MULTIPLE INDICATOR CLUSTER SURVEY
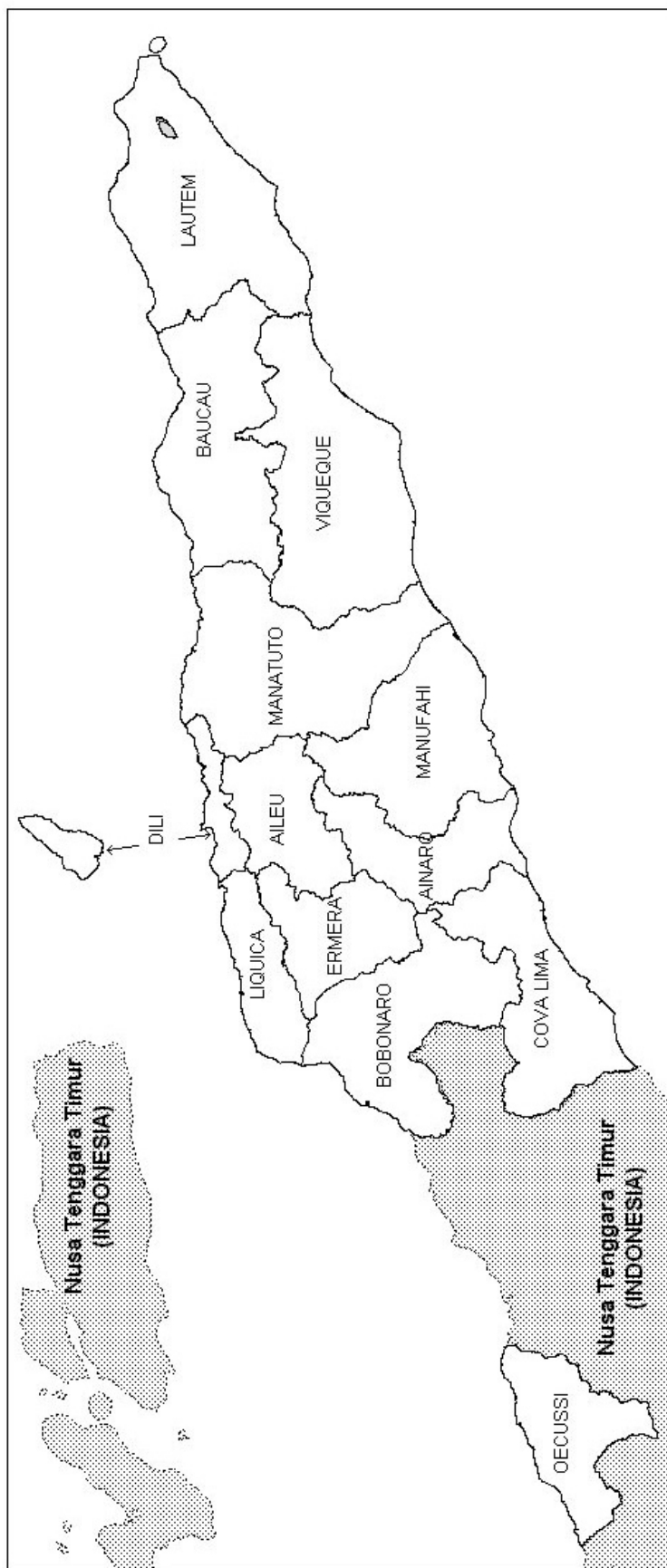
(MICS-2002)

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UNICEF, Dili, Timor-Leste

Multiple Indicator Cluster Survey
(MICS – 2002)

Prepared for the Government of
Republica Democratica De Timor-Leste

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Democratic Republic of Timor-Leste

Acknowledgements

Foreword

UNICEF, Timor-Leste with the joint collaboration of Office of statistics/Timor-Leste has conducted the country's first Multiple Indicator Cluster Survey (MICS). This report was prepared by UNICEF and presents the most recent and comprehensive information on the children and women of Timor-Leste. The data presented in the report, however, poses a challenge to decision makers in meeting the needs of children, their future and the country's future. It highlights the underlying poverty and deprivation among the population of Timor-Leste in particular among women and children.

The MICS report draws out the findings from a national sample of 4,000 households. In order to ensure a level of international comparability as well as to provide useful information for the Government of Timor-Leste, UNICEF and its people, the survey follows the fairly well tested design for MICS set out in the UNICEF MICS2 manual (UNICEF,1999). The MICS provides a relevant reference point for the UN Millennium Development Goals, the World Fit for Children and the Medium-Term Strategic Plan of UNICEF and sets a baseline and standards for measuring the priority indicators identified by the Government of Timor-Leste in the National Development Plan.

Mr. Peter Gardiner and Ms Mayling Oey-Gardiner of PT Insan Hitawasana Sejahtera (IHS) from Jakarta conducted the survey, served as the principal contractor, managed the survey and prepared the report. IHS was technically supported by experts from the Indonesian Central Statistics Board (Badan Pusat Statistik or BPS).

The office of Statistics of Timor-Leste played a very crucial role in providing relevant local technical support, organizing the field team and the timely completion of the 4,000 household data collection. Emphasis was also placed on capacity building, both through the intense involvement of the Office of Statistics in managing the field work and through provision for two of their staff in spending time in the IHS office in Jakarta during the data cleaning and processing stage.

