimates for 2007 are shown in Table 2. They indicate that about half of the Timorese population lives below the upper poverty line. Using the lower line as a measure of extreme poverty, the estimates suggest that one-third of the population is afflicted by this extreme poverty.

Table 2 : Poverty estimates for 2007

	Lower poverty line			Upper poverty line		
	Headcount index (Incidence)	**Poverty gap index** (Depth)	**Squared poverty gap index** (Severity)	**Headcount index** (Incidence)	**Poverty gap index** (Depth)	**Squared poverty gap index** (Severity)
National	**33.2**	**7.5**	**2.5**	**49.9**	**13.6**	**5.1**
Rural	37.3	8.7	2.9	51.5	14.2	5.3
Urban	21.7	4.1	1.2	45.2	11.8	4.2
East	12.6	1.6	0.3	26.5	4.8	1.3
Center	41.0	9.8	3.3	57.8	16.8	6.5
West	35.6	7.9	2.5	55.1	14.8	5.5

Sources and notes: TLSLS 2007. Note all poverty measures are in percentages.

The poverty gap index which measures the average depth of poverty is estimated to be 13.6% nationally (using the upper poverty line). This indicates that the average Timorese national's per capita consumption falls short of the poverty line by 13.6% if the non-poor are assumed to have a zero shortfall. The average *poor* person's per capita monthly consumption, on the other hand, is $19.42 and falls short of the poverty line by 27%, or a deficit of $7.26 relative to the poverty line of $26.68.

Two other features of these poverty estimates are notable. First, rural poverty is higher than urban poverty for both the upper and the lower poverty lines. For instance, for the upper line, about 52% of the rural population is deemed to be poor as against 45% of the urban population. Measures of the depth and severity of poverty are also higher in rural than in urban areas.

Second, by region, the East is the least poor (with a headcount index of 27%) while the Center is the poorest (headcount index of 58%), with poverty rates in the West only a little bit lower (headcount index of 55%). The difference between Central and Western poverty rates is not statistically significant. This regional pattern is similar for other poverty measures including measures of the depth and severity of poverty.

5. Poverty increased significantly between 2001 and 2007 though there are differences across regions

A question of considerable interest is how poverty has changed over time. To investigate this, exactly the same methodology for poverty measurement was replicated for the first national living standards survey for 2001. The consumption module of the 2001 Timor-Leste Living Standards Survey (TLSS) was virtually identical to that for 2007 TLSLS, and the two surveys are highly comparable in other respects.[5] The resulting estimates for 2001 are shown in Table 3.[6]

[5] For 2001, the food, nonfood and overall poverty lines were determined separately for four domains which include Urban, Rural east, Rural Center, and Rural West. The smaller number of domains used for estimating poverty lines for 2001 (relative to 2007) is on account of the lower sample size of the 2001 survey which only covered about 1800 household nationwide.

[6] Note that the estimates of poverty presented in this Table are somewhat different to those presented in the poverty assessment (World Bank, 2003) based on the 2001 TLSS. The reason for difference is that in order to ensure maximum comparability with the 2007 estimates, the poverty measures for 2001 were re-estimated by applying exactly the same methodology as was used for the 2007 estimates.

Table 3 : Poverty estimates for 2001

	Lower poverty line			Upper poverty line		
	Headcount index (Incidence)	**Poverty gap index** (Depth)	**Squared poverty gap index** (Severity)	**Headcount index** (Incidence)	**Poverty gap index** (Depth)	**Squared poverty gap index** (Severity)
National	**25.4**	**6.5**	**2.4**	**36.3**	**10.5**	**4.2**
Rural	29.7	7.6	2.8	39.7	11.6	4.6
Urban	11.3	2.8	0.9	25.2	7.3	2.9
East	16.4	3.6	1.1	24.7	6.6	2.5
Center	30.4	8.4	3.2	41.2	12.7	5.3
West	23.3	5.0	1.7	37.4	9.8	3.6

Sources and notes: TLSS 2001. Note all poverty measures are in percentages.

A comparison of the estimates for the two survey years indicates a large increase in poverty levels during 2001-07. For instance, the proportion of the population below the upper poverty line increase from 36% to about 50%, and that below the lower line increased from 25% to 33%. Poverty increased in both rural and urban areas. However, the increase in urban poverty was larger (from 25% to 45%) than the increase in rural poverty (from 40% to 52%). Across regions, poverty also increased significantly both in the Center and the West. For the East, however, the picture is mixed. For the upper poverty line, while there was a small increase in the headcount index, measures of depth and severity of poverty actually declined. Extreme poverty measured in terms of the lower poverty line, on the other hand, declined in the East by all poverty measures. Thus, the Eastern region remains an exception to an otherwise widespread increase in poverty since 2001.

The increase in poverty is entirely on account of the decline in average consumption

To get a better sense of the factors underlying the increase in poverty it is useful to look at changes in mean consumption and inequality during this period. Table 4 summarizes the main results.

Table 4 : Changes in real mean consumption and inequality, 2001-2007

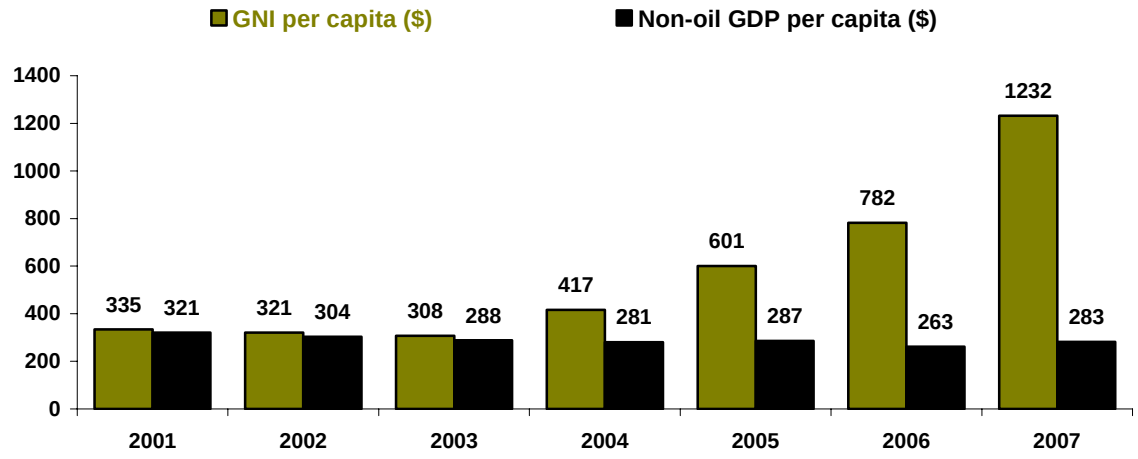
	Mean consumption			**Inequality indices**					
	Level (in 2007 $ per capita per month)		**% change**	**Theil or GE(1)**		**Gini**		**GE(2)**	
	2001	**2007**	**2001-7**	**2001**	**2007**	**2001**	**2007**	**2001**	**2007**
Total	42.0	31.3	-26%	0.23	0.14	0.36	0.28	0.34	0.19
Rural	37.7	30.4	-20%	0.19	0.13	0.33	0.27	0.25	0.16
Urban	56.1	34.0	-39%	0.28	0.16	0.40	0.29	0.40	0.24
East	47.1	39.5	-16%	0.18	0.11	0.32	0.25	0.22	0.15
Center	41.6	28.4	-32%	0.27	0.13	0.39	0.27	0.40	0.19
West	37.4	29.9	-20%	0.20	0.13	0.31	0.27	0.33	0.17

Sources and notes: TLSS 2001 and TLSLS 2007. GE(α) indices refer to the Generalized Entropy class of inequality measures; the higher (lower) the value of α, the greater the sensitivity of the measure to consumption differences at the top (bottom) of the distribution. The Gini index is more sensitive to consumption differences in the middle of the distribution.

As evident from Table 4, there was a significant decline in real mean consumption per capita over this period by about 26% nationally, from about $42 per month to $31 per month. The decline was even larger in urban area, by 39%. Across regions, the Center witnessed the largest decline of 32% while the smallest decline was in the East of 16%. This fall in mean consumption across the country is not surprising and is consistent with the relative stagnation of the non-oil economy over this period. In per capita terms, real non-oil GDP declined by 12% during 2001-7, even as oil incomes soared and there

was a large increase in real GNI per capita (Figure 1). The decline in real private consumption per capita (based on the national accounts estimates by the IMF) was even larger. For instance, the IMF estimates indicate that between 2002 and 2007 per capita real private consumption declined by 24%.[7]

Figure 1 : Real non-oil per capita income declined during 2001-7



Sources and notes: Based on current GNI and non-oil GDP from IMF (2008) deflated by the CPI and divided by population estimates from the Directorate of National Statistics.

Table 4 also indicates that inequality declined over this period. For the country as a whole, both the Gini and the Generalized Entropy indices of inequality in per capita consumption fell significantly. For instance, the Gini index for the country as a whole declined from 0.36 to 0.28. The fall in inequality was also widespread, with inequality declining both within rural and urban sectors as well as within the three main regions.

The fall in inequality by itself could have been expected to contribute to a reduction in poverty. However, this was more than offset by the decline in mean consumption. Thus, the observed increase in poverty during this period is entirely on account of the negative growth in per capita consumption. This is confirmed by the decomposition of the change in poverty into growth and inequality components presented in Table 5. The growth component refers to the change in poverty that would have resulted if only the real mean consumption had changed but there was no change in relative inequalities. The inequality component on the other hand relates to the change in poverty that would have occurred if only relative inequalities had changed but the real mean consumption remained unchanged.[8]

[7] This estimate is based on the current prices private consumption figures reported in IMF (2008) deflated by the Consumer Price Index and normalized by the population estimates from DNE (2007). However, the national accounts data for Timor-Leste are weak and there remain concerns about their accuracy especially on the expenditure side. In this setting, the survey data arguably provide a more reliable measure of consumption.

[8] See Datt and Ravallion (1992) for further discussion of this growth-inequality decomposition and its application.

Table 5 : Decline in real mean consumption accounts for the observed increase in poverty during 2001-7

(Change in poverty and the contributions of growth and inequality components: *in percentage points*)

		Headcount index (Incidence)	Poverty gap index (Depth)	Squared poverty gap index (Severity)
National				
	Total change in poverty measure	13.6	3.0	0.8
	Growth component	22.1	8.8	4.2
	Inequality component	-8.5	-5.8	-3.4
Rural				
	Total change in poverty measure	11.8	2.7	0.7
	Growth component	16.7	7.0	3.4
	Inequality component	-4.9	-4.4	-2.7
Urban				
	Total change in poverty measure	20.1	4.5	1.4
	Growth component	31.8	11.7	5.5
	Inequality component	-11.7	-7.2	-4.2
East				
	Total change in poverty measure	1.8	-1.7	-1.2
	Growth component	11.2	3.3	1.3
	Inequality component	-9.4	-5.1	-2.5
Center				
	Total change in poverty measure	16.6	4.1	1.2
	Growth component	28.1	12.5	6.4
	Inequality component	-11.5	-8.5	-5.2
West				
	Total change in poverty measure	17.6	5.0	1.9
	Growth component	20.7	7.6	3.4
	Inequality component	-3.0	-2.6	-1.5

Sources and notes: TLSS 2001 and TLSLS 2007.

As seen from the results in Table 5, while the inequality component contributed to a potential decline in poverty, this was more than offset by the growth component which contributed to an increase in poverty. For instance, between 2001 and 2007 the incidence of poverty (headcount index) at the national level increased by 13.6 percentage points. If real mean consumption had remained constant over this period, the observed decline in relative inequalities would have actually resulted in a *decline* in the incidence of poverty by 8.5 percentage points. On the other hand, if relative inequalities were held constant, the observed decline in real mean consumption would have *increased* poverty incidence by 22.1 percentage points. The combined effect of these two opposite factors was a net increase in poverty incidence by 13.6 percentage points. The results are similar for the other measures of poverty.

Similarly, the observed increases in rural and urban poverty are also entirely attributable to the decline in rural and urban real mean consumption levels. The pattern is also similar for the Central and Western regions for all poverty measures and for the headcount index in the East.

Overall, these findings clearly point to the disappointing growth performance as the primary factor underlying the increase in poverty. From this perspective, growth in the non-oil economy – to which household incomes and consumption levels are tied – will be of critical importance for future poverty reduction.

The incidence of food poverty also increased during 2001-7

An alternative measure of deprivation is the extent of food poverty which could be measured in terms of the percentage of the population whose per capita food consumption is below the food poverty line.[9] The extent of such food poverty is shown in Table 6.

Table 6 : Incidence of food poverty increased during 2001-2007

	Percentage of population with per capita food consumption below the food poverty line	
	2001	**2007**
National	**31.2**	**42.1**
Rural	32.6	42.8
Urban	26.7	40.0
East	20.2	22.2
Center	36.9	50.7
West	29.7	41.6

Sources and notes: TLSS 2001 and TLSLS 2007. Food poverty is measured in terms of a household's per capita food consumption being below the food poverty line. .

The results for food poverty mirror those for poverty in terms of the total poverty line covering both basic food and non-food needs. For instance, at the national level the incidence of food poverty increased from 32 percent in 2001 to 42 percent in 2007. Similarly, food poverty incidence increased in both rural and urban areas and also in the Center and the West with only a modest increase in the East.

6. Despite increase in consumption poverty during 2001-7, educational indicators improved although child health indicators deteriorated

In spite of the increase in consumption poverty, there was a significant improvement in several indicators related to education during 2001-7 (Table 7). For instance, the percentage of population 6 years and above that never attended school declined from 45 to 40 percent, the percentage of the adult population (above 18 years) who are literate (could read and write a letter without difficulty) increased from 38 to 51 percent, those who completed at lease primary (secondary) level of education rose from 31 (12) to 43 (15) percent. Similarly, while there was no significant change in net primary enrolment rates, the pre-secondary and secondary net enrolment rates rose over this period from 19 to 35 percent and from 14 to 23 percent respectively. The latter indicators improved for both males and females.

[9] Note that while the food poverty line is anchored to a threshold of 2100 calories per person per day, the food poverty measure is not based on per capita calorie intake of households, but reflects whether the actual food expenditure of household is enough for what would be needed to attain 2100 calories per person per day consistent with the average food consumption patterns and food prices in the six domains for which the food poverty lines are estimated.

Table 7 : Improvement in educational indicators during 2001-2007

	2001			2007		
	Total	Male	Female	Total	Male	Female
Percentage of the population 6 years and above that never attended school	44.9	40.0	49.8	39.5	34.4	44.8
Percentage of adult population (18 years and above) able to read and write a letter without difficulty	37.6	45.3	30.0	50.6	58.5	42.5
Percentage of adult population (18 years and above) who had completed						
Primary or higher level of education	31.2	37.0	25.6	42.5	48.5	36.5
Pre-secondary or higher level of education	20.5	25.2	15.8	29.3	34.2	24.5
Secondary or higher level of education	11.9	14.9	8.9	15.1	18.3	11.9
Percentage of the youth (15-24 years) who had completed						
Primary or higher level of education	53.3	54.1	52.4	68.4	69.5	67.0
Pre-secondary or higher level of education	29.6	32.3	26.7	38.2	37.7	38.7
Secondary or higher level of education	12.1	13.4	10.6	13.3	13.6	12.9
Net enrolment rates						
Primary	65.1	61.8	68.9	65.6	64.6	66.6
Pre-secondary	19.0	18.3	19.9	34.9	32.1	37.4
Secondary	13.6	12.2	15.2	23.3	18.4	29.0

Sources and notes: TLSLS 2007. The net enrolment rates are for the academic years 2001/2 and 2006/7 respectively. The relevant age group for primary is between 6 and 11 years, for pre-secondary between 12 and 14 years and for secondary between 15 and 17 years.

This improvement in educational indicators despite an increase in poverty is indicative of a measure of success of public policy towards education which provides for free primary and secondary schooling. This appears to have protected school enrolments against the drop in household living standards.

The same however cannot be said of health indicators relating to children. The evidence in Table 8 indicates a deterioration in nutritional measures for children under 5 years of age. The three key child nutrition measures relating to the extent of stunting (height-for-age), wasting (weight-for-height) and underweight children (weight-for-age) all indicate a worsening between 2003 and 2007. The increase in the prevalence of wasting is particularly worrisome, with prevalence rates in 2007 double of those in 2003. Since the 2003 estimates are based on the Demographic and Health Survey for that year, there may be some issues of comparability with the estimates based on TLSLS. However, the basic methodology for anthropometric measurement in the two surveys is quite standard, and the different surveys by themselves are unlikely to account for the large observed change in weight-for-height.

Table 8 : The slide in child health indicators during 2003-2007

	2003			2007		
	Total	Male	Female	Total	Male	Female
Nutritional status of children under 5 years						
Stunting						
Stunted (Height-for-Age z < -2)	49.4	51.0	47.8	53.9	56.3	51.5
Severely stunted (Height-for-Age z < -3)	28.2	30.0	26.3	23.8	24.6	22.9
Wasting						
Wasted (Weight-for-Height z < -2)	12.4	12.7	12.1	24.5	29.2	19.6
Severely wasted (Weight-for-Height z < -3)	2.8	3.0	2.7	7.5	7.6	7.3
Underweight						
Underweight (Weight-for-Age z < -2)	45.8	46.3	45.3	48.6	52.5	44.5
Severely underweight (Weight-for-Age z < -3)	14.9	15.4	14.4	14.6	16.3	12.9
Full immunization of children 12-23 months	17.9	17.7	18.4	26.7	29.8	23.4

Sources and notes: Demographic and Health Survey 2003, and TLSLS 2007.