The report does not necessarily represent the official view of UNICEF nor the Government of Republica Democratica Timor-Leste. Should there be any comments or queries on the findings of the report, I would like to encourage you to contact UNICEF, Timor-Leste (UN House, Caicoli Street, PO Box 212, Dili, Timor-Leste, TEL: +670 390 313 309, FAX: +670 390 313 322)

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Special Representative
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27 May 2003

Executive Summary

Overview

UNICEF developed the Multiple Indicator Cluster Survey (MICS) to monitor goals established at the World Summit for Children (WSC) held in New York in 1990. But it is also consistent with many monitoring needs of the Millennium Development Goals (MDG), as well as those of the more recent World Fit for Children (WFFC) that many countries are now using for human development planning into the 21st Century. MICS was created especially to meet the needs of developing countries lacking reliable routine sources of statistics and/or experience in carrying out reliable household surveys to measure performance relative to the WSC and, now, the Millennium Development and WFFC Goals.

The MICS is particularly important for Timor-Leste both because of the relevance of the these goals and the indicators that can be estimated from MICS data for policy formulation and planning and because the MICS can be used to establish more up-to-date baseline conditions in this newly independent country to help to more clearly define the challenges that lie ahead. The last comparable survey (Indonesian Demographic and Health Survey (DHS)) was carried out in 1997. The recently completed World Bank Poverty Assessment contains some relevant information, but not the depth of attention to child health, development and human rights provided by the MICS.

The Government has also established its own vision and agenda for the county's future. Supporting that agenda through the provision of reliable base-line information is one of the main reasons for undertaking the MICS at this time.

Results of the survey clearly show the extent of current problems, but they can also assist Government in planning the way forward. Strengthening basic health and education infrastructure, including the all-important human resource base of teachers and trained medical personnel, will necessarily be a major priority. But there is also considerable scope for institution building at the community level and working with the people themselves to build demand and strengthen knowledge and capabilities to ensure a sound and healthy environment for children to develop and prosper. There are significant levels of ignorance and lack of power on the part of families and communities to adequately safeguard the rights of children that, in fact, contribute to the current conditions along with deficiencies in the service networks. Building or renewing relevant community-based institutions, particularly through the effective empowerment of women who are the main caregivers, can be a critical vehicle to improve overall conditions for the development of Timor-Leste's future generations.

Survey Organization and Implementation

The MICS survey was carried out for the Government of Republica Democratica De Timor-Leste by UNICEF and was executed by Insan Hitawasana Sejahtera, an Indonesian social science research company under contract to UNICEF and with funding provided by UNICEF and the ECHO Humanitarian Aid Office. It also involved close collaboration with the Timor-Leste Statistics Office (Cabinete de Estatistica), which was responsible for management of all field operations as well as data entry. The role played by the staff of this

office was critical and all efforts were made to involve them and to help develop their capabilities as part of the overall process.

For the Timor-Leste MICS, separate questionnaires for households, women aged 15-49 and children aged 0-4 were adapted directly from relevant modules in the MICS Manual. All of the modules were utilized with the exception of optional modules dealing with food fortification, child disability and maternal mortality. Additional questions were added on housing conditions and household assets to permit calculation of a household "wealth index." Provision was also made for taking anthropometric measurements of female caregivers as well as children to allow estimation of nutritional status of mothers.

A multi-stage sample design was used to select a total of 4000 households in 200 "clusters" of 20 households each. The first stage involved listing of Suco in serpentine fashion and selection of 200 "clusters" at Suco level with probability proportional to size (pps sampling). The second stage involved assignment of "clusters" to Aldeia within the selected Suco, also using pps sampling. A new listing of households was made for each selected Aldeia by field supervisors during fieldwork. Outside Dili this was based on lists/information provided by Aldeia heads roughly verified by quick observation. In Dili there was a full door-to-door check to verify the listing. Immediately after listing, supervisors drew a fixed random sample of 20 households (separate random numbers tables were provided for each "cluster"), workloads were assigned to interviewers and interviewing was carried out.

Out of 4000 households in the sample, 3982 were successfully interviewed for a response rate of 99.6%. There were a total of 22,962 persons in the interviewed households of whom 4803 were women aged 15-49 and 4493 children under age 5. 4606 of the eligible women and 4454 of the children were covered in the women and child questionnaires giving response rates of 95.9% for women and 99.1% for children. These are all indicative of a high quality of field operations.

Major topics covered in the MICS report include:

- ? Population and Household Characteristics
- ? Infant and Child Mortality
- ? Education
- ? Water and Sanitation
- ? Child Malnutrition
- ? Child Health
- ? HIV/AIDS
- ? Reproductive Health
- ? Other Child Rights

Results are presented at the national level and also by region using breakdowns similar to those used in the Suco Survey. These include:

- ? <u>Urban/Rural</u> — Defined at the Suco level as in the Suco Survey. A special category of Major Urban was also used that included all urban Suco in the districts of Dili and Baucau,

- ? <u>Highland/Lowland</u> — With highland including all Suco with most of their area above 500 meters elevation, and

    ✍ <u>East/Central/West</u> – where:
       East = Districts of Baucau, Lautem and Viqueque;
       Central = Districts of Alieu, Ainaro, Dili, Ermera, Liquica, Manufahi and Manatuto;
       West = Distircts of Bobonaro, Covalima and Oecussi

Population and Household Characteristics

About 24 percent of the population resides in urban Suco, with nearly 14 percent of these living in the major urban centers of Dili and Baucau. Over half of the population lives in the Central Region, and about two-thirds in lowland areas. Average household size is just under 6 persons. And it is larger in urban than in rural areas.

The most striking aspect of the Timor-Leste age and sex structure is its youthfulness. Overall, almost one-fifth of the population is under 5 years old, slightly over half are less than 15 years old and about two-thirds are less than 25 years old. The overall sex ratio (number of males per 100 females) is 102 indicating a dominance of males. Male dominance is particularly high in the major urban areas (111) and among those 50 years and over (118). About one-third of households consist of 1-4 persons, another third 5-6 persons and the last third of 7 persons or more. Very large households are more characteristic of the major urban areas (Dili/Baucau) where there is evidence of cases of more than one family living together. However, nuclear families are the norm. 78 percent of households consist only of mother and/or father and/or children. Non-nuclear households are most common in the major urban areas.