It is notable however that relative to stunting, wasting – which reflects the body mass relative to height – is more sensitive to short-term variations in nutritional intake and vary in response to recent availability of food and incidence of morbidity in the child population. Stunting on the other hand is more indicative of long-term inadequacies in health or nutrition. Thus, one can expect wasting to be more responsive to changes in household consumption and poverty levels. The increase in consumption poverty may thus at least partially explain the rise in wasting amongst children over this period.

Not all child health indicators have necessarily deteriorated however. There was progress in immunization. Full immunization rates amongst those aged 12-23 months improved significantly from 18 to 27 percent.

7. Most of the poor are concentrated in rural areas and in the Central region

About three-quarters of the poor live in rural areas, and a quarter in urban areas (Table 9). By region, the Center accounts for nearly two-thirds of the poor, significantly higher than its 56% share in population, which reflects the region's relatively higher incidence of poverty. The West accounts for about 23% of the poor, not very different to its 21% share in population. The East, by contrast, accounts for only about 12.5% of the poor, which is only about half of its 24% share in population. Thus, poverty alleviation efforts will need to focus in particular on rural areas and the Central region.

Table 9 : Regional profile of poverty: 2007

	Poverty measures				
	Incidence	Depth	Severity	Percent of population	Percent of poor
National	**49.9**	**13.6**	**5.1**	**100.0**	**100.0**
Rural	51.5	14.2	5.3	73.7	76.2
Urban	45.2	11.8	4.2	26.3	23.8
East	26.5	4.8	1.3	23.5	12.5
Center	57.8	16.8	6.5	55.5	64.3
West	55.1	14.8	5.5	21.0	23.2
East rural	26.4	4.8	1.3	21.3	11.3
East urban	27.7	5.8	1.7	2.2	1.2
Center rural	64.2	19.4	7.6	33.9	43.7
Center urban	47.7	12.7	4.6	21.6	20.6
West rural	57.4	15.6	5.8	18.5	21.2
West urban	38.8	9.1	3.1	2.6	2.0
Districts:					
Center					
Aileu	68.6	19.8	7.4	5.8	8.0
Ainaro	79.7	27.8	11.8	6.0	9.6
Dili	43.3	9.8	3.1	18.6	16.2
Ermera	54.6	14.3	5.2	10.4	11.4
Liquica	44.9	11.9	4.4	6.1	5.5
Manufahi	85.2	32.0	14.1	4.4	7.5
Manatuto	73.7	25.1	10.6	4.2	6.2
West					
Bobonaro	54.5	12.6	4.2	9.5	10.4
Cova Lima	49.1	13.4	4.9	5.3	5.2
Oecussi	61.0	19.5	8.0	6.3	7.7
East					
Baucau	22.3	3.0	0.6	11.3	5.1
Lautem	21.3	4.3	1.2	7.2	3.1
Viqueque	43.4	9.8	3.0	5.0	4.4

Sources and notes: TLSLS 2007. All poverty measures are in percentages. All numbers correspond to the upper poverty line.

Estimates of poverty across the 13 districts of Timor-Leste should be interpreted with some caution as the relatively small sample size at the district level reduces the level of precision of these estimates.[10] Nonetheless, the TLSLS data suggest that levels of poverty vary greatly across districts. The incidence of poverty ranges from 21% and 22% in Lautem and Baucau to 85% and 80% in Manufahi

[10] See Annex 1, Table 29, which shows the standard errors and the 95% confidence intervals for the measures of poverty incidence.

and Ainaro. The district of Dili has a poverty incidence of 43% (a little below the national average) and accounts for about 16% of all the poor.

8. Children account for 49% of the poor while the elderly account for 3%

As a result of the very high fertility rates in Timor-Leste, the younger age groups account for the bulk of the population. Thus, children below 15 account for about 43% of the total population, the youth (15-24 years) account for 12%, while at the other end, the elderly above age 60 account for about 5% of the population. The shares of these age cohorts amongst the poor largely reflect their population shares, but they are also affected by differences in household composition amongst the poor and the non-poor. The composition of the poor by gender and age cohorts is shown in Table 10.[11]

Table 10 : Distribution of the poor by age and gender: 2007

	Percentage of population			Percentage of poor			Poverty incidence (%)			Total number	Number of poor
Age group	Total	Male	Female	Total	Male	Female	Total	Male	Female	(`000)	(`000)
Total	100.0	50.8	49.2	100.0	51.1	48.9	49.9	50.2	49.6	1,047.6	522.4
<15	43.3	22.0	21.3	49.0	25.1	23.9	56.4	56.8	56.1	453.6	256.1
15-24	18.8	9.9	8.9	17.6	9.4	8.2	46.8	47.6	45.8	196.9	92.1
25-34	11.6	5.6	6.0	10.3	4.8	5.6	44.6	42.5	46.6	121.0	54.0
35-44	10.3	5.3	5.0	10.2	5.0	5.2	49.1	46.6	51.9	108.0	53.1
45-60	11.4	5.6	5.8	9.8	5.2	4.6	42.7	46.3	39.2	119.3	50.9
61+	4.7	2.4	2.2	3.1	1.7	1.4	33.6	34.7	32.4	48.7	16.4

Sources and notes: TLSLS 2007. All numbers correspond to the upper poverty line.

The results in Table 10 indicate that children in poor households account for 49% of the poor population, while the youth account for 18% of the poor.[12] However, the elderly account for only 3% of the poor. In absolute numbers, the total number of poor is about 522 thousand. Relative to this, the number of children in poverty is 256 thousand, the number of youth in poverty is 92 thousand, while there are about 16 thousand elderly in poverty. The large share of children in poverty mainly reflects their large share in the population, and to a lesser extent the fact that larger households with relatively more children tend to be poorer.

One reason for the relatively lower incidence of poverty amongst the elderly is that they are part of households with other prime-age working members, and many of these households are not necessarily poor. Thus, it is also useful to look in particular at households that have an elderly head but do not have any prime-age adults. As seen in Table 11, these households account for 2.5% of the total population, of which those in rural areas account for 2.1% of the population, and others in urban areas account for the remaining 0.4%. However, the incidence of poverty amongst such household, at 26%, is lower than for the population as a whole (50%). As a result, such households only account for a little more than 1% of the poor. Only in the urban areas is the incidence of poverty amongst these households relatively high at 54%, but they still account for under 2% of the urban poor and a mere 0.4% of all the poor in the country.

[11] This distribution of the poor is based on per capita consumption of households. The TLSLS does not contain information on the distribution of consumption within the household. Thus, the number of children, youth and elderly in poverty, for instance, represents the number of children, youth and elderly living in poor households.

[12] Children in the 0-5 years age-group themselves account for 21% of the poor relative to their 19% share in the population.

Table 11 : Poverty amongst households with an elderly head but no prime-age adults

	Percentage of population	Poverty incidence	Percentage of poor	Percentage of rural/urban poor
National	100.0	49.9	100.0	
Households with an elderly head and no prime-age adults	2.5	25.9	1.3	
Rural	2.1	20.3	0.8	1.1
Urban	0.4	54.4	0.4	1.9

Sources and notes: TLSLS 2007. The elderly are those above 60 years, prime-age adults refer to those between 15 and 60 years. All numbers correspond to the upper poverty line.

Thus, overall, the evidence suggests that the elderly represent a relatively minor fraction of the poor in Timor-Leste.

9. Female-headed households are less poor on average, but controlling for household size they are poorer than male-headed households

Another issue of interest is the poverty status of female-headed households. According to the TLSLS data, female-headed households account for about 10% of the population, roughly the same proportion in rural and urban areas (Table 12). However, the incidence of poverty for female-headed households (44%) is lower than that for male-headed households (51%). This is also true for rural areas though poverty rates for male and female-headed households are comparable in urban areas. For the country as a whole, female-headed households thus account for about 9% of the poor as against 8% of the rural poor and 10% of the urban poor.

Table 12 : Poverty amongst female and male-headed households

	Poverty incidence			Percentage of population (%)			Percentage of poor (%)		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Total	49.9	51.5	45.2	100.0	100.0	100.0	100.0	100.0	100.0
Male-headed	50.6	52.4	45.4	90.0	90.1	89.5	91.3	91.7	89.9
Female-headed	43.5	43.4	43.6	10.0	9.9	10.5	8.7	8.3	10.1

	Household size			Number of children under 15			Ratio of children under 15 to household size		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Total	5.5	5.3	6.4	2.4	2.3	2.6	0.43	0.44	0.41
Male-headed	5.8	5.6	6.6	2.6	2.5	2.8	0.45	0.46	0.42
Female-headed	3.9	3.6	5.0	1.2	1.1	1.4	0.31	0.31	0.28

Sources and notes: TLSLS 2007. All numbers correspond to the upper poverty line.

However, the lower incidence of poverty amongst female-headed households mainly attributable to these households being significantly smaller than those headed by males. The average female-headed household had 3.9 members as against 5.8 in male-headed households (Table 12). Concurrently, female-headed households have fewer children under 15 (1.2 as against 2.6 for male-headed households) as well as lower child-dependency ratios. The share of children under 15 in household size is 0.31 for female-headed households relative to 0.45 for male-headed households. Since larger households with higher child dependency ratios tend to be poorer, the lower poverty incidence of female-headed households is attributable to their relatively smaller size and lower levels of child dependency.

Once we control for household size, female-headed households tend to be poorer than male-headed ones. This is confirmed by the evidence in Table 13. Consistent with the pattern widely observed for other countries, poverty incidence increases with household size. But more importantly, it shows that for any given household size, the incidence of poverty is higher for female-headed households.

Table 13 : Poverty amongst female and male-headed households by household size

Household size	Poverty incidence			Percentage of population (%)		
	Total	Male-headed	Female-headed	Total	Male-headed	Female-headed
1 to 2	7.1	4.4	11.2	3.3	2.2	13.0
3	17.0	15.0	22.1	6.6	5.2	18.9
4	29.7	29.3	32.8	10.3	10.2	11.2
5	44.0	42.6	54.5	13.8	13.5	16.5
6	53.4	52.8	61.0	15.9	16.4	11.2
7 or more	61.6	61.5	62.8	50.1	52.5	29.2
Total	**49.9**	**50.6**	**43.5**	**100.0**	**100.0**	**100.0**

Sources and notes: TLSLS 2007. All numbers correspond to the upper poverty line.

10. The poor participate in the work force as much as the non-poor and do not have higher rates of unemployment

As a first step in examining how poverty in Timor-Leste is related to the population's labor force status, the working age population (15 to 64 years) is classified into three categories: those working, those unemployed, and the rest who are outside the labor force. (See Box 1 for the definitions of these concepts.)

Box 1 :The concepts and definitions of labor force participation, employment and unemployment

The calculations on labor force participation, employment and unemployment in this report follow the standard International Labor Organization approach to the measurement of these indicators. In particular, the calculations focus on the population ages 15 to 64 years and use the last 7 days preceding the interview as the reference period. The labor force is defined to comprise of all economically active persons either currently employed (working) or unemployed. The former includes those who worked for at least one hour in the last week as well as those who did not work in the last week but have a permanent job. The unemployed comprise of those who did not work in the last week, did not have a permanent job and were looking for work. In addition, the unemployed also include those who did not work in the last week, did not have a permanent job, did not look for work, but were waiting for a reply from an employer, waiting for a recall from an employer or waiting for the busy season. The unemployment status thus defined does not capture the phenomenon of discouraged workers who while not having worked during the past 7 days also did not look for a job as they saw no prospect of finding any work.

The population out of the labor force comprises those who were neither employed nor unemployed during the last week. They represent those who were not economically active for a variety of reasons including attendance to an educational institution, engagement in household duties, retirement, old age or disability.

The labor force participation rate refers to the proportion of people in the labor force in the total population ages 15 to 64 years, whereas the unemployment rate refers to the share of the unemployed in the total labor force.

Source:

Labor force participation rate is lower in urban areas but the poor and non-poor participate equally in the work force in rural and urban areas

As seen in Table 14, about 59% of the working age population is employed, about 4% are unemployed and the remaining 37% are outside the labor force.[13] This implies a labor force participation rate of 63% and an unemployment rate of 6.7%. There are some differences across rural and urban areas. The employed, unemployed and those outside the labor force constitute 65, 3.4 and 31 percent of the working age population in rural areas, while in urban areas their shares are 43, 6.2 and 51 percent respectively. Thus, urban areas have a significantly lower labor force participation rate (49% as against 68% in rural areas) and a higher unemployment rate (12.7% as against 5% in rural areas).

[13] There is a small fraction (0.4% of the population aged 15-64 years) whose labor force status is not specified in the survey.

Table 14 : Labor force status and poverty

	National			Rural			Urban			Poverty incidence		
	Total	Non-poor	Poor	Total	Non-poor	Poor	Total	Non-poor	Poor	Total	Rural	Urban
Among 15 to 64 years old												
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**45.4**	**47.1**	**41.0**
Employed	58.7	58.6	58.8	64.8	65.5	64.0	42.7	42.4	43.2	45.4	46.4	41.5
Unemployed	4.2	4.8	3.5	3.4	3.9	2.9	6.2	6.9	5.3	37.4	39.4	34.7
Out of labor force	36.7	36.1	37.4	31.4	30.1	32.9	50.6	50.3	51.1	46.3	49.3	41.4
Unspecified	0.4	0.5	0.4	0.4	0.5	0.3	0.4	0.4	0.5	40.0	38.2	44.6
Lab.force particip.rate	63.1	63.7	62.4	68.5	69.8	67.0	49.2	49.5	48.7			
Unemployment rate	6.7	7.6	5.6	5.0	5.7	4.3	12.8	14.1	10.9			
Among all population 1/												
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**49.9**	**51.5**	**45.2**
Employed	60.3	59.9	60.7	65.7	66.3	65.1	45.2	44.0	46.7	50.2	51.1	46.7
Unemployed	3.5	4.2	2.8	2.8	3.3	2.3	5.5	6.4	4.4	40.1	42.9	36.1
Out of labor force	35.8	35.5	36.1	31.2	30.0	32.3	48.9	49.2	48.5	50.3	53.3	44.9
Unspecified	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.5	0.4	44.5	45.5	41.9

Sources and notes: TLSLS 2007. 1/ Based on labor force status of population 15 to 64 years old. See Box 1 for definitions of those working, unemployed and outside the labor force. All numbers correspond to the upper poverty line.

However, the poor and non-poor participate more or less equally in the work force. Participation rates amongst the poor and non-poor are similar nationally (around 62-64%) as well as within rural (around 67-70%) and within urban areas (around 44-47%).

Unemployment is higher in urban areas but is not necessarily associated with greater poverty in either rural or urban areas

Overall, about 45% of the working age population is below the poverty line, or strictly speaking, lives in households below the poverty line (top panel of Table 14).[14] The incidence of poverty amongst the employed and those outside the labor force is comparable at about 45-46%. However, a smaller fraction (37%) of the unemployed are poor. This pattern of a relatively lower incidence of poverty amongst the unemployed is also observed in both rural and urban areas.

The pattern is also similar if the working age population were scaled up to the total population by scaling up the working age members to the total household size (bottom panel of Table 14).[15] Thus, the unemployed account for only about 3% of the poor for the country as whole, 2% of the rural poor and 4% of the urban poor.

Another way to look at the association between unemployment and poverty is to compare poverty amongst households with at least one unemployed member with those where no one is unemployed. Table 15 presents the relevant evidence. Households with at least one working-age unemployed member account for about 10% of the population, 9% of the rural population and 16% of the urban population. However, households with unemployed member(s) tend to be less poor than where no one is unemployed in both rural and urban areas. The share of households with unemployed is thus less than their share in the population; they account for 9% of the poor nationwide, 8% of the rural poor and 14% of the urban poor. An analogous pattern also holds for households with (and without) youth unemployment.

[14] As mentioned earlier, the TLSLS does not contain information on individual consumption within the household. Thus, in effect, each member of a household is assigned the per capita consumption of that household. Information on intra-household consumption is inherently difficult to collect since many items of consumption are shared by household members.

[15] This has the effect of allocating children below 15 to the labor status categories in proportion to the number of working age members in those categories. By construction, this scaling up yields the same overall incidence of poverty of 49.9% as noted earlier for Timor-Leste.

Table 15 : Poverty amongst households with and without unemployed members

	Poverty incidence			Percent of population (%)			Percent of poor (%)		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Total	**49.9**	**51.5**	**45.2**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
No unemployed 15-64	50.7	52.1	46.4	89.6	91.5	84.1	91.0	92.5	86.2
At least one unemployed 15-64	43.1	45.7	39.2	10.4	8.5	15.9	9.0	7.5	13.8
No unemployed 15-24	50.1	51.5	45.6	92.4	93.9	88.1	92.8	94.0	88.9
At least one unemployed 15-24	47.5	51.3	42.1	7.6	6.1	11.9	7.2	6.0	11.1

Sources and notes: TLSLS 2007. All numbers correspond to the upper poverty line.

Thus, there is only a weak association between unemployment and poverty. Indeed, as seen in Table 14, the unemployment rate amongst the poor (5.6%) is lower than that amongst the non-poor (7.6%). This suggests that the problem of poverty is not one of high levels of open unemployment but rather of less productive employment amongst the poor. This is explored further below.

11. Most of the poor are engaged in low-productivity farming and the low-end segments of the wage and non-wage sectors

Given the weak link between poverty and unemployment, it is useful to look at the type of employment and its relation to poverty. The employment structure of the Timorese economy is dominated by farming. In terms of the main occupation of the employed between the ages of 15 and 64 years, farming accounts for about 82%, wage employment accounts for about 12% and non-wage non-farm employment accounts for about 7%. Those engaged in farming have the highest poverty incidence and account for 88% of the poor amongst the employed. Wage workers are the least poor and account for about 7% of the poor. Thus, a key factor underlying poverty in Timor-Leste is the overwhelming dependence of the population on the farm sector for employment where the productivity of labor is low. This is indicated by the relatively low per capita consumption of those engaged in farming of $31 per person per month as compared with more than $40 per person per month for those engaged in wage or non-farm non-wage employment.

Table 16 : Poverty amongst different categories of the employed (15 to 64 years old) by main type of job during the past year

	Poverty incidence			Percent of population (%)			Percent of poor (%)		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Total employed	45.5	46.5	41.5	100.0	100.0	100.0	100.0	100.0	100.0
Wage	28.0	28.7	27.6	11.7	5.3	37.3	7.2	3.3	24.8
Non-wage	33.0	34.9	31.2	6.7	4.1	16.9	4.8	3.1	12.7
Farming	49.0	48.0	56.7	81.6	90.6	45.8	88.0	93.7	62.5

	Mean per capita consumption ($/person/month at December 2007 national prices)								
	National			Rural			Urban		
	Total	Non-poor	Poor	Total	Non-poor	Poor	Total	Non-poor	Poor
Total employed	33.0	44.2	19.6	32.2	43.1	19.7	36.2	48.1	19.4
Wage	42.8	51.1	21.2	41.7	50.1	20.9	43.3	51.7	21.4
Non-wage	40.5	50.3	20.5	39.8	50.2	20.5	41.2	50.5	20.5
Farming	31.0	42.2	19.4	31.3	42.2	19.6	28.6	42.0	18.3

Sources and notes: TLSLS 2007. All numbers correspond to the upper poverty line. Farming includes livestock, forestry and fisheries. Non-wage refers to non-wage non-farming employment.

Moreover, within every occupational category, mean consumption of the poor is only a fraction of that of the non-poor, which suggests that not only are the poor concentrated in a sector characterized by overall low-productivity, but even in other sectors they tend to be engaged in low-productivity

segments of these sectors. For instance, the mean consumption of the poor in the wage or non-farm non-wage sector was about $21 per person per month, while that of the non-poor in the same sectors was above $50 per person per month. Even in farming, the mean consumption of the non-poor was $42 per person per month as against $19 for the poor which is suggestive of a significant productivity gap between the poor and the non-poor in this sector too.

12. The poor work as many months per year and hours per week as the non-poor

The measures of unemployment presented above are based on work status during the past week. For a fuller picture of the employment situation for the poor and the non-poor, it is also useful to look at the number of months they work over the year. Table 17 presents the relevant findings. As seen in the Table, on average the poor work about the same number of months over the year as the non-poor. Thus, the average number of months worked by a 15-64 year old person was 6.7 amongst the poor and 6.6 amongst the non-poor. This average includes the currently unemployed as well as those outside the labor force. But even amongst the currently employed, the average number of months worked by the poor and non-poor is similar at 11.3 and 11.2 respectively, and about three-quarters of both the poor and the non-poor work 12 months in the year.

Table 17 : Number of months worked in the year by the poor and non-poor 15 to 64 years old, by current weekly labor force status

				Labor force status during the past week								
	All 15-64 year old			Employed			Unemployed			Out of the labor force		
	Total	Non-poor	Poor	Total	Non-poor	Poor	Total	Non-poor	Poor	Total	Non-poor	Poor
Average months	**6.6**	**6.6**	**6.7**	**11.2**	**11.2**	**11.3**	**0.2**	**0.1**	**0.2**	**0.1**	**0.0**	**0.1**
Wage	0.8	1.1	0.5	1.4	1.8	0.9	0.0	0.0	0.0	0.0	0.0	0.0
Non-wage	0.5	0.6	0.4	0.8	1.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0
Farming	5.3	4.9	5.8	9.0	8.4	9.8	0.1	0.1	0.2	0.0	0.0	0.1
Months worked in all jobs (%)												
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
None	41.0	41.2	40.9	0.3	0.3	0.3	97.7	98.2	96.8	99.4	99.6	99.2
1-3	0.4	0.5	0.3	0.6	0.8	0.4	0.6	0.5	0.7	0.0	0.1	0.0
4-6	3.4	3.6	3.0	5.6	6.0	5.1	0.5	0.8	0.0	0.0	0.0	0.1
7-9	7.4	7.2	7.8	12.4	12.1	12.8	0.9	0.0	2.5	0.2	0.1	0.2
10-11	3.1	3.2	3.0	5.2	5.4	5.0	-	-	-	0.0	0.0	0.0
12	44.7	44.3	45.1	75.8	75.3	76.4	0.4	0.6	0.0	0.3	0.2	0.5

Sources and notes: TLSLS 2007. All numbers correspond to the upper poverty line. Farming includes livestock, forestry and fisheries. Non-wage refers to non-wage non-farming employment.

Nor is there any significant difference in the number of hours worked per week by the poor and non-poor employed persons (Table 18). For instance, the poor worked 37 hours during the week on average while the non-poor worked 38.5 hours per week. In rural areas too, both the poor and non-poor worked about 37 hours per week. Only in urban areas, do the poor work about 4 hours less than the non-poor (38.5 as against 42.5 hours per week).

Table 18 : Number of hours worked during the past week by the poor and non-poor 15 to 64 years old employed persons, by current weekly labor force status

	National			Rural			Urban		
	Total	Non-poor	Poor	Total	Non-poor	Poor	Total	Non-poor	Poor
All employed	**37.9**	**38.5**	**37.2**	**37.2**	**37.5**	**36.9**	**40.8**	**42.5**	**38.5**
Wage	5.3	7.0	3.2	2.3	3.1	1.4	17.0	21.2	11.1
Non-wage	3.1	3.9	2.2	1.9	2.3	1.4	8.1	9.6	6.0
Farming	29.6	27.7	31.8	33.1	32.1	34.2	15.8	11.7	21.5

Sources and notes: TLSLS 2007. All numbers correspond to the upper poverty line. Farming includes livestock, forestry and fisheries. Non-wage refers to non-wage non-farming employment.

Thus, overall, there is no significant difference in the length and duration of employment between the poor and the non-poor either in terms of months per year or hours per week.

13. Nearly 80% of the poor nationally and 90% of the poor in rural areas depend on the agricultural sector for their livelihood

Thus, the key difference between the employment situation faced by the poor and the non-poor is not in quantity but in the quality and productivity of their employment. The poor are not necessarily more unemployed, but they are more under-employed. In the absence of more productive employment opportunities, the vast majority of them fall back on agriculture to eke out a meager living. As seen in Table 19, for the country as a whole nearly 80% of the poor live in households where agriculture is main sector of employment for the household head or for the working age members who are participate in the labor force participants. This is higher than the 72-73% share of the population that depends on the agricultural sector as the main source of its livelihood, and reflects the fact the incidence of poverty for the agricultural sector is relatively high. 54% of those dependent on the agricultural sector in terms of the main job of the household head or about 56% in terms of the main job of economically active working age members are poor relative to a 50% poverty incidence for the whole population.

Table 19 : Poverty by the main sector of employment of the household head or the economically active household members

	Poverty incidence			Percent of population (%)			Percent of poor (%)		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Based on sector of the main job of the household head									
Total	**49.9**	**51.5**	**45.2**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Agriculture	54.4	53.5	59.8	72.9	85.5	37.5	79.5	88.8	49.6
Industry	40.5	29.2	46.9	1.3	0.7	3.3	1.1	0.4	3.4
Wholesale trade, retail, restaurants and hotels	34.1	19.5	41.0	1.6	0.7	4.2	1.1	0.3	3.8
Public Administration/Military	28.9	35.0	25.1	2.7	1.4	6.3	1.6	1.0	3.5
Health	38.8	31.1	45.8	1.3	0.8	2.5	1.0	0.5	2.5
Education	32.5	33.8	29.5	3.7	3.5	4.5	2.4	2.3	2.9
Other community, social and personal services	29.8	32.2	29.5	2.2	0.4	7.3	1.3	0.2	4.7
Other	35.2	39.3	33.1	7.6	3.5	19.1	5.4	2.7	14.0
Unemployed	48.0	68.5	33.1	0.5	0.3	1.1	0.5	0.4	0.8
Out of LF	49.4	54.5	46.4	5.8	2.9	13.9	5.8	3.1	14.2
Unspecified	59.4	63.1	52.3	0.4	0.4	0.5	0.5	0.5	0.6
Based on the sector of the main job of 15 to 64 years old labor force participants									
Total	**50.4**	**52.2**	**45.6**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Agriculture	55.5	54.7	60.9	72.1	84.8	36.0	79.4	89.0	48.1
Industry	48.5	36.0	53.9	1.2	0.5	3.1	1.1	0.3	3.7
Wholesale trade, retail, restaurants and hotels	31.8	21.2	40.2	2.2	1.3	4.8	1.4	0.5	4.3
Public Administration/Military	34.8	36.1	34.2	3.0	1.3	7.9	2.1	0.9	5.9
Health	35.9	34.0	37.1	1.3	0.6	3.2	0.9	0.4	2.6
Education	34.3	37.5	27.8	3.5	3.2	4.5	2.4	2.3	2.7
Other community, social and personal services	33.4	26.3	34.1	2.3	0.3	8.1	1.5	0.2	6.1
Other	38.0	39.6	37.2	9.0	3.9	23.6	6.8	3.0	19.3
Unemployed	41.3	43.7	38.1	5.2	4.0	8.8	4.3	3.4	7.3

Sources and notes: TLSLS 2007. All numbers correspond to the upper poverty line. Agriculture includes livestock, forestry and fisheries besides farming.

Unsurprisingly, the dependence of the rural poor on the agricultural sector is still higher with nearly 90% of them relying on this sector for their livelihood. Even in urban areas, nearly half the poor depend on agriculture as their main source of employment and income.

14. Food accounts for 70% of total consumption of the poor, 81% if imputed rent is excluded

Food dominates the consumption pattern of the population, accounting for two-thirds of total consumption (Table 20). Rural food shares are significantly higher than those for the urban population (69% as against 59%). The consumption pattern of the poor is even more dominated by food which accounts for 70% of their total consumption. If rent, which is mostly imputed in nature (since very few Timorese rent the dwellings they live in), is excluded, food accounts for 81% of the consumption of the poor who spend little on anything else.

Table 20 : Food dominates the consumption pattern of the population and the poor: shares of major items in total household consumption (%)

	Total population			Poor		
	National	Rural	Urban	National	Rural	Urban
Food	66.1	69.1	58.6	70.4	72.5	63.7
Non-food	10.5	10.4	10.5	8.0	7.8	8.8
Utilities	8.5	7.5	11.0	7.0	7.0	7.2
Rent	13.0	11.3	17.0	12.9	11.4	17.8
Health	0.6	0.6	0.5	0.4	0.4	0.3
Education	1.4	1.0	2.3	1.2	0.9	2.3
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Budget shares excluding rent						
Food	76.0	78.0	70.6	80.8	81.8	77.5
Non-food	12.0	11.8	12.7	9.2	8.8	10.7
Utilities	9.8	8.5	13.3	8.1	7.9	8.7
Health	0.7	0.7	0.6	0.5	0.5	0.4
Education	1.6	1.1	2.8	1.4	1.0	2.7
Total excluding rent	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

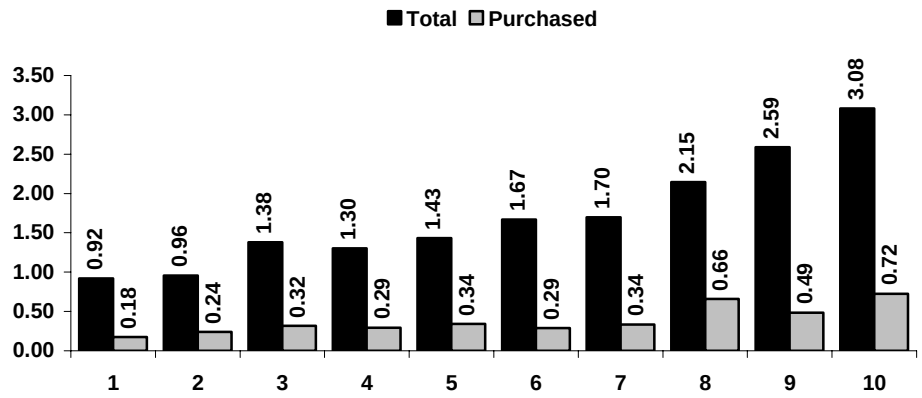
Sources and notes: TLSLS 2007. All numbers correspond to the upper poverty line. Non-food refers to consumption of non-food items other than utilities, rent, health and education.

The relatively better-off are likely to benefit more from the rice subsidy than the poor

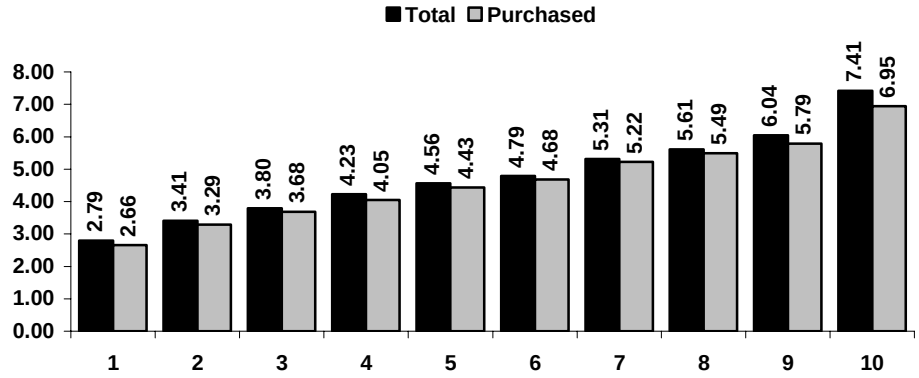
It is also useful to look at pattern of rice consumption in the country as the government has sought to subsidize the price of rice to mitigate the rising cost of this basic staple for the Timorese population. In this context, it is important to distinguish between total rice consumption and the part of rice consumption that is actually purchased in the market. Figure 2 shows per capita rice consumption by different deciles of the population ranked by real per capita consumption.

Figure 2 : Quantity of rice consumed, total and purchased, by deciles of the population ranked by real per capita consumption

Local rice (Kgs./person/month)



Imported rice (Kgs./person/month)



Sources and notes: TLSLS 2007. The difference between total and purchased consumption of rice represents the quantity consumed from self-production or received as gift. Declies of population are ranked by real per capita consumption.

As seen in Figure 2, quantity of rice purchased per capita, both imported and local, increases by deciles of the population. Since, the benefits of rice subsidy are aligned to rice purchased by different deciles, it follows that the relatively better off segments of the population benefit more from the rice subsidy than the poor.

15. The rural population has significantly more limited access to social and economic facilities

The reach of various economic and social facilities is highly varied across the Timorese population. Table 21 presents evidence for access to nine different types of facilities. It gives the share of the population living in households where a household member or members regularly use a particular facility. It also gives the average distance and travel time to the facility for the population actually using the facility. It should however be noted that since many households may not use a facility because it is too far or difficult to get to, this understates the distance and travel time for the population as a whole.

Table 21 : Differential access to basic facilities

	National			Rural			Urban		
	Total	Non-poor	Poor	Total	Non-poor	Poor	Total	Non-poor	Poor
Secondary school									
Use the facility regularly (%)	33.0	33.3	32.7	27.4	28.2	26.6	48.7	45.9	52.2
Distance (km)	3.6	3.6	3.5	4.5	4.7	4.3	2.1	2.0	2.2
Travel time (one way, minutes)	56	51	61	70	65	74	34	30	39
Primary school									
Use the facility regularly (%)	73.8	67.4	80.4	73.5	67.2	79.5	74.7	67.8	83.1
Distance (km)	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.0	1.2
Travel time (one way, minutes)	28	26	31	30	28	32	23	20	25
Clinic									
Use the facility regularly (%)	73.4	70.9	76.0	77.1	76.8	77.3	63.2	56.3	71.6
Distance (km)	2.8	2.8	2.8	3.0	3.1	3.0	2.1	2.0	2.1
Travel time (one way, minutes)	54	51	57	60	58	62	34	28	39
Bank									
Use the facility regularly (%)	1.3	2.4	0.2	0.7	1.2	0.3	3.0	5.4	0.1
Distance (km)	14.4	15.6	*1.9*	20.1	24.6	*2.0*	10.5	10.7	*1.4*
Travel time (one way, minutes)	70	66	*110*	109	107	*120*	44	44	*28*
Post office									
Use the facility regularly (%)	0.5	0.9	0.1	0.3	0.5	0.1	1.2	2.1	0.1
Distance (km)	18.6	20.9	*0.7*	15.4	19.3	*0.2*	20.9	21.8	*2.0*
Travel time (one way, minutes)	56	60	*22*	51	63	*2*	59	58	*81*
Bus terminal/stop									
Use the facility regularly (%)	26.9	27.6	26.1	23.5	23.6	23.3	36.4	37.4	35.1
Distance (km)	2.9	2.9	2.9	4.0	4.2	3.8	1.0	0.9	1.1
Travel time (one way, minutes)	49	47	52	65	65	64	22	18	27
Veterinary facility (%)									
Use the facility regularly (%)	0.1	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.6
Distance (km)	2.2	*0.2*	*2.6*	*0.2*	*0.2*	-	*2.5*	*0.0*	2.6
Travel time (one way, minutes)	56	*10*	*64*	*10*	*10*	-	*64*	*10*	64
Vocational center									
Use the facility regularly (%)	0.6	0.9	0.3	0.6	0.8	0.3	0.8	1.2	0.3
Distance (km)	6.1	6.4	5.1	7.5	8.1	6.0	3.4	3.7	2.0
Travel time (one way, minutes)	64	63	68	76	80	68	41	36	66
Police station									
Use the facility regularly (%)	21.5	19.1	23.8	22.6	21.6	23.5	18.3	12.9	24.8
Distance (km)	4.7	4.8	4.7	5.5	5.5	5.6	2.0	2.1	1.9
Travel time (one way, minutes)	75	78	72	84	89	80	41	35	45

Sources and notes: TLSLS 2007. The poor are defined with reference to the upper poverty line. "Use the facility regularly" refers to the percentage of the population living in households where at least one member normally uses this facility. Distance and travel time are only reported for the population using the facility. Underlined numbers represent imprecise estimates on account of very few observations.