Ninety-seven percent of households are owned. Only in urban areas are other forms of non-ownership arrangements at all significant. The average household has between 3 and 4 rooms and about 50 m2 of floor area. There is only moderate variation among different strata.

The most common house has a zinc roof, wood or bamboo walls and a dirt floor. More permanent houses with brick walls and concrete floors are mainly an urban phenomenon.

Access to electricity is largely limited to urban areas. In Dili/Baucau, 92 percent of households have electric lighting. In rural areas the figure is only 13 percent. Wood is the dominant fuel for cooking. Only in Dili/Baucau do more than 10 percent of households use non-wood sources (mainly kerosene).

Ownership of key durable goods is very low and is largely confined to the major urban centers. Even radio/tape ownership in rural areas is less than 30 percent and only about 10 percent of rural households have a TV.

Infant and Child Mortality

Eight to nine out of every 100 children born die before reaching their first birthday. Another 3 to 4 die before reaching age 5. Risk of dying is markedly higher in rural than in urban areas and particularly in highland regions of the country. In highland areas almost 15 percent of children die before reaching age 5 compared with less than 7 percent in the major urban strata that includes Dili and Baucau.

These figures are high, but not as high as some other estimates such as those by the UN Population Division. However, these estimates are also made using indirect techniques and refer to a point in time about 3-4 years before the survey.

Education

Early childhood education (e.g. playschool or pre-school) is almost non-existent. Only 2 percent of children aged 36-59 months attend any form of early childhood education program.

Access to basic education, particularly at primary level, is seen as a fundamental right of children. MICS included special questions on recent schooling for children between 5 and 17 years of age. The analysis focuses on these ages and on attendance patterns in the six years of primary school and 3 years of lower secondary school that are the official periods of schooling in Timor-Leste.

Gross, net and age-specific attendance rates have generally maintained or at least appear to have returned to levels close to pre-1999 standards at primary level. But there is evidence of some very slight deterioration in performance at lower secondary level.

Primary school attendance among 7-12 year-olds is around 90 percent in Dili/Baucau, but in rural and highland areas only about 70 percent of this age group is attending school. Part of the reason is late entrance. Only 55 percent of children age 7 and 72 percent of children age 8 were attending school in the academic year before the survey. There is also considerable age variation in children attending different grades in primary and lower secondary school and there are large numbers of "over-age" children, particularly at the higher grades. Also, while about 10 percent of children never attend school, once they do attend dropout rates are quite low, at least up to about age 14 or 15.

About 60 percent of adults claim to be able to read a newspaper. However, the figure varies from about 85 percent for 15-34 year-olds to less than 20 percent at ages 55 and over.

These literacy rates are mirrored in data on educational attainment of the adult population and have implications for labor policy and planning. For example, 67 percent of males and fully 87 percent of females age 35-44 (prime ages in terms of workforce participation) have less than a complete primary education.

Water and Sanitation

Overall, about 55 percent of the population has access to safe water. It is over 70 percent in urban areas, but only around 50 percent in highland and rural areas of the country.

Access to safe means of excreta disposal, however, is very low. Almost 45 percent of the population has no toilet facility and of those with toilet facilities, probably less than half can be considered safe.

Child Malnutrition

Children who are well nourished develop better physically and mentally and are less likely to contract various childhood diseases. Thus it should not be surprising the MICS pays particular attention to issues and indicators associated with child nutritional status.   These include:

- ✍ Child malnutrition based on anthropometric measurements
- ✍ Breastfeeding
- ✍ Salt iodination
- ✍ Vitamin A supplementation (for both children and mothers)
- ✍ Low birth weight

Anthropometric measurements of height and weight can be used to assess child nutritional status. Three basic measures are used:

- ✍ Weight for height (wasting)
- ✍ Height for age (stunting)
- ✍ Weight for age (underweight)

Malnutrition is measured in terms of Standard Deviations (SD) from an international (World Health Organization) standard.

Based on these measurements, about 12 percent of children under age 5 are moderately or severely wasted, 47 percent moderately or severely stunted and 43 percent moderately or severely underweight according to WHO standards. Children around ages 1-2 who are shifting away from regular breastfeeding are particularly at risk.

Median duration of breastfeeding is just over 15 months. By 20-23 months of age only about 10 percent of children are still being breastfed. Introduction of food also comes early. By 6 months of age only a bit over 15 percent of children are still being exclusively breastfed and more than 60 percent of those being breastfed are already receiving some form of complimentary food.

About 72 percent of households have access to adequately iodized salt (> 15 ppm). Only in the Western Region does the figure fall below 60 percent.

Just over 50 percent of children aged 6 to 59 months had received a high dose Vitamin A supplement. And 35 percent of children in this age group had received a dose within the past 6 months. 39 percent of children receiving Vitamin A got the latest dose on a routine clinic visit, 19 percent on a clinic visit with a sick child and 25 percent during a national immunization day.

Children under 6 months are supposed to be protected by Vitamin A given to the mother, and here, protection appears to be less. Only 28 percent of mothers giving birth during the year before the survey had received a Vitamin A dosage during the first two months after giving birth.

Only about 10 percent of babies born in the year before the survey were weighed at birth. Of these about 8 percent were reported as being underweight (< 2500 grams).

However, about 25 percent of women whose babies were not weighed felt that their baby was "smaller than average".

Child Health

The focus here in the MICS is on two major topics: child immunization and childhood diseases. The former focuses on immunization for the 6 major diseases covered under the Extended Program on Immunization (EPI), the latter on three main childhood diseases, diarrhea, acute respiratory infection (ARI) and malaria. It should be noted that disease prevalence in the MICS is estimated by asking respondents about symptoms, not by any formal medical evaluation.