The evidence in Table 21 presents a differentiated picture. For instance, in relation to educational facilities, primary schools seem to be the most widely accessible. Nearly three-quarters of the population live in households that make use of primary schools, the average distance to a primary school is just over one kilometer and the average travel time (one-way) to a primary school is about half-an-hour. The access of the poor to primary schools seems to be comparable with that for the non-poor, nor do there appear to be significant differences between urban and rural areas with respect to primary school access. Secondary schools however present a different picture. The key difference is between rural and urban areas with more limited access in case of the former. For instance, only a little more than a quarter of the rural population regularly uses a secondary school as against a little under 50% of the urban population. The average travel time to a secondary school in rural areas (70 minutes) is twice as much as that in urban areas (34 minutes). As for vocational centers, less than 1% of the population makes use of them, with negligible use amongst the poor, and the accessibility of these centers is more limited in rural areas.

Access to clinics shows a pattern similar to the secondary schools with greater access in urban areas. The evidence also points to a greater utilization of clinics by the poor especially in urban areas (despite a little longer travel time).

Access to bus terminals, banks and post offices, on the other hand, remains very limited. Only a little more than a quarter of the population (24% in rural and 36% in urban areas) makes use of bus terminals. While there are no significant differences between the poor and the non-poor, the average bus terminal in rural areas is 4 kilometers and more than an hour away relative to one kilometer and about 20 minutes in urban areas. Access to banks and post offices is extremely limited with only 1% of the population making use of banks, and 0.5% using post offices. The limited use is mostly concentrated in urban areas and the use of these facilities by the poor is virtually non-existent.

Overall, therefore, with the exception of banks and post-offices whose use seems confined almost entirely to the non-poor, the evidence points to an appreciably larger gap in the access to facilities between urban and rural areas relative to the gap between the poor and non-poor within urban or rural areas.

The poor and the non-poor make similar use of roads but the roads serving the poor are farther away and of inferior quality

Access to roads has often been considered important for poverty reduction through its role in facilitating access to markets, education and health services. Table 22 provides evidence from the TLSLS on the accessibility of roads for the poor and non-poor in urban and rural areas of the country.

Table 22 : Differential access to roads

	National			Rural			Urban		
	Total	Non-poor	Poor	Total	Non-poor	Poor	Total	Non-poor	Poor
Nearest vehicle-passable road to the dwelling									
Walking time to get there (minutes)	16.3	13.4	19.1	18.8	16.2	21.2	9.2	6.6	12.5
Accessibility during rainy season a/	70.1	75.8	64.3	63.2	68.2	58.4	89.4	94.6	83.2
Number of times it was used last month	25.5	24.9	26.0	24.4	23.5	25.2	28.4	28.4	28.5
Reasons to use this road (%) b/									
To visit friends or relatives	33.9	38.5	29.2	37.0	42.9	31.5	25.2	27.8	22.1
To buy items	64.7	66.6	62.7	63.3	66.7	60.1	68.5	66.3	71.2
To sell agricultural products	24.4	23.9	25.0	29.3	30.1	28.6	10.8	8.7	13.4
To go to school	64.0	57.2	70.8	59.1	50.1	67.6	77.6	74.8	81.0
To get health care	67.3	62.6	72.1	69.1	64.4	73.5	62.4	58.1	67.6
To go to the work place	42.6	49.0	36.1	38.8	43.4	34.6	53.0	62.8	41.0
Other	1.9	1.4	2.4	2.1	1.6	2.6	1.3	1.1	1.6

Sources and notes: TLSLS 2007. The poor are defined with reference to the upper poverty line. a/ Percentage of the population reporting that the nearest vehicle passable road is accessible during the rainy season. b/ This combines information from up to three responses.

The evidence in Table 22 indicates both the poor and the non-poor make equally frequent use of roads on a daily basis, 25-26 times a month. They also appear to use roads for similar purposes: to buy items, to sell agricultural products, to go to school and to get health care, to go to the work place and to visit friends and relatives. However, in both rural and urban areas as well as nationally, the poor tend to be farther away from the nearest vehicle-passable road than the non-poor, with average walking times (to the nearest road) of the two groups being 19 and 13 minutes respectively. Also, the evidence points to the roads serving the poor being of relatively inferior quality. Thus, for instance, for less than two-thirds of the poor (58% in rural areas) is the nearest road accessible during the rainy season as compared with more than 75% for the non-poor (68% in rural areas).

16. Those with less than primary education account for two-thirds of the poor

The Timorese population has relatively low levels of human capital development. As seen in Table 23, adults with less than primary education account (and their dependants) for about 57% of the population (63% in rural areas and 40% in urban areas). Those with secondary education account for 14% of the population (10% in rural areas and 25% in urban areas), while those with tertiary education account for only 1% of the population (0.5% in rural areas and 3% in urban areas).

Table 23 : The extent of poverty declines rapidly with higher educational attainment

(Poverty estimates by the highest educational attainment of those 18 and above)

	Poverty incidence			Percent of population (%)			Percent of poor (%)		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Total	**49.9**	**51.5**	**45.2**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
None	57.5	56.9	60.6	45.5	51.1	29.7	52.5	56.5	39.8
Less than primary	54.3	55.8	49.4	11.5	11.9	10.5	12.5	12.9	11.5
Primary *	50.1	51.3	46.1	14.1	14.6	12.5	14.1	14.6	12.7
Pre-secondary **	38.9	38.8	39.0	14.1	12.2	19.5	11.0	9.2	16.8
Secondary	34.4	36.9	31.7	13.8	9.7	25.2	9.5	7.0	17.6
Academy, university	17.7	0.9	26.0	1.0	0.5	2.7	0.4	0.0	1.5
Vocational, non-formal	0.0	0.0	0.0	0.0	0.0	0.0	-	-	-

Sources and notes: TLSLS 2007. All numbers correspond to the upper poverty line. In these calculations, adult household members 18 years and older are categorized by their highest educational attainment. Those below 18 years in the household are then proportionally assigned to the adults in different educational categories. * including some but not complete pre-secondary. ** including some but not complete secondary

As commonly observed for other countries around the world, there is however a strong link between the level of education and poverty. The incidence of poverty declines rapidly with the highest level of educational attainment of the adult population (18 years and older). As seen in Table …, the poverty rate of adults with no education (and their dependants) is about 58%. This declines to the national average rate of 50% for those with primary education, 39% for those with pre-secondary, 34% for those with secondary and down to 18% for those with tertiary education. The patterns are similar in rural and urban areas, except at the tertiary education level where for urban areas the poverty incidence is still relatively high at 26%. This is likely to be linked to limited employment opportunities for this relatively well-educated group in urban areas.

Those with low levels of education account for the bulk of the poor. For instance, those with less than primary education account for nearly two-thirds of the poor (69% of the rural poor and 50% of the urban poor), and those with less than secondary education account for 90% of the poor (93% of the rural poor and 81% of the urban poor). Thus, investing into better education of the Timorese population remains an important priority for the country, and the evidence above suggests that this investment can be expected to have a high payoff in terms of future poverty reduction.

17. Rural areas and the poor have significantly lower enrolment rates

As noted earlier, net enrolment rates at the pre-secondary and secondary levels improved over period 2001-07. However, there remain significant disparities in enrolment rates across rural and urban areas and amongst the poor and non-poor. Evidence from the 2007 TLSLS indicates that both the net and gross enrolment rates at every level of education are appreciably lower in rural areas (Table 24). For instance, in 2006-7 the net enrolment rates (NER) at the primary, pre-secondary and secondary levels in rural areas were 62, 31 and 15 percent relative to the urban NERs of 74, 45 and 39 percent respectively. Rural gross enrolment rates (GER) similarly significantly lag behind the corresponding urban rates.

Table 24 : Enrolment rates are lower for the rural population and the poor, 2006-7

(Gross and net enrolment rates for the poor and non-poor, by gender)

	National			Rural			Urban		
	Total	Non-poor	Poor	Total	Non-poor	Poor	Total	Non-poor	Poor
NET ENROLMENT RATES									
Primary	**65.6**	**73.1**	**60.4**	**62.3**	**69.1**	**58.0**	**74.3**	**80.8**	**67.8**
Male	64.6	74.5	57.5	60.6	70.8	54.3	74.9	82.0	67.8
Female	66.6	71.5	63.2	63.9	67.5	61.7	73.6	79.5	67.9
Pre secondary	**34.9**	**44.3**	**26.9**	**30.5**	**38.0**	**24.9**	**45.2**	**56.3**	**32.7**
Male	32.1	41.5	24.7	29.4	35.6	25.0	38.2	52.2	24.0
Female	37.4	46.6	29.0	31.5	40.0	24.8	52.1	59.9	42.1
Secondary	**23.3**	**27.3**	**19.4**	**15.2**	**17.3**	**13.5**	**39.4**	**43.6**	**34.0**
Male	18.4	22.3	14.9	9.8	10.6	9.1	36.6	43.4	29.3
Female	29.0	32.5	25.2	21.9	24.8	19.2	42.5	43.8	40.3
GROSS ENROLMENT RATES									
Primary	**96.2**	**103.3**	**91.1**	**93.7**	**101.1**	**89.1**	**102.6**	**107.7**	**97.5**
Male	96.4	105.8	89.6	92.5	103.1	85.9	106.4	111.3	101.4
Female	96.0	100.7	92.7	94.9	99.1	92.4	98.8	104.0	93.6
Pre secondary	**88.5**	**107.2**	**72.7**	**83.7**	**102.9**	**69.3**	**99.9**	**115.3**	**82.4**
Male	98.6	117.4	83.8	98.9	120.4	83.9	97.8	111.8	83.5
Female	79.5	98.8	62.0	70.5	88.9	56.0	101.9	118.4	81.1
Secondary	**53.3**	**62.4**	**44.4**	**38.2**	**45.8**	**31.8**	**83.6**	**89.4**	**76.0**
Male	53.4	67.1	41.4	41.7	52.3	33.3	78.1	93.8	61.2
Female	53.3	57.6	48.5	34.0	38.7	29.7	89.4	85.4	95.8
RATIO OF NET TO GROSS ENROLMENT RATES									
Primary	**0.68**	**0.71**	**0.66**	**0.66**	**0.68**	**0.65**	**0.72**	**0.75**	**0.70**
Male	0.67	0.70	0.64	0.66	0.69	0.63	0.70	0.74	0.67
Female	0.69	0.71	0.68	0.67	0.68	0.67	0.74	0.76	0.73
Pre secondary	**0.39**	**0.41**	**0.37**	**0.36**	**0.37**	**0.36**	**0.45**	**0.49**	**0.40**
Male	0.33	0.35	0.29	0.30	0.30	0.30	0.39	0.47	0.29
Female	0.47	0.47	0.47	0.45	0.45	0.44	0.51	0.51	0.52
Secondary	**0.44**	**0.44**	**0.44**	**0.40**	**0.38**	**0.42**	**0.47**	**0.49**	**0.45**
Male	0.34	0.33	0.36	0.24	0.20	0.27	0.47	0.46	0.48
Female	0.54	0.56	0.52	0.64	0.64	0.65	0.48	0.51	0.42

Sources and notes: TLSLS 2007. All numbers correspond to the upper poverty line. The relevant age group for primary is between 6 and 11 years, for pre-secondary between 12 and 14 years and for secondary between 15 and 17 years.

The enrolment rates for the poor also significantly lag behind those for the non-poor not only nationally but also within rural and urban areas. For instance, at the national level, the primary, pre-secondary and secondary NERs for the poor at 60, 27 and 19 percent compare rather unfavorably with the NERs for the non-poor at 73, 44 and 27 percent respectively. Similarly, the GERs for the poor are also appreciably lower than those for the non-poor: 91, 73 and 44 percent relative to 103, 107 and 62 percent respectively for the primary, pre-secondary and secondary levels.

The problems of late-starters, repeaters and interruptions to education are more severe at post-primary levels, for rural areas and for the poor in urban areas

It is also instructive to look at the ratio of net to gross enrolment rates. Note that GER and NER have the same denominator, i.e., the total number of children in the age-group appropriate to a given level of education. For instance, at the primary level, this is the total number of children who are between 6 and 11 years old. However, they have different numerators. For the gross enrolment rate, this is the total number of children enrolled at the primary level irrespective of their age, while for the net enrolment rate it is the number of children enrolled at the primary level who are of the appropriate age of 6-11 years. Thus, GERs are higher than NERs, and the difference between them mainly relates to late-starters, repeaters and others who have experienced some interruption to their educational progress. The ratio of NERs to GERs – which measures the fraction of those enrolled at a particular level who are age-appropriate – can thus be interpreted as a measure of the efficiency of the education system, the smaller the ratio the greater the inefficiency.

From this perspective, results in the bottom panel of Table 24 highlight several features of the challenges for the educational system. First, it is notable that the inefficiency of the educational system is significantly higher at the post-primary levels. This is perhaps to be expected as problems of late-starters, repeaters, and interruptions, while they start at the primary level, they tend to get compounded at higher levels of education. Second, there is greater inefficiency in the rural areas at all levels of education. Third, nationally, the net-to-gross enrolment ratios for the poor are lower than those for the non-poor at the primary and pre-secondary levels, although this is mostly because of lower ratios for the poor in urban areas. Thus, while the problems of late-starters and repeaters are important for both the poor and the non-poor, they are a relatively bigger problem for the poor in urban areas.

Overall, these results suggest that for improving educational attainments of the Timorese population, increasing enrolment rates will not be enough. It will also be important to address the inefficiencies in the educational system. These inefficiencies characterize all levels of education and all segments of the population, but they are a bigger concern at the post-primary levels, for the rural population, and for the poor especially in urban areas. Thus, alongside efforts to increase enrolment rates, it will be important to tackle the problems of late-starters, repeaters and interruptions especially for groups for whom these problems are more severe. This in turn will entail addressing issues both on the supply and demand side of education at different levels.

Annex 1: The 2007 Timor-Leste Survey of Living Standards

TLSLS 2007

The 2007 Timor-Leste Survey of Living Standards (TLSLS) is the second national survey of living standards for Timor-Leste. The first national survey, the Timor-Leste Living Standards Survey (TLSS), was undertaken in 2001 during the months of August to November. The 2001 TLSS had a modest, though nationally representative, sample of 1800 households from 100 sucos covering one percent of the population. Being the first national living standards survey of its kind following the independence referendum of August 1999, the TLSS provided a wealth of information on living conditions in the country as an input into the first National Development Plan. The second national living standards survey, the TLSLS, has been undertaken to update this information and is also expected to provide an input into the development of the second National Development Plan.

It is notable that the TLSLS is a comprehensive multi-module survey. The scope of topics covered by the survey is very broad, and encompasses most of those that would be covered under more specialized surveys such as the Demographic and Health Survey, the Multiple Cluster Indicators Survey and a typical labor force survey.

The TLSLS was launched on 27th March, 2006. Unlike its predecessor, this survey was designed to run over a period of a full year in order to better account for any seasonal variation in different indicators. However, after about eight weeks of fieldwork, the survey had to be suspended due to the outbreak of conflict in the country. The survey was resumed on January 9, 2007, and survey operations have progressed without interruption since then. Fieldwork for the survey concluded on January 22, 2008. At the time of the resumption of the survey, a decision was made to revisit the households who were interviewed in 2006 prior to the interruption of the survey. In particular, 351 households had been visited in 2006. Of these, 317 households were revisited during December 2007-January 2008. The remaining 34 households could not be found at the time of the revisits, and instead an additional 41 new households were interviewed as replacement households. In order to maintain a sample for a continuous period of a year, the final TLSLS sample thus excludes the 351 households interviewed in 2006 and instead includes the 358 revisited or replaced households.

The TLSLS sample was designed to have two components: (i) a cross-sectional component of 4500 households selected with the intention of representing the current population of Timor-Leste, and (ii) a panel component of 900 households, where half of the 2001 TLSS sample of 1800 households are randomly selected and re-interviewed. The main purpose of the panel component is to evaluate changes in the living conditions for the same set of households between the two surveys. The cross-sectional component is expected to provide independent estimates for rural and urban areas of each of five recently defined groups of districts or Regions (see Figure 3):

- Region 1: Baucau, Lautem and Viqueque;
- Region 2: Ainaro, Manufahi and Manatuto;
- Region 3: Aileu, Dili and Ermera;
- Region 4: Bobonaro, Cova Lima and Liquiçá; and
- Region 5: Oecussi.

Figure 3 : The districts of Timor-Leste

Sources and notes:

TLSLS sample design

The cross-sectional sample is selected in two stages:

- In the first stage, 300 Census Enumeration Areas (EAs) are selected as the primary sampling units (PSUs).
- In the second stage, 15 households are selected in each EA.

The design recognizes ten explicit strata – the Urban and Rural areas in each of the five regions. Table 25 shows the allocation of the 300 cross-sectional PSUs among them.

Table 25 : The distribution of enumeration areas in the TLSLS cross-section sample

	Number of enumeration areas		
	Rural	Urban	Total
Region 1 : Baucau, Lautem, Viqueque	35	25	60
Region 2 : Ainaro, Manatuto and Manufahi	35	25	60
Region 3 : Aileu, Dili and Ermera	35	37	72
Region 4 : Bobonaro, Cova Lima and Liquiçá	35	25	60
Region 5 : Oecussi	28	20	48
Timor-Leste	168	132	300

Sources and notes: TLSLS 2007.

This particular allocation resulted from the following line of reasoning:

- In spite of their different populations and total number of households, sampling theory dictates that a sample of the roughly the same size (60 EAs) should be allocated to each region in order to produce estimates of similar quality for each of them.
- A similar case could have been made for allocating a sample of the same size (30 EAs) to urban and rural areas within each region, but since the definition of urban and rural areas outside Dili was still a matter of discussion, it was decided to opt for an allocation closer to proportional: 25 EAs in Urban areas and 35 EAs to Rural areas.
- Region 5 represents a special case. It is composed of a single district of difficult access (Oecussi, see Figure 1) that ought to be the responsibility of a dedicated team. This imposed a total sample size of 50 EAs for this region, of which only 48 can be allocated to the cross-sectional component since the panel component contains two EAs in Oecussi.

- The capacity thus liberated to visit an additional 12 EAs in the rest of the country was devoted to reinforce the urban sample in Region 3, where Dili is located.

The first sampling stage used the list of 1,163 Census Enumeration Areas (EAs) generated by the 2004 Census as a sample frame. Within each stratum, the allocated number of EAs was selected with probability proportional to size (*pps*) using the number of households reported by the census as a measure of size. No efforts were made to append the smaller EAs to neighboring EAs, or to segment the larger EAs in order to make the size of the primary sampling units (PSUs) more uniform.

The second sampling stage used an exhaustive household listing operation in all selected EAs as its sample frame. Sample households in each EA were selected from the list by systematic equal probability sampling.

As a result of the relatively large sampling fraction in some of the strata, certain large EAs were selected more than once by the *pps* procedure adopted at the first sampling stage. In fact, the cross-sectional sample only consists of only 269 (rather than 300) *different* EAs. This necessitated selecting a multiple of 15 households (rather than just 15 households) in the EAs that were selected more than once.

Definition of urban and rural areas

At the time of the 2001 TLSS, 71 of Timor-Leste's 498 sucos were conventionally qualified as urban, of which 31 sucos in the Dili and Baucau districts were qualified as major urban centers. By the time of preparation of the sample design for the 2007 TLSLS, 60 of the 498 sucos defined by the 2001 Suco Survey were conventionally qualified as urban. The partition of the country into sucos was also modified in September 2004. With the amalgamation of several sucos, the original 498 sucos were now collapsed into 442. Many of the rearrangements took place in urban areas with the result that the 60 "old" sucos are now considered urban only constitute 38 "new" sucos. Table 26 gives a list of the 60 sucos that are now considered urban.

Table 26 : The list of the 60 urban sucos in 2007

District: Aileu					**Posto: Aileu**
010110	Seloi	010113	Hurairaco		
(the last two now collapsed into a single suco called Seloi Manere)					
District: Ainaro					**Posto: Ainaro**
020101	Ainaro	020408	Maubisse		
District: Baucau					**Posto: Baucau**
030201	Tiri Lolo	030208	Caicido		
(the last two now collapsed into a single suco called Tiri Lolo)					
030202	Bahu				
District: Bobonaro					**Posto: Maliana**
040603	Ritabou	040605	Holsa		
District: Covalima					**Posto: Suai Kota**
050502	Laconac	050508	Debos	050509	Vila
(the last three now collapsed into a single suco called Debos)					
District: Dili					**Posto: Cristo Rei**
060201	Culuhum				
060202	Centro Benemauk	060204	Becora	060207	Ailok
(the last three now collapsed into a single suco called Becora)					
060203	Fatuahi	060208	Camea		
(the last two now collapsed into a single suco called Camea)					
060205	Hera	060210	Bidau Santana		
District: Dili					**Posto: Dom Aleixo**
060301	Loscabubu	060304	Suleur	060306	Malinamoc
060310	Rai Naca Doco				
(the last four now collapsed into a single suco called Comoro)					
060303	Nazare	060307	12 Novembro	060606	Naroman
060608	Isolado060611	Moris Dame			
(the last five now collapsed into a single suco called Bairo Pite)					
060302	Beira Mar	(now called Fatuhada)			
060308	7 Decembro	(now called Kampung Alor)			
District: Dili					**Posto: Nein Feto**
060501	Monumento	(now called Bidau Lecidere)`			
060507	Talera Hun	(now called Acadiru Hun)			
060502	Asucai Lorosae	060503	Solo	060504	Santa Cruz
(the last three now collapsed into a single suco called Santa Cruz)					
060506	Inur Fuik	060509	Lahane Oriental		
(the last two now collapsed into a single suco called Gricenfor)					
060505	Meira	060508	Bemori		
(the last two now collapsed into a single suco called Bemori)					
District: Dili					**Posto: Vera Cruz**
060604	Mascarinhas				
060605	Rumbia	(now called Caicoli)			
060602	Hanso Hatora	060607	Haksolok		
(the last two now collapsed into a single suco called Vila Verde)					
060305	28 Novembro	(now called Colmera)			
060309	20 Maio	(now called Motael)			
060601	Alto Hospital	060603	Bairo Alto		
(the last two now collapsed into a single suco called Lahane Occidental)					
District: Ermera					**Posto: Ermera Kota**
070201	Poetete	070206	Talimoro		
District: Liquiça					**Posto: Liquiça**
080201	Dato				
District: Lautem					**Posto: Lospalos**
090301	Fuiluro				
District: Manufahi					**Posto: Same**
100301	Letefoho	100302	Babulu		

Sources and notes: Each suco is identified by a geocode with 2 digits for the district, 2 digits for the posto within the district and 2 digits for the suco within the posto.

This report is based on the analysis of data from the full cross-sectional component of TLSLS 2007. The final cross-sectional sample consists of 4,477 households. Table 27 shows the distribution of the total TLSLS sample across the rural and urban areas of the five main regions in the country. The sample s can be considered representative at national level as well as at the level of the ten domains represented by the rural and urban areas of the five regions.

Table 27 : The distribution of the TLSLS full sample by region and rural/urban areas

	Rural	Urban	Total
Region 1 : Baucau, Lautem, Viqueque	524	375	899
Region 2 : Ainaro, Manatuto and Manufahi	517	374	891
Region 3 : Aileu, Dili and Ermera	522	552	1,074
Region 4 : Bobonaro, Cova Lima and Liquiçá	520	375	895
Region 5 : Oecussi	419	299	718
Timor-Leste	2,502	1,975	4,477

Sources and notes: TLSLS 2007.

The fieldwork was designed to be more or less evenly spread throughout the country over the year. Given the challenges of the turbulent political and security situation during some periods in 2007, the fieldwork schedule had on occasion to be modified a bit to accommodate concerns of security and feasibility of fieldwork. Despite this, as seen in Table 28, the distribution of the sample by month of interview and by region and rural and urban areas indicates a sample that is well-spread through the year, which should allay any concerns of intra-year seasonality.

Table 28 : The distribution of the TLSLS sample by month of interview and by region and rural/urban areas

	Region 1: Baucau, Lautem and Viqueque	Region 2: Ainaro, Manatuto and Manufahi	Region 3: Aileu, Dili and Ermera	Region 4: Bobonaro, Cova Lima and Liquiçá	Region 5: Oecussi	Timor-Leste
January 2007	60	90	75	87	58	370
February	91	60	75	90	45	361
March	75	59	105	45	60	344
April	58	45	45	60	45	253
May	75	132	90	135	75	507
June	60	74	105	88	60	387
July	60	74	164	60	60	418
August	45	119	58	60	60	342
September	60	88	90	45	60	343
October	120	30	89	75	76	390
November	105	60	90	45	59	359
December 2007	60	45	45	60	30	240
January 2008	30	15	43	45	30	163
Total	899	891	1,074	895	718	4,477

Sources and notes: TLSLS 2007.

Selection probabilities and raising factors

For the cross-sectional sample of TLSLS, the selection probabilities and raising factors are determined in accordance with the sample design described above.

The probability of selecting Census Enumeration Area *ij* in stratum *i* is

$$p_{ij} = \frac{m_i n_{ij}}{n_i} \qquad (1)$$

where n_{ij} is the number of households in the EA (as reported by the 2004 Census), n_i is the total number of households in the stratum (also as per the 2004 Census) and m_i is the number of EAs selected in the stratum.

The probability of selecting household *ijk* in EA *ij* of stratum *i* is

$$p_{ijk} = p_{ij} \frac{15}{n'_{ij}} \qquad (2)$$

where n'_{ij} is the number of households in the EA, as per the household listing operation.

The raising factor or weight w_{ijk} for household *ijk* is the inverse of the selection probability p_{ijk}. If the number n'_{ij} of households found at the time of the listing operation were equal to the number n_{ij} recorded by the census in all EAs, the sample would be self-weighted in each stratum, with a constant raising factor equal to $n_i/15m_i$. In practice the numbers n_{ij} and n'_{ij} will seldom be equal but often close to each other, meaning that the samples will not be exactly self-weighted, but quite approximately so.[16]

The household weights are further adjusted such that the population totals as estimated from the full sample match the demographic projections for mid-2007 for each stratum. This corresponds to a mid-2007 total population for Timor-Leste of 1,047, 632 persons.[17]

Standard errors and confidence intervals

The statistics presented in this report are based on a sample of the population and thus have sampling errors associated with them. For reasons of space, the report does not present any standard errors or confidence intervals for the statistics. However, to illustrate the margin of error associated with the reported statistics, Table 29 shows the standard errors and 95% confidence intervals for the headcount index of poverty across rural and urban areas, by region and by district. In computing these standard errors and confidence intervals, the particular features of the TLSLS sample design have been taken into account. As discussed above, the TLSLS is not a simple random sample of the population in Timor-Leste, but follows a stratified two-stage sampling design. In particular, the sample design involved defining ten strata, selecting a number of primary sampling units (PSUs) within each stratum at the first stage, and then selecting households from each PSU at the second stage. Thus, the computation of standard errors and confidence intervals takes into account three key features of the survey design: strata, primary sampling units and sampling weights. These design features imply that the standard errors of TLSLS-based statistics will be different to those that can be expected from a simple random sample.

[16] Strictly speaking, the above formulae are valid only when the size of the EA is such that it can be selected at most once by the pps procedure. However, the artifact of selecting 15t households in the second stage whenever an EA is selected t times in the first stage has the effect of making them applicable to compute raising factors even for the large EAs where that may not be the case. Formula (2) may be inadequate if the actual size n'_{ij} of EA_{ij} happens to be less than 15. In that (quite unlikely) case, all households in the EA will need to be visited, and pijk simplifies to p_{ij}.

[17] This population total relates to the medium-level projection in DNE (2007), Population Projections 2004-2050: Analysis of Census Results, Report 1, General Population Census of Timor-Leste 2004.

Table 29 : Poverty estimates by region and district with standard errors and confidence intervals, 2007

			95% confidence interval	
	Headcount index (%)	Standard error	Lower bound	Upper bound
National	**49.9**	**1.5**	**46.9**	**52.9**
Rural	51.5	1.8	48.0	55.1
Urban	45.2	3.0	39.4	51.1
East	26.5	2.7	21.1	31.9
Center	57.8	2.0	53.9	61.7
West	55.1	3.1	49.1	61.1
East rural	26.4	3.0	20.5	32.2
East urban	27.7	5.0	17.8	37.5
Center rural	64.2	2.6	59.0	69.4
Center urban	47.7	3.5	40.8	54.7
West rural	57.4	3.4	50.7	64.1
West urban	38.8	3.1	32.7	45.0
Districts:				
Center				
Aileu	68.6	8.2	52.5	84.6
Ainaro	79.7	3.0	73.7	85.7
Dili	43.3	4.0	35.6	51.1
Ermera	54.6	4.5	45.8	63.4
Liquica	44.9	6.6	31.9	57.9
Manufahi	85.2	2.0	81.3	89.1
Manatuto	73.7	5.4	63.0	84.3
West				
Bobonaro	54.5	5.0	44.7	64.4
Cova Lima	49.1	6.9	35.5	62.7
Oecussi	61.0	3.1	54.8	67.1
East				
Baucau	22.3	3.4	15.7	29.0
Lautem	21.3	4.2	13.0	29.5
Viqueque	43.4	6.7	30.2	56.5

Sources and notes: TLSLS 2007.

The standard errors and confidence intervals in Table 29 have the standard interpretation. While the statistics on poverty headcount indices are unbiased, the standard errors give a measure of the dispersion for the statistic in question. The lower and upper bound of the 95% confidence intervals give the range within which the statistic in question can be expected to lie with a 95% probability. A particular feature of the estimates in Table 29 is worth highlighting, namely, the standard errors and confidence intervals become larger for statistics at more disaggregated levels. Thus, standard errors are lowest and the confidence intervals are narrowest for the national headcount index indicating that national-level indicators (which are based on the entire sample) are the most precisely estimated. However, as we move from national to rural-urban to regional-level poverty indices the standard errors and confidence intervals become larger. Thus, for instance, while the estimated incidence of poverty in rural Center at 64% is appreciably higher then that in rural West at 57%, the 95% confidence intervals for the headcount indices in these two regions overlap, and difference in the incidence of poverty in these two regions is not statistically significant. The confidence intervals are largest at the district level, which carries the important implication that district-level statistics presented in this report should be interpreted cautiously in view of their relatively lower degree of statistical precision.

Annex 2: Poverty measurement methodology

There are three key elements to poverty measurement: (i) first, a measurable and acceptable welfare indicator that be used to rank the population, (ii) second, an appropriate poverty line against which the chosen welfare indicator can be compared in order to classify individuals as poor or non-poor, and (III) finally, a set of measures that can combine the individual welfare indicator and the poverty line into aggregated poverty indices. This Annex gives details of how these three elements were implemented for the poverty estimates presented in this report.

The welfare indicator

Poverty involves multiple dimensions of deprivation, such inability to meet the basic needs of food, clothing and shelter, low human capital, limited access to infrastructure, malnutrition, various forms of social exclusion. Each of them deserves separate attention as they summarize different components of welfare, and indeed may help policy makers to focus attention on the various facets of poverty. This report focuses on poverty in terms of a broad range of goods and services that people actually consume. People's consumption of course does not cover all aspects of their welfare, but it does capture a central component of any assessment of living standards. Consumption is preferred over income because it is likely to be a more useful and accurate measure of living standards. Relative to income, consumption is also more stable over time, less affected by seasonal patterns, and is generally an easier concept to grasp for the respondents, particularly if the interviewees earn their income mainly from self-employment in agricultural or various informal non-farm activities.

Creating an aggregate of consumption for the household is guided by theoretical and practical considerations. First, the measure of consumption ought to be as comprehensive as possible given the available information. Omitting some components assumes that they do not contribute to people's welfare or that they do no affect the rankings of individuals. Second, market and non-market components of consumption need to be included which means that monetary expenditure is not consumption, and the measure of consumption should include not only purchases, but also the value of consumption of self-produced items as well as any items received as gifts or as transfers.

Guided by these considerations, measures of aggregate household consumption were constructed from the TLSLS data. The following describes how the three main components of consumption – food, non-food and housing – were constructed.

The food component is based on information that was obtained using a recall period for the last seven days. The survey collects information on 129 food items organized in 14 broad categories: cereals, tubers, fish, meat, eggs and milk products, vegetables, legumes and nuts, fruit, oil and fat, beverages and drinks, ingredients, miscellaneous, alcoholic drinks, tobacco and betel. The monetary value reported by the household refers actual consumption of these items and includes all possible sources, including purchases, self-production and gifts or transfers. Food consumption is constructed by adding up the consumption of all food items and then normalizing it to a monthly basis.

The non-food component introduces a couple of practical issues: the choice of items to include and the selection of the reference period. Regarding the first issue, survey gathers information on 73 non-food items organized in categories such as clothing and footwear, education, health, taxes, festivities, etc. (including 13 items of expenditure included in the housing section related to various utilities and house maintenance). The general principle followed was to (a) to exclude items that do not directly contribute to household consumption, (b) to exclude items that are lumpy and highly infrequent in nature. Following this principle, 21 items related to taxes, festivities and ceremonies, jewellery, furniture, household equipment and other durables, donations, gambling/cash losses and bank deposits, were excluded. Altogether, 52 non-food items were included in the measure of household consumption.

As for the reference period, the TLSLS captures non-food consumption using two reference periods: the last month and the last 12 months. The chosen reference period is the last month. However, households do not buy many non-food items every month. In order to better capture the overall non-food consumption of the population, whenever households do not purchase a non-food item in the last

month but report its consumption in the last 12 months, the latter is converted to a monthly basis and included as part of the non-food consumption.