Thirty-seven percent of children aged 12-23 months had received BCG vaccine, 35 percent at least one DPT dosage, 37 percent at least one polio dosage and 28 percent a measles vaccination. However, only 5 percent of these children had been fully protected (one BCG, three DPT, three polio, and one measles inoculation) and fully 58 percent of children aged 12-23 months had never been vaccinated at all.

25 percent of children under age 5 experienced at least one episode of diarrhea during the two weeks preceding the survey. 96 percent of these children received some form of recommended treatment, mainly either water with feeding (58 percent), ORS packets (57 percent) or gruel (49 percent). However quantities were limited. Only 7 percent of children followed recommended procedures of drinking more and continuing eating. Only in the Eastern Region was the figure above 10 percent. Most children (91 percent) drank the same or less than normal.

Acute respiratory infection (ARI) is characterized by coughing accompanied by rapid breathing and often by constriction in the chest. These were the symptoms investigated by MICS. According to this classification, 14 percent of children under age 5 experienced at least one episode of ARI during the two weeks preceding the survey and 57 percent of these children received treatment from an appropriate medical provider (e.g. hospital, health center, dispensary, village health worker or private doctor).

Overall, 56 percent of children experienced some form of illness in the two weeks preceding the survey. However, as with diarrhea, very few (only 7 percent) followed recommended procedures of drinking more and continuing eating.

Knowledge of danger signals for seeking immediate medical attention is also fairly low. Except for "if the child becomes sicker" or "develops a fever" other danger signals are not widely recognized. Overall, 60 percent of caregivers could recognize at least two danger signals, the standard set out for this indicator in the MICS.

Prevalence of fever is used by MICS as an indicator of possible occurrence of malaria. In the MICS, 27 percent of under-5s experienced fever in the two weeks preceding the survey. And about half of these children received anti-malarial drugs.

Bed net use is fairly high, particularly in lowland areas where 60 percent of children use bed nets (the corresponding figure for highland areas is only 22 percent).   However, only about 8 percent of children using bed nets had them treated with insecticide.

HIV/AIDS

Only 16 percent of women aged 15-49 in Timor-Leste have heard of HIV/AIDS and only a fraction of these can correctly identify all three major ways of preventing HIV/AIDS transmission or the three major misconceptions about the disease.

In fact, even among those who have heard of HIV/AIDS, only about 1% have "sufficient knowledge" defined by being able to correctly identify both ways of preventing transmission and misconceptions about the disease. Knowledge is also highly concentrated among younger women, those living in urban areas and among women with at least some secondary education.

However, 56 percent of women who have heard of HIV/AIDS are aware of the danger of transmittal from mother to child and most of these agree with ways that this can happen. But more disturbing is the finding of a high proportion of women who have heard of HIV/AIDS who still express discriminatory attitudes toward people with the disease.

Reproductive Health

The health and well being of mothers is critical to that of their children. Reproductive health, which defines the ability of women to safely bear healthy children is a key factor in the mother and child health nexus. Three main areas are covered:

- Fertility and use of contraception,
- Maternal nutritional status, and
- The extent and nature of antenatal care and delivery care for women.

Current fertility can be estimated from reports of women on births in the year before the survey. These suggest that fertility in Timor-Leste is currently among the highest in the world with a Total Fertility Rate (TFR) of about 7.4. This means that if current patterns of childbearing were sustained, on average a each woman would bear more than 7 children during her reproductive lifetime. Current patterns also mean that roughly a third of all women aged 20-34 are bearing a child each year.

High fertility is mirrored in very low use of contraception. Only 7 percent of non-pregnant women currently married or living with a male partner are currently using any form of contraception. Two methods, injections and contraceptive pills cover the great majority of use and use is highest among women 25-44 years of age.

Women's height and the Body Mass Index (BMI) provide rough measures of adult women's nutritional status. The BMI is computed from adult weight and height. MICS collected these data on women aged 15-49 who acted as caregivers of children under age 5. A BMI of less than 18.5 is suggestive of Chronic Energy Depletion (CED). Twenty-eight percent of women fell in this category; and 7 percent had a BMI below 17.0, which is indicative of moderate or severe CED.

Just over half (53 percent) of women who gave birth during the year preceding the survey had some form of antenatal care. About four-fifths of these or 43 percent of all women giving birth had at least one antenatal visit with skilled medical or paramedical personnel (e.g. doctor, nurse, midwife or auxiliary nurse).

Protection of women against neonatal tetanus by giving them tetanus toxoid injections during pregnancy guards against this major cause of neonatal mortality.

An estimated 41 percent of women giving birth during the past year were adequately protected against neonatal tetanus by receiving a relevant number of tetanus toxoid injections. Most of these women (84 percent of those receiving injections) had received them during their latest pregnancy.

However, access to skilled medical assistance at delivery is very low. A skilled practitioner (doctor, nurse, midwife or auxiliary midwife) assisted only 24 percent of women giving birth during the year preceding the survey. In highland areas the figure was only 12 percent. A family member, relative, friend or other person assisted nearly half (48 percent) of women giving birth and fully 18 percent of women had no assistance at all – giving birth completely alone.

Other Child Rights

Finally, MICS looks at a few other non-health related aspects of child rights. These include the right to having births registered, the right to be able to live with one's biological parents and the right not to be forced into excessive or dangerous work.

Birth registration is a recognized means for establishing identity within society. However, in Timor-Leste only 22 percent of children under age 5 claimed to have had their birth registered and certificates were available for less than half of these. Reasons for non-registration clearly show that lack of knowledge rather than avoidance is the major problem.