The last component of consumption is housing. The objective is to try to measure the value of the flow of services received by the household from living in their dwelling. When a household rents its dwelling and rental markets are well-established, that value would be the actual rent paid by the household. However, in Timor-Leste, only a handful of households rent their dwellings. Thus, paid rent cannot be used to determine housing values for the vast majority of non-renting households. However, the survey asks households for estimates of how much their dwelling could be rented for and these "imputed" rents can be included in the consumption aggregate. But self-reported imputed rents may not always be credible. Hence, in order to minimize potential errors, a hedonic housing rental regression was estimated and the predicted imputed rent from this regression was included as part of consumption for the non-renting households. For those renting their dwellings, the actual rent paid was included in their consumption aggregate.

The sum of food, non-food, and housing rentals (actual or imputed) gives the aggregate nominal consumption of the household. This nominal consumption was further adjusted by a price index to reflect temporal differences in the cost of living.[18] Temporal differences arise because households were interviewed throughout the year, and on account of inflation over the year, nominal consumption for, say, a household interviewed in March 2007 can not be compared with another interviewed in December 2007. Thus, a monthly Laspeyres price index for urban and rural areas was constructed based on unit-values for food and fuel items consumed by urban and rural households. The weights are the average shares of individual items in the total annual food and fuel consumption for rural and urban households respectively. This temporal price index is limited to food and fuel (kerosene and firewood) because the quantities of other non-food items are not well-defined and thus meaningful unit-values for these items can not be constructed.[19] The implicit assumption of the procedure is that prices of other non-food items changed proportionally with the prices of food and fuel. Table 30 shows the temporal price index for urban and rural areas for each month of the survey period. The weights for the rural and urban indices were based on the average per capita consumption of individual food and fuel items for rural and urban households respectively.

Table 30 : The temporal price index for rural and urban areas by month of survey period

	Rural	Urban
January 2007	88.1	94.9
February	109.3	106.1
March	110.1	110.9
April	104.3	104.6
May	100.7	96.9
June	93.8	96.4
July	96.8	103.9
August	94.3	99.3
September	93.2	97.1
October	89.9	100.4
November	83.6	103.0
December 2007	**100.0**	**100.0**
January 2008	92.6	102.1

Sources and notes: TLSLS 2007.

The final step in constructing the welfare indicator involves going from a measure of standard of living defined at the household level to one at the individual level. Following common practice, this is done by dividing the household consumption aggregate by the number of household members.

[18] Spatial cost of living differences are also taken into account, but this is done by way of estimating the poverty lines for the rural and urban areas of different regions, as discussed later.

[19] Only items that were consumed in all months and with at least 10 observations per month were included.

The poverty line

The poverty line is determined by using a cost of basic needs approach. This method calculates the cost of obtaining a consumption bundle deemed to be adequate for meeting basic food and non-food needs. If a person cannot afford the cost of this bundle, she is considered poor; more specifically, members of a household are considered poor if per capita consumption of the household is below the poverty line. The poverty line is "absolute" because it fixes a given welfare level, or standard of living, over the domain of analysis.

Poverty lines are estimated separately for six domains, which relate to the rural and urban sectors of three regions, namely, the East, Center and West. The East includes the districts of Baucau, Lautem and Viqueque; the Center includes the districts of Aileu, Ainaro, Dili, Ermera, Liquica, Manufahi, and Manututo; and the West includes the districts of Bobonaro, Cova Lima and Oecussi.

The poverty line has two main components: food and non-food. The food poverty line is anchored to the recommended nutritional norm of 2100 calories per person. In particular, for each of the six domains, representative food bundles for the poor are constructed that correspond to the average food consumption pattern of the poor in that domain. More specifically, a national reference group representing the poor is identified, and the food bundle for a particular domain is then determined as the average (per capita) quantities of food items consumed by households belonging to the reference group of the poor who live in that particular domain . However, these domain-specific average food bundles of the poor need not yield the recommended 2100 calories per person per day. Hence, the bundles are scaled up so that they do. These scaled-up bundles are then valued with median prices of food items paid by the poor in each domain to obtain the food poverty line for that domain. The final food bundles for each of the six domains and their values are shown in Table 31 to Table 36.

The non-food poverty line is estimated in terms of what the poor actually spend on non-food items. Two sets of non-food poverty lines are estimated. The lower non-food poverty line for a domain corresponds to the average per capita non-food consumption of the population whose per capita *total* consumption is within plus/minus 5% of the food poverty line for that domain. The rationale for this is that these are households who would have to devote all their expenditure to food if they are to afford the food poverty line. Yet, if such households spend some amount on non-food items, that must be very basic non-food spending.

The upper non-food poverty line for a domain, on the other hand, corresponds to the average per capita non-food consumption of the population whose per capita *food* consumption is within plus/minus 5% of the food poverty line for that domain. Finally, the overall upper (lower) poverty line for a domain is the sum of the food poverty line and the upper (lower) non-food poverty line for that domain.

Table 31 : Food bundle per person per day, East Rural

	Unit	Calories per unit (kcals)	Quantity consumed	Daily calories provided	Price per unit (US$)	Daily value (US$)
Total per person per day				2100.0		0.3952
Cereals						
Local rice	kg	3614	0.1098	396.9	0.5000	0.0549
Imported rice	kg	3614	0.1367	494.1	0.5000	0.0684
Corn	kg	3200	0.1484	475.0	0.3200	0.0475
Corn Flour	kg	3200	0.0020	6.5	0.2782	0.0006
Palm flour	kg	3200	0.0061	19.6	0.2271	0.0014
Tubers						
Cassava	kg	1309	0.0560	73.3	0.3197	0.0179
Sweet potatoes	kg	1252	0.0204	25.5	0.3625	0.0074
Sago (ambon sago)	kg	3380	0.0063	21.1	0.4290	0.0027
Taro	kg	1120	0.0171	19.2	0.3846	0.0066
Potatoes	kg	521	0.0007	0.4	2.1332	0.0015
Yams	kg	3380	0.0026	8.6	0.4290	0.0011
Fish						
V. small sea fish	kg	740	0.0034	2.5	0.7419	0.0025
Other fresih fish	kg	824	0.0021	1.7	1.0326	0.0022
Salted fish	kg	824	0.0002	0.2	1.0666	0.0002
Canned fish	kg	3380	0.0007	2.2	2.0644	0.0014
Squid	kg	750	0.0002	0.2	1.0326	0.0002
Fresh shrimp	kg	619	0.0005	0.3	1.1987	0.0006
Meat						
Beef	kg	2070	0.0029	5.9	2.2708	0.0065
Buffalo meat	kg	840	0.0014	1.2	2.7820	0.0040
Goat	kg	1540	0.0012	1.8	1.0666	0.0012
Pork	kg	4165	0.0063	26.4	2.0000	0.0127
Chicken	kg	3020	0.0044	13.3	1.9180	0.0085
Canned meat	kg	2410	0.0003	0.8	2.3419	0.0008
Meat scraps and bones	kg	1280	0.0006	0.8	1.1962	0.0008
Eggs and dairy products						
Chicken eggs	each	66	0.0288	1.9	0.1061	0.0031
Canned sweet milk	390 grs	1334	0.0011	1.5	0.7228	0.0008
Vegetables						
Spinach	kg	114	0.0138	1.6	0.1600	0.0022
Kangkung	kg	168	0.0245	4.1	0.1807	0.0044
Cabbage	kg	180	0.0005	0.1	0.8333	0.0004
Light mustard green	kg	66	0.0133	0.9	0.2121	0.0028
Dark mustard green	kg	191	0.0088	1.7	0.2121	0.0019
String bean	kg	306	0.0002	0.1	0.5163	0.0001
Tomato	kg	190	0.0029	0.6	0.6400	0.0019
Carrot	kg	288	0.0001	0.0	0.6250	0.0001
Cucumber	kg	69	0.0013	0.1	0.0993	0.0001
Cassava leaves	kg	635	0.0474	30.1	0.1794	0.0085
Eggplant	kg	373	0.0059	2.2	0.2795	0.0016
Squash	kg	192	0.0117	2.3	0.2065	0.0024
Papaya, young	kg	198	0.0217	4.3	0.1794	0.0039
Papaya flowers	kg	198	0.0152	3.0	0.2990	0.0046
Lettuce	kg	130	0.0003	0.0	0.0993	0.0000
Pumpkin	kg	260	0.0112	2.9	0.1867	0.0021
Pumpkin leaves	kg	190	0.0151	2.9	0.1591	0.0024
A Timor veg	kg	635	0.0027	1.7	0.2782	0.0008
Tips of banana plants	kg	644	0.0133	8.5	0.1987	0.0026
Green bitter melon	kg	320	0.0027	0.9	0.4795	0.0013
Onion (big)	kg	351	0.0054	1.9	0.9933	0.0054
Garlic	kg	836	0.0031	2.6	0.9538	0.0029
Red pepper/chili	kg	264	0.0016	0.4	0.9933	0.0016

Table 31 : Food bundle per person per day, East Rural

	Unit	Calories per unit (kcals)	Quantity consumed	Daily calories provided	Price per unit (US$)	Daily value (US$)
Legumes, nuts						
Soya bean	kg	3810	0.0022	8.3	0.5333	0.0012
Mung bean	kg	3373	0.0031	10.5	0.6000	0.0019
Peanuts	kg	4520	0.0050	22.8	0.8533	0.0043
Kidney beans	kg	3330	0.0016	5.4	0.9083	0.0015
Tofu & Tempe	kg	1115	0.0003	0.3	0.5398	0.0001
Fruits						
Orange/tangerines	kg	311	0.0020	0.6	0.5163	0.0010
Mango	kg	365	0.0069	2.5	0.1829	0.0013
Apples	kg	485	0.0002	0.1	2.0652	0.0005
Pineapple	kg	204	0.0004	0.1	1.0553	0.0004
Banana	kg	920	0.0199	18.3	0.2582	0.0051
Papaya	kg	345	0.0079	2.7	0.2287	0.0018
Watermelon	kg	129	0.0007	0.1	0.0959	0.0001
Jackfruit	kg	297	0.0022	0.7	0.1372	0.0003
Coconuts	kg	3363	0.0199	66.9	0.1113	0.0022
Oil and fats						
Coconut oil	lt	6960	0.0120	83.3	0.9612	0.0115
Other cooking oil	lt	6960	0.0046	31.7	1.2805	0.0058
Dry coconut	kg	6960	0.0059	41.4	0.1061	0.0006
Beverages, drinks						
Sugar	kg	3640	0.0191	69.7	0.6250	0.0120
Tea	kg	1320	0.0005	0.7	4.6875	0.0024
Coffee	kg	3520	0.0064	22.6	1.6089	0.0104
Soda drinks (Sprite, Coca Cola)	lt	403	0.0001	0.0	2.1795	0.0002
Ingredients						
Salt	kg	0	0.0100	0.0	0.4266	0.0043
Honey	lt	3040	0.0002	0.5	2.4832	0.0004
Candle nut	kg	6360	0.0000	0.1	1.0326	0.0000
Paprika	kg	2890	0.0021	6.1	1.0326	0.0022
Soy sauce sweet/sour	140 ml	52	0.0000	0.0	3.4699	0.0001
MSG	kg	0	0.0007	0.0	5.5556	0.0037
Miscellaneous foods						
Instant noodles	kg	4450	0.0040	17.7	1.4814	0.0059
Sweet bread	each	162	0.0450	7.3	0.0482	0.0022
Biscuits	kg	4263	0.0013	5.4	1.7992	0.0023
Sweets/cakes	each	37	0.0047	0.2	0.0516	0.0002

Sources and notes: TLSLS 2007.

Table 32 : Food bundle per person per day, East Urban

	Unit	Calories per unit (kcals)	Quantity consumed	Daily calories provided	Price per unit (US$)	Daily value (US$)
Total per person per day				2100.0		0.4351
Cereals						
Local rice	kg	3614	0.0357	129.2	0.4284	0.0153
Imported rice	kg	3614	0.2507	905.8	0.4439	0.1113
Corn	kg	3200	0.1216	389.3	0.2912	0.0354
Wheat flour	kg	3330	0.0005	1.8	0.4853	0.0003
Corn Flour	kg	3200	0.0004	1.4	0.2987	0.0001
Palm flour	kg	3200	0.0021	6.6	0.4853	0.0010
Tubers						
Cassava	kg	1309	0.0453	59.3	0.3467	0.0157
Sweet potatoes	kg	1252	0.0223	28.0	0.2987	0.0067
Sago (ambon sago)	kg	3380	0.0063	21.4	0.3089	0.0020
Taro	kg	1120	0.0189	21.2	0.3319	0.0063
Potatoes	kg	521	0.0007	0.4	0.7765	0.0006
Fish						
Tuna	kg	904	0.0000	0.0	2.8033	0.0001
V. small sea fish	kg	740	0.0070	5.2	1.0323	0.0072
Other fresih fish	kg	824	0.0040	3.3	0.7500	0.0030
Salted fish	kg	824	0.0004	0.3	1.9412	0.0007
Canned fish	kg	3380	0.0010	3.3	1.4574	0.0014
Meat						
Beef	kg	2070	0.0066	13.6	2.9119	0.0191
Buffalo meat	kg	840	0.0018	1.5	3.0970	0.0057
Goat	kg	1540	0.0019	2.9	1.9916	0.0037
Pork	kg	4165	0.0061	25.2	2.0592	0.0125
Chicken	kg	3020	0.0071	21.5	2.5740	0.0183
Canned meat	kg	2410	0.0002	0.6	1.5558	0.0004
Meat scraps and bones	kg	1280	0.0007	1.0	1.1267	0.0008
Eggs and dairy products						
Chicken eggs	each	66	0.0194	1.3	0.1037	0.0020
Canned sweet milk	390 grs	1334	0.0044	5.9	1.2444	0.0055
Powdered milk	kg	5090	0.0003	1.6	5.6904	0.0018
Baby milk	kg	4180	0.0003	1.2	7.1140	0.0020
Vegetables						
Spinach	kg	114	0.0154	1.8	0.1500	0.0023
Kangkung	kg	168	0.0252	4.2	0.2574	0.0065
Cabbage	kg	180	0.0026	0.5	0.3333	0.0009
Light mustard green	kg	66	0.0229	1.5	0.3983	0.0091
Dark mustard green	kg	191	0.0123	2.4	0.2145	0.0026
String bean	kg	306	0.0003	0.1	0.8780	0.0003
Tomato	kg	190	0.0040	0.8	0.6471	0.0026
Carrot	kg	288	0.0004	0.1	0.6066	0.0003
Cucumber	kg	69	0.0015	0.1	0.1037	0.0002
Cassava leaves	kg	635	0.0378	24.0	0.2257	0.0085
Eggplant	kg	373	0.0046	1.7	0.4853	0.0022
Squash	kg	192	0.0063	1.2	0.1494	0.0009
Papaya, young	kg	198	0.0240	4.7	0.2406	0.0058
Papaya flowers	kg	198	0.0140	2.8	0.4853	0.0068
Lettuce	kg	130	0.0001	0.0	0.4853	0.0001
Pumpkin	kg	260	0.0062	1.6	0.1037	0.0006
Pumpkin leaves	kg	190	0.0097	1.8	0.1195	0.0012
A Timor veg	kg	635	0.0010	0.6	0.4979	0.0005
Tips of banana plants	kg	644	0.0152	9.8	0.2022	0.0031
Green bitter melon	kg	320	0.0016	0.5	0.4812	0.0008
Onion (big)	kg	351	0.0060	2.1	1.0000	0.0060

Table 32 : Food bundle per person per day, East Urban

	Unit	Calories per unit (kcals)	Quantity consumed	Daily calories provided	Price per unit (US$)	Daily value (US$)
Garlic	kg	836	0.0036	3.0	1.0000	0.0036
Red pepper/chili	kg	264	0.0015	0.4	0.9958	0.0015
Legumes, nuts						
Soya bean	kg	3810	0.0021	7.8	0.5162	0.0011
Mung bean	kg	3373	0.0015	5.0	0.6471	0.0010
Peanuts	kg	4520	0.0046	20.9	0.8259	0.0038
Kidney beans	kg	3330	0.0009	3.0	0.9958	0.0009
Fruits						
Orange/tangerines	kg	311	0.0005	0.1	0.4142	0.0002
Mango	kg	365	0.0021	0.8	0.1317	0.0003
Pineapple	kg	204	0.0006	0.1	0.9623	0.0006
Banana	kg	920	0.0189	17.4	0.3585	0.0068
Papaya	kg	345	0.0097	3.4	0.2406	0.0023
Watermelon	kg	129	0.0011	0.1	0.2391	0.0003
Jackfruit	kg	297	0.0049	1.5	0.4268	0.0021
Coconuts	kg	3363	0.0108	36.2	0.1000	0.0011
Oil and fats						
Coconut oil	lt	6960	0.0111	77.2	0.9958	0.0111
Other cooking oil	lt	6960	0.0067	46.3	1.2046	0.0080
Dry coconut	kg	6960	0.0036	25.2	0.1054	0.0004
Butter and margarine	kg	7170	0.0001	0.4	1.0536	0.0001
Beverages, drinks						
Sugar	kg	3640	0.0191	69.7	0.6000	0.0115
Tea	kg	1320	0.0003	0.4	4.8263	0.0016
Coffee	kg	3520	0.0067	23.7	1.6177	0.0109
Soda drinks (Sprite, Coca Cola)	lt	403	0.0001	0.1	2.0589	0.0003
Ingredients						
Salt	kg	0	0.0107	0.0	0.4000	0.0043
Honey	lt	3040	0.0004	1.1	2.0683	0.0008
Candle nut	kg	6360	0.0005	3.2	0.3688	0.0002
Paprika	kg	2890	0.0016	4.8	0.9958	0.0016
MSG	kg	0	0.0014	0.0	5.3923	0.0073
Miscellaneous foods						
Instant noodles	kg	4450	0.0043	19.3	1.4300	0.0062
White bread	small piece	53	0.0023	0.1	0.0478	0.0001
Sweet bread	each	162	0.0433	7.0	0.0500	0.0022
Biscuits	kg	4263	0.0016	6.9	1.6667	0.0027
Alcoholic drinks						
Beer	lt	238	0.0001	0.0	4.7060	0.0006

Sources and notes: TLSLS 2007.