Three percent of children under age 15 are not living with a biological parent and just over 5 percent have one or both parent's dead. Among 10-14 year olds, the figures are 5 percent and 9 percent respectively.

Child labor outside the household is relatively low. Only 4 percent of children aged 5-14 were reported as doing paid or unpaid work for non-household members during the week before the survey.   Even among 10-14 year-olds it was only 7 percent.

Children, however, assist much more in household-based economic activity or in doing household chores. 15 percent of children (21 percent of 10-14 year-olds) worked in household enterprises and 69 percent (86 percent of 10-14 year-old) in household chores during the reference week.

Overall, about 19 percent of children aged 5-14 can be classified as working by MICS definition (working outside the household, in a household enterprise or doing more than 4 hours per day of household chores). Prevalence of child labor was low (4 percent) in Dili/Baucau, but was more than 20 percent overall in rural areas and nearly 30 percent among children aged 10-14.

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4. Population and Household Characteristics

(Annex Tables 2, 4, 5 & 6)

This chapter presents information on some basic characteristics of the Timor-Leste population and the general conditions under which they live. It serves to provide a background for the remaining chapters that deal with health and related conditions facing women and children that are the focus of the MICS investigation.

4.1. Regional Distribution of Population and Households

Summary distributions of population and households across the main strata used in the survey are shown in **Table 4.1**. These strata are the same as those used in the Suco Survey and include breakdowns by major region (West, Central, East), rural and urban residence and highland and lowland location. Thus distributions of population and households from the Suco Survey are also shown for comparison. The close agreement on the population distribution is affected by the sample design that used populations from the Suco Survey as a basis for the PPS (probability proportional to size) sampling of Suco and Aldeia used in the MICS. However, the same is not true for households, and particularly for estimates of average household size where the MICS came up with a significantly higher figure than that obtained from the Suco Survey.

Table 4.1 - Distribution of Population and Households by Main Survey Sampling Strata

	Region			Urban/Rural Residence[18]			Location[19]		
	East	Central	West	Urban	M. Urban	Rural	High	Low	Total
MICS									
Households	27.5	49,2	23.3	23.6	13.4	76.4	31.5	68.5	100.0
Population	27.5	51.6	21.0	24.7	14.5	75.1	33.1	66.9	100.0
Av. HH Size	5.7	6.0	5.1	6.0	6.3	5.6	6.0	5.6	5.7
Suco Survey									
Households	29.1	49.6	21.3	23.1	13.4	76.9	34.2	65.8	100.0
Population	27.3	52.2	20.6	24.9	14.5	75.1	35.2	64.8	100.0
Av. HH. Size	4.4	4.9	4.5	5.0	5.1	4.6	4.8	4.6	4.7

Source: Timor-Leste MICS 2002
Notes: MICS percentages are based on the weighted sample, excluding non-responses.
West includes the districts of Bobonaro, Covalima, and Oecussi.
Central covers the districts of Alieu, Ainaro, Dili, Emera, Liquica Manufahi, Manatuto.

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[18] Urban areas are defined at the suco level (i.e. a suco is either urban or rural) and as in the Suco Survey to include the capitals of all 13 districts. A special strata of Major Urban was also created (see discussion of sample design) that included all urban suco in the districts of Dili and Baucau.
[19] As noted in Chapter 3, highland areas are defined as suco with a majority of their land area above 500 meters elevation. All other suco are considered to be in lowland areas.

East refers to the remaining districts of Bacau, Lautem and Viqueque

According to the MICS about half the households in Timor-Leste are located in the 7 districts (*distrito)* in the Central Region (Alieu, Ainaro, Dili, Emera, Liquica Manufahi and Manatuto), slightly under one-fourth in the 3 districts in the Western Region (Bobonaro, Covalima, and Oecussi) and slightly more than one-fourth from the 3 districts in the Eastern Region (Bacau, Lautem and Viqueque). Urban households constitute about one-fourth of the total with the remaining households coming from rural areas. Finally, slightly more than two-thirds of households are located in lowland areas and slightly less than one-third are located in highland areas.

Due to differences in average household size between areas, the regional population composition differs slightly from the distribution of households. While the share of the households is comparable to that of the population in the Eastern Region, smaller average household sizes result in a relatively lower share of population in the Western Region compared to the Central Region where average household sizes are somewhat larger. Larger households in urban compared to rural areas results in raising the urban population share by 1.3 percentage points over that for households, while the slightly larger household sizes in highland areas has the effect of a shift of about 1.5 percentage points in relative population share.

In fact, as noted earlier, it is the larger average household sizes observed in the MICS that form the main difference in the results here from those in the Suco Survey. Reasons need to be investigated, although it can be suggested that part may lie in the fact that for the MICS these averages come from actual household enumeration, while the available numbers for the Suco Survey are from reports of local officials. The former would, presumably be more accurate.[20]

4.2. Age and Sex Structure

The most striking aspect of the Timor-Leste population age and sex structure is its youthfulness. This can be seen in the population pyramid shown in **Figure 4.1**. Overall, almost one-fifth of the population is under 5 years of age and slightly over half are less than 15 years old. About two-thirds are less than 25 years old.

The extent of the domination by children and youth in Timor-Leste can be seen by making a comparison with age distributions from various world regions, including those where "young" populations are still the norm (**Table 4.2**). Thus, from United Nations data, the youngest populations are found in Middle Africa. But even there, under-fives and under-fifteens still constitute a slightly lower percentage of the total than is found in Timor-Leste. In short, Timor-Leste can currently lay claim to one of the youngest age structures anywhere in the world. This is reflected in a very low median age of population of 14.4 years (compared to 16.3 years in Middle Africa and 24.3 years for less developed regions as a whole). It is also consistent with the very high levels of current fertility (Total Fertility

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[20] Both surveys used a fairly standard definition of household to include persons generally living together in the same dwelling area and sharing basic household functions, e.g. 'eating out of the same pot.' Differences can also not be accounted for presence of extended family or other non-family members. In fact, prevalence of extended-family households was relatively low (see Section 4.3) and the main explanation of the large average household size found in the MICS results from the large number of children present in the households.

Rate or TFR of close to 7.4 children per woman) observed from the survey and reflected in the comparisons in **Table 4.2**. Fertility estimates are discussed in greater detail in the Chapter 11 - Reproductive Health - later in the report.

Figure 4.1 -   Age and Sex Population Pyramid (weighted sample totals)
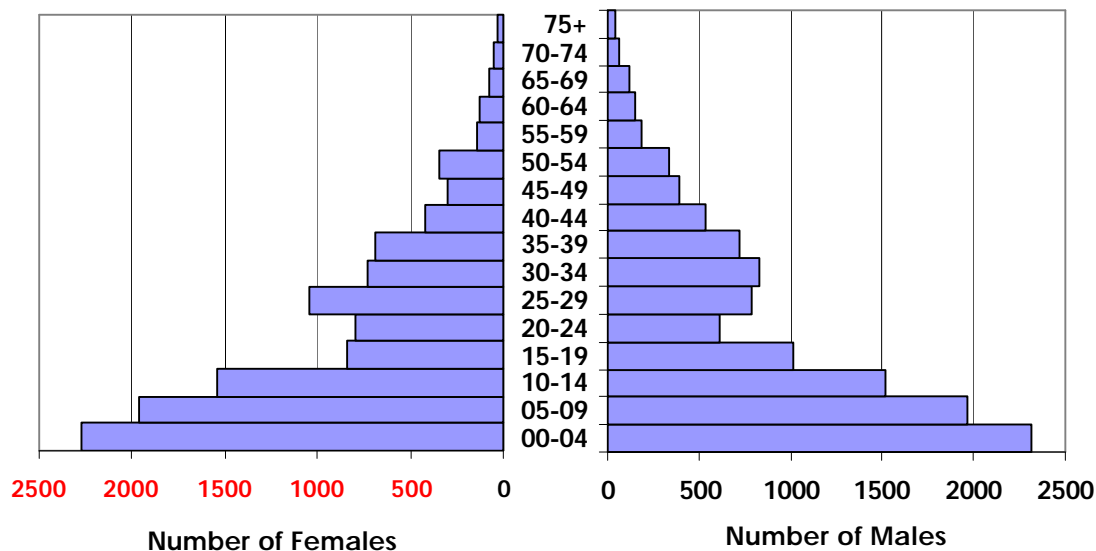
Source: Timor-Leste MICS 2002

Table 4.2 -   Age Distribution, Median Age and Estimated Total Fertility Rates (TFR), Timor-Leste and Selected World Regions

Country/Region	Percent of Total Population				Percent of Female Pop. Age 15-49	Median Age	Esti- mated TFR
	0-4	5-14	15-24	60+			
Timor-Leste	19,9	30.3	14.2	3.1	42.4	14.4	7.4
World	10.1	19,8	17.5	10.0	51.6	26.5	2.9
Less Developed Regions*	11.3	21.6	18.5	7.7	52.3	24.3	3.1
Least Developed Countries**	16.5	26.6	19.8	4.9	45.9	18.2	5.5
Sub-Saharan Africa	17.1	27,2	20.1	3.0	46.8	17.6	5.7
Africa	16.1	26.5	20.3	5.1	47.1	18.4	5.2
Middle Africa	18,8	28.4	19.2	4.9	43.1	16.3	6.4
Asia	10.1	20.2	17.8	8.8	53.0	26.2	2.7
South-Central Asia	12.2	23.0	19.2	7.1	50.6	22.6	3.4

Source: Timor-Leste MICS 2002 and United Nations (2001), *World Population Prospects, the 2000 Revision, Volume I: Comprehensive Tables* (ST/ESA/SER.A/198).

Notes: Data for the various regions of the world refer to the high variant for the year 2000.
*Less Developed Regions comprise the regions of Africa, Asia (except Japan), Latin America and the Caribbean plus Melanesia, Micronesia and Polynesia.
**The least developed countries as defined by the United Nations General Assembly in 1998, included 48 countries, of which 33 are in Africa, 1 in Latin America and the Caribbean and 5 in Oceania.

Even though high fertility characterizes most African countries, a TFR of 7 children or more per woman has been estimated for only a few societies in the world (United Nations

2001: Table A.25: 592-3). The highest estimates (UN projections for the period 2000-2010) are mainly in Africa where TFRs of over 7 are found only for Somalia (7.25) and Uganda (7.10) in Eastern Africa, Angola (7.20) in Middle Africa, and in Mali (7.00) and Niger (8.00) in Western Africa. In Asia, an estimated TFR of more than 7 is only recorded for Yemen (7.60) in Western Asia. The next highest TFR in Asia is estimated for Bangladesh (6.90) in South-Central Asia.

Sex ratios (here calculated as the number of males per 100 females) are also of interest. Under normal conditions (given expected patterns of sex ratios at birth and sex-specific mortality) one expects to find a moderate excess of younger male children with gradually declining sex ratios at older ages (due to higher male mortality) leading to relative gender balance (or perhaps a small relative excess of women) in the total population.