Table 33 : Food bundle per person per day, Center Rural

	Unit	Calories per unit (kcals)	Quantity consumed	Daily calories provided	Price per unit (US$)	Daily value (US$)
Total per person per day				2100.0		0.5856
Cereals						
Local rice	kg	3614	0.0381	137.8	0.5674	0.0216
Imported rice	kg	3614	0.1343	485.2	0.6400	0.0859
Corn	kg	3200	0.1628	521.0	0.5163	0.0841
Wheat flour	kg	3330	0.0002	0.6	0.5564	0.0001
Corn Flour	kg	3200	0.0097	31.0	0.3442	0.0033
Palm flour	kg	3200	0.0078	25.1	0.4542	0.0036
Tubers						
Cassava	kg	1309	0.0918	120.2	0.3333	0.0306
Sweet potatoes	kg	1252	0.0351	43.9	0.3879	0.0136
Sago (ambon sago)	kg	3380	0.0027	9.0	0.4573	0.0012
Taro	kg	1120	0.0311	34.8	0.4573	0.0142
Potatoes	kg	521	0.0011	0.6	0.4573	0.0005
Yams	kg	3380	0.0061	20.7	0.4573	0.0028
Fish						
Tuna	kg	904	0.0000	0.0	1.8292	0.0001
V. small sea fish	kg	740	0.0035	2.6	0.9590	0.0034
Other fresih fish	kg	824	0.0033	2.8	1.0726	0.0036
Salted fish	kg	824	0.0013	1.0	1.0000	0.0013
Canned fish	kg	3380	0.0009	3.0	1.6616	0.0015
Squid	kg	750	0.0003	0.2	1.2500	0.0004
Dried shrimp	kg	619	0.0000	0.0	4.0761	0.0000
Meat						
Beef	kg	2070	0.0049	10.1	2.8370	0.0138
Buffalo meat	kg	840	0.0007	0.6	2.5816	0.0018
Goat	kg	1540	0.0013	2.0	2.2376	0.0029
Pork	kg	4165	0.0053	22.0	2.6665	0.0141
Chicken	kg	3020	0.0024	7.2	2.0241	0.0048
Canned meat	kg	2410	0.0001	0.3	1.6747	0.0002
Meat scraps and bones	kg	1280	0.0001	0.2	1.0666	0.0001
Eggs and dairy products						
Chicken eggs	each	66	0.0302	2.0	0.1067	0.0032
Fresh milk	lt	630	0.0001	0.0	4.0223	0.0002
Canned sweet milk	390 grs	1334	0.0014	1.9	0.7425	0.0011
Baby milk	kg	4180	0.0000	0.2	7.4187	0.0003
Vegetables						
Spinach	kg	114	0.0123	1.4	0.3049	0.0037
Kangkung	kg	168	0.0114	1.9	0.3478	0.0040
Cabbage	kg	180	0.0074	1.3	0.4573	0.0034
Light mustard green	kg	66	0.0229	1.5	0.4290	0.0098
Dark mustard green	kg	191	0.0241	4.6	0.4266	0.0103
String bean	kg	306	0.0069	2.1	0.5000	0.0035
Tomato	kg	190	0.0021	0.4	0.5363	0.0011
Carrot	kg	288	0.0010	0.3	0.5163	0.0005
Cucumber	kg	69	0.0089	0.6	0.2667	0.0024
Cassava leaves	kg	635	0.0762	48.4	0.3311	0.0252
Eggplant	kg	373	0.0062	2.3	0.4300	0.0026
Squash	kg	192	0.0189	3.6	0.3000	0.0057
Papaya, young	kg	198	0.0272	5.4	0.3535	0.0096
Papaya flowers	kg	198	0.0155	3.1	0.5163	0.0080
Lettuce	kg	130	0.0023	0.3	0.5488	0.0012
Pumpkin	kg	260	0.0207	5.4	0.2744	0.0057
Pumpkin leaves	kg	190	0.0287	5.5	0.3973	0.0114
A Timor veg	kg	635	0.0373	23.7	0.3338	0.0125

Table 33 : Food bundle per person per day, Center Rural

	Unit	Calories per unit (kcals)	Quantity consumed	Daily calories provided	Price per unit (US$)	Daily value (US$)
Tips of banana plants	kg	644	0.0168	10.8	0.2946	0.0050
Green bitter melon	kg	320	0.0038	1.2	0.4573	0.0018
Onion (big)	kg	351	0.0078	2.7	0.9933	0.0077
Garlic	kg	836	0.0047	4.0	1.0000	0.0047
Red pepper/chili	kg	264	0.0014	0.4	0.9590	0.0014
Legumes, nuts						
Soya bean	kg	3810	0.0078	29.7	0.5303	0.0041
Mung bean	kg	3373	0.0020	6.8	0.5333	0.0011
Peanuts	kg	4520	0.0026	11.8	0.5564	0.0015
Kidney beans	kg	3330	0.0182	60.5	0.7197	0.0131
Tofu & Tempe	kg	1115	0.0004	0.4	0.4946	0.0002
Fruits						
Orange/tangerines	kg	311	0.0088	2.7	0.4966	0.0044
Mango	kg	365	0.0041	1.5	0.2397	0.0010
Avocado	kg	519	0.0016	0.8	0.4573	0.0007
Pineapple	kg	204	0.0024	0.5	0.4795	0.0012
Banana	kg	920	0.0134	12.3	0.3442	0.0046
Papaya	kg	345	0.0050	1.7	0.2782	0.0014
Watermelon	kg	129	0.0003	0.0	0.4539	0.0001
Soursop	kg	660	0.0009	0.6	0.5163	0.0005
Jackfruit	kg	297	0.0011	0.3	0.3028	0.0003
Coconuts	kg	3363	0.0054	18.3	0.2145	0.0012
Oil and fats						
Coconut oil	lt	6960	0.0015	10.4	0.9146	0.0014
Pork oil	lt	6960	0.0008	5.3	1.0726	0.0008
Other cooking oil	lt	6960	0.0174	121.3	1.4157	0.0247
Dry coconut	kg	6960	0.0004	2.5	0.2287	0.0001
Beverages, drinks						
Sugar	kg	3640	0.0266	96.9	0.7092	0.0189
Palm sugar	kg	3770	0.0002	0.6	1.1987	0.0002
Tea	kg	1320	0.0003	0.3	4.8404	0.0013
Coffee	kg	3520	0.0148	52.3	1.6522	0.0245
Cocoa/Chocolate powder	kg	2980	0.0001	0.3	2.1452	0.0002
Soda drinks (Sprite, Coca Cola)	lt	403	0.0000	0.0	1.2908	0.0000
Ingredients						
Salt	kg	0	0.0080	0.0	0.4290	0.0034
Honey	lt	3040	0.0003	0.8	0.6953	0.0002
Candle nut	kg	6360	0.0000	0.1	1.0726	0.0000
Paprika	kg	2890	0.0017	4.8	0.9590	0.0016
Soy sauce sweet/sour	140 ml	52	0.0002	0.0	0.5737	0.0001
MSG	kg	0	0.0031	0.0	1.2263	0.0038
Miscellaneous foods						
Instant noodles	kg	4450	0.0068	30.3	1.4973	0.0102
White bread	small piece	53	0.0061	0.3	0.0536	0.0003
Sweet bread	each	162	0.0420	6.8	0.0516	0.0022
Biscuits	kg	4263	0.0004	1.9	1.5983	0.0007
Alcoholic drinks						
Wine	lt	276	0.0002	0.1	1.1433	0.0002

Sources and notes: TLSLS 2007.

Table 34 : Food bundle per person per day, Center Urban

	Unit	Calories per unit (kcals)	Quantity consumed	Daily calories provided	Price per unit (US$)	Daily value (US$)
Total per person per day				2100.0		0.6538
Cereals						
Local rice	kg	3614	0.0091	32.8	0.5268	0.0048
Imported rice	kg	3614	0.2515	908.8	0.5035	0.1266
Corn	kg	3200	0.0743	237.8	0.5047	0.0375
Wheat flour	kg	3330	0.0006	2.0	0.5000	0.0003
Corn Flour	kg	3200	0.0002	0.7	0.7024	0.0002
Palm flour	kg	3200	0.0012	3.8	0.3605	0.0004
Tubers						
Cassava	kg	1309	0.0560	73.3	0.4979	0.0279
Sweet potatoes	kg	1252	0.0199	24.9	0.5035	0.0100
Sago (ambon sago)	kg	3380	0.0014	4.8	0.5268	0.0007
Taro	kg	1120	0.0091	10.2	0.5000	0.0046
Potatoes	kg	521	0.0020	1.1	1.0071	0.0020
Yams	kg	3380	0.0041	13.8	0.5162	0.0021
Fish						
Tuna	kg	904	0.0002	0.2	0.5268	0.0001
V. small sea fish	kg	740	0.0084	6.2	0.9958	0.0084
Other fresih fish	kg	824	0.0090	7.4	1.9664	0.0177
Salted fish	kg	824	0.0033	2.7	1.0536	0.0035
Canned fish	kg	3380	0.0023	7.8	1.4435	0.0033
Squid	kg	750	0.0001	0.1	1.5773	0.0002
Fresh shrimp	kg	619	0.0002	0.1	0.4507	0.0001
Meat						
Beef	kg	2070	0.0071	14.8	3.0212	0.0216
Buffalo meat	kg	840	0.0022	1.8	3.1609	0.0070
Goat	kg	1540	0.0008	1.2	2.1073	0.0016
Pork	kg	4165	0.0045	18.7	3.0970	0.0139
Chicken	kg	3020	0.0074	22.3	2.3414	0.0173
Canned meat	kg	2410	0.0001	0.4	1.9126	0.0003
Meat scraps and bones	kg	1280	0.0017	2.2	1.5444	0.0027
Eggs and dairy products						
Chicken eggs	each	66	0.0382	2.5	0.1925	0.0074
Other eggs	each	66	0.0023	0.2	0.2000	0.0005
Fresh milk	lt	630	0.0000	0.0	1.9231	0.0001
Canned sweet milk	390 grs	1334	0.0056	7.5	1.3578	0.0076
Powdered milk	kg	5090	0.0004	2.0	6.4350	0.0026
Baby milk	kg	4180	0.0001	0.6	7.2173	0.0011
Vegetables						
Spinach	kg	114	0.0110	1.3	0.6194	0.0068
Kangkung	kg	168	0.0189	3.2	0.6882	0.0130
Cabbage	kg	180	0.0121	2.2	0.5268	0.0064
Light mustard green	kg	66	0.0190	1.3	0.5268	0.0100
Dark mustard green	kg	191	0.0140	2.7	0.5268	0.0074
String bean	kg	306	0.0044	1.4	0.9013	0.0040
Tomato	kg	190	0.0043	0.8	0.9623	0.0042
Carrot	kg	288	0.0009	0.3	0.5186	0.0005
Cucumber	kg	69	0.0024	0.2	0.4782	0.0012
Cassava leaves	kg	635	0.0407	25.8	0.5000	0.0204
Eggplant	kg	373	0.0088	3.3	0.5162	0.0046
Squash	kg	192	0.0042	0.8	0.4507	0.0019
Papaya, young	kg	198	0.0161	3.2	0.4979	0.0080
Papaya flowers	kg	198	0.0115	2.3	0.9563	0.0110
Lettuce	kg	130	0.0010	0.1	0.8429	0.0008
Pumpkin	kg	260	0.0053	1.4	0.4782	0.0025

Table 34 : Food bundle per person per day, Center Urban

	Unit	Calories per unit (kcals)	Quantity consumed	Daily calories provided	Price per unit (US$)	Daily value (US$)
Pumpkin leaves	kg	190	0.0097	1.8	0.5000	0.0048
A Timor veg	kg	635	0.0136	8.6	0.4812	0.0065
Tips of banana plants	kg	644	0.0127	8.2	0.4742	0.0060
Green bitter melon	kg	320	0.0025	0.8	0.9706	0.0025
Onion (big)	kg	351	0.0089	3.1	0.9958	0.0089
Garlic	kg	836	0.0070	5.9	1.0071	0.0071
Red pepper/chili	kg	264	0.0033	0.9	1.0323	0.0034
Legumes, nuts						
Soya bean	kg	3810	0.0019	7.0	0.5313	0.0010
Mung bean	kg	3373	0.0094	31.7	0.9426	0.0089
Peanuts	kg	4520	0.0027	12.0	1.4709	0.0039
Kidney beans	kg	3330	0.0164	54.7	0.9958	0.0164
Tofu & Tempe	kg	1115	0.0027	3.1	1.0000	0.0027
Fruits						
Orange/tangerines	kg	311	0.0043	1.3	0.5162	0.0022
Mango	kg	365	0.0082	3.0	0.4507	0.0037
Apples	kg	485	0.0004	0.2	2.0000	0.0008
Avocado	kg	519	0.0040	2.1	0.4853	0.0019
Pineapple	kg	204	0.0031	0.6	0.5268	0.0016
Banana	kg	920	0.0158	14.6	0.5035	0.0080
Papaya	kg	345	0.0053	1.8	0.7217	0.0039
Soursop	kg	660	0.0007	0.4	0.6915	0.0005
Jackfruit	kg	297	0.0029	0.9	0.6760	0.0019
Coconuts	kg	3363	0.0067	22.6	0.5268	0.0035
Oil and fats						
Coconut oil	lt	6960	0.0006	4.5	1.0823	0.0007
Pork oil	lt	6960	0.0012	8.7	0.7376	0.0009
Other cooking oil	lt	6960	0.0284	197.9	1.0176	0.0289
Dry coconut	kg	6960	0.0001	0.5	0.2581	0.0000
Butter and margarine	kg	7170	0.0002	1.2	1.1896	0.0002
Beverages, drinks						
Sugar	kg	3640	0.0247	90.0	0.6101	0.0151
Palm sugar	kg	3770	0.0005	1.8	0.5268	0.0003
Tea	kg	1320	0.0010	1.3	4.5156	0.0045
Coffee	kg	3520	0.0127	44.7	1.7287	0.0220
Cocoa/Chocolate powder	kg	2980	0.0002	0.5	2.6341	0.0005
Soda drinks (Sprite, Coca Cola)	lt	403	0.0001	0.0	1.0000	0.0001
Ingredients						
Salt	kg	0	0.0060	0.0	0.4118	0.0025
Honey	lt	3040	0.0001	0.3	0.9013	0.0001
Candle nut	kg	6360	0.0000	0.3	0.3512	0.0000
Paprika	kg	2890	0.0010	2.9	0.9958	0.0010
Soy sauce sweet/sour	140 ml	52	0.0010	0.1	1.1669	0.0011
MSG	kg	0	0.0061	0.0	1.0536	0.0064
Miscellaneous foods						
Instant noodles	kg	4450	0.0108	48.0	1.5022	0.0162
Macronie	kg	3500	0.0003	1.1	1.0071	0.0003
White bread	small piece	53	0.0259	1.4	0.0498	0.0013
Sweet bread	each	162	0.2628	42.6	0.0504	0.0132
Biscuits	kg	4263	0.0009	3.9	1.9809	0.0018
Sweets/cakes	each	37	0.0001	0.0	0.9706	0.0001

Sources and notes: TLSLS 2007.