However, for Timor-Leste this apparently is not the case. The overall sex ratio for Timor-Leste as estimated in the MICS is 102 (meaning 102 men in the population for every 100 women). Males appear particularly dominant at the oldest ages (over age 50), but part of this may be due to systematic over-reporting of ages by older men, something that is characteristic of some other developing countries as well. However, it may also be partly due to higher than "usual" mortality conditions affecting women, particularly those of reproductive age. If the high fertility and poor conditions surrounding birth (both are discussed in greater detail later in the report) lead to unusually high levels of maternal mortality, then this could affect sex ratios at the older ages. Unfortunately, maternal mortality is not a subject investigated by this MICS. For various reasons, it a particularly difficult topic to deal with in the context of household surveys. However, given the conditions that appear to characterize Timor-Leste at the present time, it is not a topic that cannot afford to be overlooked.[21]

Table 4.3 -   Sex Ratios (number of males per 100 females) by Age Group and Strata

Age	Region			Rural/Urban Residence			Location		Total
	Eastern	Central	Western	Urban	Major Urban	Rural	High	Low	
0-4	98.5	107.3	95.8	99.9	96.4	102.9	98.6	104,1	102.2
5-14	104.0	98.6	97.7	109.8	109.6	96.9	97.6	101.0	99.8
15-49	92.6	107.7	98.1	107.7	119.3	99.3	94.1	105,0	101.5
50+	100.8	123.6	140.8	112.1	109.9	120.4	137.1	108.7	118.4
Total	97.8	105.8	99.9	107.1	111.2	100.8	99.2	103.9	102.3

Source: Timor-Leste MICS 2002

Not surprisingly, sex ratios are higher in urban areas and particularly in the major urban centers where there is a clear excess of males at all ages over 5. Differential migration of males, particularly in the prime working ages, in search of work in the urban environment is a likely explanation and is another topic that should be investigated in greater detail when Timor-Leste conducts its first full population census, hopefully within the next few years.

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[21] It is worth noting that this pattern of sex ratios is not particular to the MICS. Excesses of older males also show up in a number of pre-1999 data sets including the 1990 Indonesian Population Census. Also, relatively high fertility and poor reproductive health practices have leading to higher maternal mortality can be seen in better documented cases in parts of Indonesia, such as in the province of West Nusa Tenggara.

4.3. Household Size and Composition

About one-third of households consist of 1 to 4 persons, another third 5 − 6 persons, and the last third consist of 7 or more persons (**Table 4.4**). Very large households of 11 persons or more are more likely found in the Central region and major urban centers (including the capital of Dili). In some cases it is likely that these very large households are a function of more than one family living together as many houses, particularly in Dili, were destroyed in the turmoil after the 1999 Referendum.

Regional differences in average household size are basically a function of the proportion with large households. Thus in those areas where the average household size is higher, the share of larger households, i.e. those with more than 7 persons, is also higher. This is particularly apparent when one makes comparisons between the Western and Central Regions of the country.

Table 4.4 -   Percent Distribution of Households by Household Size and Strata

No. of HH Members	Region			Rural/Urban Residence			Location		
	Eastern	Central	Western	Urban	Major Urban	Rural	High	Low	Total
1	1.2	0.5	1.0	0.7	0.9	0.8	0.7	0.9	0.8
2	4.3	3.7	4.2	4.8	3.9	3.7	3.4	4.3	4.0
3-4	29.3	25.0	37.0	26.8	23.1	29.6	24.8	30.9	29.0
5-6	31.9	32.8	36.1	28.7	28.3	34.7	33.0	33.5	33.3
7-8	22.1	23.5	15.9	22.6	25.5	21.0	24.1	20.1	21.4
9-10	8.3	11.1	5.3	12.4	12.7	8.0	10.9	8.1	9.0
11+	2.9	3.4	0.5	4.1	5.7	2.1	3.2	2.3	2.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Av HH size	5.7	6.0	5.1	6.0	6.3	5.6	6.0	5.6	5.7

Source: Timor-Leste MICS 2002

Even so, these households still consist mostly of nuclear families, of father and/or mother and/or children without other relatives or other non-related persons being present. In other words, living arrangements of extended families do not appear to be widespread among most regions or groups in this society. Thus of the total population, 92 percent of household members are classified as either head, spouse or child, with nearly three-fifths (59 percent) of household members classified as children. And 78 percent of households are made up solely of nuclear families (**Table 4.5**). There is also little variation in the composition of households by region.   Thus extended families are not the primary explanation of the large average household sizes found in the MICS; rather it is the large number of children present.

In MICS, households were defined as in terms of usual residence and common activity (e.g. eating out of common "pot"). It is not the same as a definition of dwelling units (e.g. common entrance) or building, both of which may contain more than one household. However, field observations showed that most households did in fact occupy separate structures. Individual family housing thus appears to be the norm, even with the destruction surrounding the post-referendum period.

Table 4.5 -   Percent Distribution of Household Members by Relationship to Head of Household and Strata

Relation to Head of Household	Region			Rural/Urban Resid.			Location		
	Eastern	Central	Western	Urban	Major Urban	Rural	High	Low	Total
Head	19.6	16.7	17.6	16.7	16.0	17.9	16.7	18.0	17.5
Spouse	17.6	15.0	16.1	14.8	14.5	16.2	15.5	16.1	15.9
Child/in-law	58.0	59.9	56.2	56.7	56.6	59.1	60.5	57.5	58.5
Grandchild	1.7	1.6	1.7	2.2	3.1	1.5	1.7	1.6	1.7
Parents/in-law	1.0	1.3	2,2	1,4	1.0	1.5	1.7	1.4	1.5
Other relatives	2.1	5.1	6.1	7.7	8.1	3.8	3.8	5.3	4.8
Servants	0.0	0.1	0.0	0.1	0.2	0.0	0.0	0.0	0.0
Others	0.0	0.2	0.1	0.4	0.5	0.1	0.1	0.2	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
% Nuclear HH	76.5	74.6	85.5	69.2	73.8	80.2	77.8	78.2	78.1

Source: Timor-Leste MICS 2002

Note: Nuclear households consist of father and/or mother and/or and children, but no other relatives or other household members.