Table 35 : Food bundle per person per day, West Rural

	Unit	Calories per unit (kcals)	Quantity consumed	Daily calories provided	Price per unit (US$)	Daily value (US$)
Total per person per day				2100.0		0.5097
Cereals						
Local rice	kg	3614	0.0789	285.0	0.5333	0.0421
Imported rice	kg	3614	0.1423	514.0	0.5564	0.0791
Corn	kg	3200	0.1828	584.8	0.4795	0.0876
Wheat flour	kg	3330	0.0002	0.7	0.5303	0.0001
Corn Flour	kg	3200	0.0024	7.8	0.3571	0.0009
Palm flour	kg	3200	0.0179	57.4	0.4573	0.0082
Tubers						
Cassava	kg	1309	0.0513	67.2	0.2990	0.0154
Sweet potatoes	kg	1252	0.0129	16.2	0.2990	0.0039
Sago (ambon sago)	kg	3380	0.0031	10.4	0.2782	0.0009
Taro	kg	1120	0.0087	9.8	0.2652	0.0023
Potatoes	kg	521	0.0014	0.7	1.1962	0.0016
Fish						
V. small sea fish	kg	740	0.0105	7.7	0.8605	0.0090
Other fresih fish	kg	824	0.0022	1.8	0.9590	0.0021
Salted fish	kg	824	0.0009	0.8	2.3677	0.0022
Canned fish	kg	3380	0.0005	1.8	1.8394	0.0010
Fresh shrimp	kg	619	0.0011	0.7	0.9933	0.0011
Meat						
Beef	kg	2070	0.0038	7.8	2.3923	0.0090
Buffalo meat	kg	840	0.0001	0.1	2.5000	0.0003
Goat	kg	1540	0.0006	0.9	1.9866	0.0012
Pork	kg	4165	0.0079	32.8	2.1332	0.0168
Chicken	kg	3020	0.0039	11.7	2.3923	0.0092
Canned meat	kg	2410	0.0000	0.1	2.6495	0.0001
Meat scraps and bones	kg	1280	0.0012	1.5	1.6692	0.0020
Eggs and dairy products						
Chicken eggs	each	66	0.0222	1.5	0.1113	0.0025
Canned sweet milk	390 grs	1334	0.0003	0.4	1.9102	0.0006
Powdered milk	kg	5090	0.0001	0.4	3.2269	0.0003
Vegetables						
Spinach	kg	114	0.0102	1.2	0.4258	0.0044
Kangkung	kg	168	0.0131	2.2	0.4966	0.0065
Cabbage	kg	180	0.0044	0.8	0.5564	0.0025
Light mustard green	kg	66	0.0124	0.8	0.5564	0.0069
Dark mustard green	kg	191	0.0031	0.6	0.4173	0.0013
String bean	kg	306	0.0004	0.1	0.6835	0.0003
Tomato	kg	190	0.0048	0.9	0.6208	0.0030
Carrot	kg	288	0.0005	0.1	0.5564	0.0003
Cucumber	kg	69	0.0039	0.3	0.2483	0.0010
Cassava leaves	kg	635	0.0541	34.3	0.3476	0.0188
Eggplant	kg	373	0.0056	2.1	0.5163	0.0029
Squash	kg	192	0.0092	1.8	0.2133	0.0020
Papaya, young	kg	198	0.0271	5.4	0.3148	0.0085
Papaya flowers	kg	198	0.0121	2.4	0.4966	0.0060
Lettuce	kg	130	0.0001	0.0	1.7877	0.0001
Pumpkin	kg	260	0.0290	7.5	0.1768	0.0051
Pumpkin leaves	kg	190	0.0253	4.8	0.3547	0.0090
A Timor veg	kg	635	0.0065	4.1	0.4451	0.0029
Tips of banana plants	kg	644	0.0130	8.4	0.2133	0.0028
Green bitter melon	kg	320	0.0020	0.6	0.4966	0.0010
Onion (big)	kg	351	0.0060	2.1	1.1111	0.0067
Garlic	kg	836	0.0029	2.4	1.1128	0.0032

Table 35 : Food bundle per person per day, West Rural

	Unit	Calories per unit (kcals)	Quantity consumed	Daily calories provided	Price per unit (US$)	Daily value (US$)
Red pepper/chili	kg	264	0.0034	0.9	1.0726	0.0036
Legumes, nuts						
Soya bean	kg	3810	0.0013	5.0	0.5981	0.0008
Mung bean	kg	3373	0.0047	15.9	0.5000	0.0024
Cashews	kg	6060	0.0000	0.2	1.1348	0.0000
Peanuts	kg	4520	0.0037	16.5	0.5960	0.0022
Kidney beans	kg	3330	0.0069	22.9	0.9569	0.0066
Tofu & Tempe	kg	1115	0.0000	0.0	2.7820	0.0000
Fruits						
Orange/tangerines	kg	311	0.0007	0.2	0.4542	0.0003
Mango	kg	365	0.0011	0.4	0.2500	0.0003
Avocado	kg	519	0.0003	0.1	0.2500	0.0001
Pineapple	kg	204	0.0004	0.1	0.3596	0.0001
Banana	kg	920	0.0233	21.5	0.2500	0.0058
Papaya	kg	345	0.0091	3.1	0.2582	0.0023
Watermelon	kg	129	0.0020	0.3	0.2271	0.0005
Soursop	kg	660	0.0007	0.5	0.2667	0.0002
Jackfruit	kg	297	0.0023	0.7	0.5000	0.0012
Coconuts	kg	3363	0.0100	33.5	0.0993	0.0010
Oil and fats						
Coconut oil	lt	6960	0.0009	6.0	0.6677	0.0006
Pork oil	lt	6960	0.0004	2.6	1.1348	0.0004
Other cooking oil	lt	6960	0.0163	113.8	1.4642	0.0239
Dry coconut	kg	6960	0.0013	8.8	0.5000	0.0006
Beverages, drinks						
Sugar	kg	3640	0.0215	78.1	0.7500	0.0161
Tea	kg	1320	0.0004	0.5	5.4877	0.0022
Coffee	kg	3520	0.0068	24.0	2.6914	0.0184
Ingredients						
Salt	kg	0	0.0077	0.0	0.4065	0.0031
Paprika	kg	2890	0.0007	2.0	1.1348	0.0008
Soy sauce sweet/sour	140 ml	52	0.0000	0.0	1.9599	0.0000
MSG	kg	0	0.0015	0.0	5.0463	0.0074
Miscellaneous foods						
Instant noodles	kg	4450	0.0053	23.8	1.7031	0.0091
White bread	small piece	53	0.0026	0.1	0.5964	0.0016
Sweet bread	each	162	0.0660	10.7	0.0500	0.0033
Biscuits	kg	4263	0.0002	0.7	2.4832	0.0004
Alcoholic drinks						
Beer	lt	238	0.0000	0.0	2.6553	0.0000

Sources and notes: TLSLS 2007.

Table 36 : Food bundle per person per day, West Urban

	Unit	Calories per unit (kcals)	Quantity consumed	Daily calories provided	Price per unit (US$)	Daily value (US$)
Total per person per day				2100.0		0.5270
Cereals						
Local rice	kg	3614	0.1190	430.0	0.4812	0.0573
Imported rice	kg	3614	0.1424	514.5	0.4979	0.0709
Corn	kg	3200	0.1188	380.3	0.3763	0.0447
Wheat flour	kg	3330	0.0008	2.8	0.2938	0.0002
Corn Flour	kg	3200	0.0002	0.7	0.4000	0.0001
Palm flour	kg	3200	0.0027	8.6	0.5035	0.0014
Tubers						
Cassava	kg	1309	0.0562	73.5	0.3357	0.0189
Sweet potatoes	kg	1252	0.0197	24.7	0.2942	0.0058
Sago (ambon sago)	kg	3380	0.0014	4.8	0.3089	0.0004
Taro	kg	1120	0.0114	12.7	0.2574	0.0029
Potatoes	kg	521	0.0008	0.4	0.5186	0.0004
Fish						
Tuna	kg	904	0.0000	0.0	1.0296	0.0000
V. small sea fish	kg	740	0.0095	7.0	0.9563	0.0091
Other fresih fish	kg	824	0.0033	2.7	2.5000	0.0083
Salted fish	kg	824	0.0005	0.4	1.9246	0.0009
Canned fish	kg	3380	0.0006	2.1	1.1251	0.0007
Fresh shrimp	kg	619	0.0002	0.1	0.9794	0.0002
Dried shrimp	kg	619	0.0001	0.1	0.9794	0.0001
Meat						
Beef	kg	2070	0.0063	13.0	2.5740	0.0161
Buffalo meat	kg	840	0.0016	1.4	2.5930	0.0042
Goat	kg	1540	0.0018	2.8	2.0744	0.0038
Pork	kg	4165	0.0095	39.6	2.4484	0.0233
Chicken	kg	3020	0.0052	15.7	3.2645	0.0170
Canned meat	kg	2410	0.0002	0.5	1.9587	0.0004
Meat scraps and bones	kg	1280	0.0041	5.2	1.4690	0.0060
Eggs and dairy products						
Chicken eggs	each	66	0.0480	3.1	0.1007	0.0048
Canned sweet milk	390 grs	1334	0.0022	3.0	1.5067	0.0033
Powdered milk	kg	5090	0.0002	1.2	2.6298	0.0006
Baby milk	kg	4180	0.0001	0.4	7.5529	0.0008
Vegetables						
Spinach	kg	114	0.0067	0.8	0.3917	0.0026
Kangkung	kg	168	0.0235	3.9	0.4448	0.0104
Cabbage	kg	180	0.0038	0.7	0.5000	0.0019
Light mustard green	kg	66	0.0186	1.2	0.3983	0.0074
Dark mustard green	kg	191	0.0033	0.6	0.2593	0.0009
String bean	kg	306	0.0004	0.1	0.6995	0.0003
Tomato	kg	190	0.0073	1.4	0.5000	0.0037
Carrot	kg	288	0.0006	0.2	0.5148	0.0003
Cucumber	kg	69	0.0015	0.1	0.1729	0.0003
Cassava leaves	kg	635	0.0416	26.4	0.3432	0.0143
Eggplant	kg	373	0.0067	2.5	0.4782	0.0032
Squash	kg	192	0.0033	0.6	0.2448	0.0008
Papaya, young	kg	198	0.0232	4.6	0.2987	0.0069
Papaya flowers	kg	198	0.0168	3.3	0.4812	0.0081
Lettuce	kg	130	0.0004	0.0	0.9958	0.0004
Pumpkin	kg	260	0.0098	2.5	0.2406	0.0023
Pumpkin leaves	kg	190	0.0119	2.3	0.3917	0.0047
A Timor veg	kg	635	0.0037	2.4	0.5035	0.0019
Tips of banana plants	kg	644	0.0114	7.3	0.2574	0.0029

Table 36 : Food bundle per person per day, West Urban

	Unit	Calories per unit (kcals)	Quantity consumed	Daily calories provided	Price per unit (US$)	Daily value (US$)
Green bitter melon	kg	320	0.0016	0.5	0.5035	0.0008
Onion (big)	kg	351	0.0070	2.5	1.0071	0.0070
Garlic	kg	836	0.0053	4.4	1.0071	0.0053
Red pepper/chili	kg	264	0.0030	0.8	1.0296	0.0030
Legumes, nuts						
Soya bean	kg	3810	0.0003	1.1	0.4897	0.0001
Mung bean	kg	3373	0.0101	34.0	0.5268	0.0053
Peanuts	kg	4520	0.0048	21.8	0.6294	0.0030
Kidney beans	kg	3330	0.0069	22.9	0.6874	0.0047
Tofu & Tempe	kg	1115	0.0011	1.2	0.2518	0.0003
Fruits						
Orange/tangerines	kg	311	0.0016	0.5	0.5148	0.0008
Mango	kg	365	0.0027	1.0	0.2448	0.0007
Apples	kg	485	0.0000	0.0	0.9563	0.0000
Pineapple	kg	204	0.0017	0.3	0.2448	0.0004
Banana	kg	920	0.0239	22.0	0.2593	0.0062
Papaya	kg	345	0.0087	3.0	0.2500	0.0022
Watermelon	kg	129	0.0010	0.1	0.2581	0.0003
Jackfruit	kg	297	0.0033	1.0	0.2448	0.0008
Coconuts	kg	3363	0.0098	33.0	0.1037	0.0010
Oil and fats						
Coconut oil	lt	6960	0.0011	7.7	0.8031	0.0009
Pork oil	lt	6960	0.0005	3.5	0.6864	0.0003
Other cooking oil	lt	6960	0.0207	144.4	1.4946	0.0310
Dry coconut	kg	6960	0.0004	2.5	0.1037	0.0000
Butter and margarine	kg	7170	0.0000	0.1	1.3171	0.0000
Beverages, drinks						
Sugar	kg	3640	0.0232	84.6	0.6971	0.0162
Tea	kg	1320	0.0006	0.8	4.9791	0.0031
Coffee	kg	3520	0.0082	28.8	2.5000	0.0205
Ingredients						
Salt	kg	0	0.0063	0.0	0.4000	0.0025
Paprika	kg	2890	0.0007	2.1	1.0071	0.0007
Soy sauce sweet/sour	140 ml	52	0.0002	0.0	3.5966	0.0008
MSG	kg	0	0.0019	0.0	5.1860	0.0101
Miscellaneous foods						
Instant noodles	kg	4450	0.0074	33.1	1.6143	0.0120
White bread	small piece	53	0.0007	0.0	0.0504	0.0000
Sweet bread	each	162	0.1626	26.3	0.0504	0.0082
Biscuits	kg	4263	0.0008	3.3	2.5000	0.0019
Sweets/cakes	each	37	0.0004	0.0	1.0323	0.0005
Alcoholic drinks						
Beer	lt	238	0.0000	0.0	3.0176	0.0001

Sources and notes: TLSLS 2007.

There is however one practical issue in implementing the above procedure of determining poverty lines. The procedure relies on the identification of the reference group of the poor whose food consumption pattern and the prices paid by whom go into the determination of poverty lines. However, without the poverty lines, we do not know who the poor are.

To get around this circularity, an iterative method is used: In the first iteration, the reference group for determining the food poverty line is taken to be the bottom 40% of the national population ranked according to constant-price per capita consumption.[20] The bottom 40% is motivated by the earlier estimate of poverty incidence of the same magnitude based on TLSS 2001 (World Bank, 2003). From the second iteration onwards, the reference group of the poor is taken to be the population considered poor from the previous iteration. The iterative method thus involves the following series of steps

(1) Use the temporal price indices to express all consumption values in constant December 2007 prices, and identify the reference group of the poor in the first iteration as the bottom 40% of the population ranked by constant-price per capita household consumption.

(2) Estimate per capita daily consumption of food items among the reference group by domain.

(3) Estimate median prices for food items amongst the reference group by domain.

(4) Generate the value of constant food poverty lines by area, which is simply the aggregation of the value of the daily per capita consumption of food items scaled to provide 2,100 calories per person per day.

(5) Estimate the non-food component of the poverty line for which a non-parametric approach is used (for each domain).

(5.1) Per capita non-food consumption is regressed on per capita total consumption using a locally weighted regression.

(5.2) Predicted per capita non-food consumption is derived.

(5.3) Predicted per capita food consumption is obtained as the difference between actual total consumption and predicted non-food consumption.

(5.4) The upper non-food poverty line is the average predicted non-food consumption of the population whose predicted food consumption lies within plus/minus 5% of the food poverty line.

(5.5) The lower non-food poverty line is the average predicted non-food consumption of the population whose actual total consumption lies within plus/minus 5% of the food poverty line.

(6) The upper (lower) poverty line will be the sum of the food poverty line plus the upper (lower) non-food allowance. These poverty lines will be at constant prices.

(7) Calculate the poverty incidence under the upper (lower) poverty line and use that group as the reference group in the next iteration.

(8) The algorithm stops when the average of the absolute value of the percentage change in the upper (lower) poverty lines by domain is less than 5%.

In case of all the six domains for which the poverty lines are estimated, it took only two iterations for the poverty lines to converge to the final estimates presented in the report.

[20] Constant prices imply monetary values deflated over time by the temporal price index, but not spatially.

Poverty measures

The analysis presented in this report uses three poverty measures within the Foster, Greer and Thorbecke (1984) class of poverty measures. This family of measures can be written as:

$$P_\alpha = (1/n)\sum_{i=1}^{n} \max\left\{\left(\frac{z - y_i}{z}\right)^\alpha, \quad 0\right\}$$

where α is some non-negative parameter, z is the poverty line, y denotes consumption, i represents individuals, n is the total number of individuals in the population.

The headcount index (α=0) gives the share of the poor in the total population, i.e. it measures the percentage of population whose per capita consumption is below the poverty line. This is the most widely used poverty measure mainly because it is very simple and easy to interpret. However, the headcount index has some well-known limitations. It takes into account neither how close or far the consumption levels of the poor are relative to the poverty line nor the distribution among the poor.

The poverty gap (α=1) is the average consumption shortfall of the population relative to the poverty line, where the non-poor are assumed to have a zero shortfall, and the shortfall itself is expressed as a proportion of the poverty line. Since the greater the shortfall, the higher the gap, this measure overcomes the first limitation of the headcount. For instance, if the average consumption of the poor declines, there will be no change in the headcount index since the same number of people are below the poverty line, but the poverty gap index will increase. The poverty gap index is often referred to as a measure of the depth of poverty.

Finally, the squared poverty gap index (α=2) is sensitive to not only the average consumption shortfall of the poor relative to poverty line, but also to the distribution of consumption amongst the poor. Thus, in contrast to the poverty gap index, which gives equal weight to the consumption shortfall of all the poor, the squared poverty gap index assigns relatively higher weights to the largest poverty gaps. For instance, if a transfer is made from a poor person to a poorer person, the headcount index will remain unchanged since the number of poor has not changed. The poverty gap index will also remain unchanged since the average consumption shortfall relative to the poverty line is the same. But the squared poverty gap index will decline because the shortfall of a poorer person (who has a higher weight) has declined relative to the increase in the shortfall of a less poor person (who has a lower weight). The squared poverty gap index is also referred to as a measure of the severity of poverty.

These measures satisfy some useful properties. First, they are able to combine individual indicators of welfare into aggregated measures of poverty for the population. Second, they are additive in the sense that the aggregate poverty level is equal to the population-weighted average of the poverty levels of all subgroups of the population. Third, the poverty gap and the squared poverty gap measures satisfy the monotonicity axiom, which states that even if the number of the poor is the same, but there is a welfare reduction for a poor household, the measure of poverty should increase. And fourth, the squared poverty gap measure also satisfies with the transfer axiom: if there is a transfer from one poor household to a less poor household, the degree of poverty should increase.[21]

[21] The monotonicity and transfer axioms were proposed by Sen (1976).

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