4.4   Housing Conditions and Household Assets[22]

Home Ownership and Housing Quality

Home ownership is nearly universal. Around 97 percent of households own the dwelling unit in which they live and it is only in the major urban centers (particularly Dili) that other forms of occupancy (employer subsidized housing, or 'others' which in the case of Timor-Leste at the time of the survey includes occupation of houses earlier owned by Indonesians who have since left the country) is at all significant (**Table 4.6**). This, however, is hardly evidence of secure tenure. Rather it reflects traditional ownership arrangements that are equally characteristic of adjacent parts of Indonesia.

The average house in the sample has between 3 and 4 rooms and a floor area of about 50 square meters (**Table 4.6**). There is little variation among the different strata in the sample, although the distribution is slightly skewed toward houses of relatively smaller size. However, given the large average household size, crowding remains a problem. 55 percent of households had less than 8 square meters of floor area per capita and 80 percent had less than 12 square meters. Only 7 percent of households had the relative luxury of 20 square meters per capita or more. Crowding is a matter of some concern to the degree that living under crowded conditions is a contributing factor in the overall nexus of poor health and susceptibility to disease, particularly among young children. On the other hand, given

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[22] Interestingly, a number of indicators on housing and living conditions collected in this survey are broadly consistent with similar measures from the Timor-Leste sample in the 1999 Indonesian National Socioeconomic Survey (SUSENAS). While this may be indicative of some gradual improvement in living conditions since the destruction surrounding the 1999 Independence Referendum, it equally shows the degree to which conditions at the time of the survey are probably not that much different from those during the mid to late 1990s.

the existing housing size standards, it can also be seen how much this could be alleviated by simply having smaller average household sizes and particularly by having fewer young children in the household.

Table 4.6 -   Percent Distribution of Households by Ownership Status, Average and Per Capita Number of Rooms and Floor Area and Strata

Relation to Head of Household	Region			Rural/Urban Residence			Location		Total
	East	Central	West	Urban	Major Urban	Rural	High	Low	
Home Ownership									
Own	97.8	96.4	98.5	93.9	92.3	98.3	98.4	96.8	97.3
Other	2.2	3.6	1.5	6.1	7.7	1.7	1.6	3.2	2.7
No. of Rooms									
Average	3.35	3.60	2.95	3.64	3.89	3.30	3.43	3.35	3.38
Per Capita	0.69	0.69	0.66	0.71	0.74	0.68	0.66	0.70	0.69
Floor Area									
Average	50.5	48,8	44.5	53.9	57.5	46.5	48.6	48.1	48.3
Per Capita	10.3	9.5	10.2	10.6	10.9	9.7	9.6	10.0	9.9

Source: Timor-Leste MICS 2002

Permanent or secure housing quality in the form of tile or cement floors, brick walls and concrete, tile or zinc/asbestos roofs is mainly a function of the major urban centers (**Table 4.7**). Zinc roofs are fairly widespread elsewhere, but wall construction is much more likely to be of wood or bamboo and earthen floors predominate, accounting here for more than two-thirds of households in the survey and three-quarters of households in rural areas. This is consistent with the high levels of poverty in Timor-Leste and with more general evidence of disparity between the major urban centers (particularly Dili) and much of the rest of the country that do need to be addressed. But it also suggests the need for the development of housing policies and programs, particularly in the smaller towns and rural areas, to help reduce health-related and other risks associated with poor quality housing.

Access to Electrification

Electricity grid networks in Timor-Leste are largely confined to regional cities and towns and their immediate surrounding areas. This was the case before independence and it remains so today. Thus it should not be surprising that household electrification is mainly an urban phenomenon, and rather concentrated in and around Dili. In the survey, 92 percent of households in the major urban strata (which is dominated by Dili) reported using electricity for lighting (**Table 4.7**). But this level declines dramatically as one move outside of the major urban centers. In other urban areas (outside of Dili and Baucau) the percent of households served by electricity is only 47 percent. For rural households to gain access to electricity is even more difficult, and only 13 percent of rural households relied on electricity as their main source for lighting. The great majority of these households (70 percent) relied on oil lamps (candlenut oil) or torches for getting around the home at night.[23]

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[23] Interestingly only about one percent of households nationally reported using kerosene pump lamps for lighting. However, these types of lamps would need to be imported and kerosene is relatively expensive, particularly for the poor.

Table 4.7 - **Percent Distribution of Households by Quality of Construction of Roofs, Walls and Floors for Housing, Main Source of Power for Lighting, Main Fuel for Cooking and Strata**

Construction Quality	Region			Rural/Urban Residence			Location		
	East	Central	West	Urban	Major Urban	Rural	High	Low	Total
Roof Construction									
Good	47.9	76.5	57.6	86.3	92.6	57.4	61.0	65.7	64.2
Poor	52.1	23.5	42.4	13.7	7.4	42.6	39.0	34.3	35.8
Wall Construction									
Good	15.0	38.4	14.5	55.2	73.2	17.5	22.0	28.4	26.4
Poor	85.0	61.6	85.5	44.8	26.8	83.5	78,0	71.6	73.6
Floor Construction									
Good	18.2	42.1	33.7	64.0	81.5	24.1	19.5	40.0	33.6
Poor	81.8	57.9	66.3	36.0	18.5	74.9	80.5	60.0	66.4
Main Source of Power for Lighting									
Electricity	20.3	36.1	15.6	72.6	92.0	12.9	8.0	35.8	27.0
Pump lamp	0.4	1.4	1.1	0.5	0.7	1.2	1.2	1.0	1.0
Oil lamps	74.3	62.1	83.0	26.8	7.1	83.8	89.8	61.3	70.4
Other	5.0	0.4	0.3	0.1	0.2	2.1	1.0	1.9	1.6
Main Fuel for Cooking									
Elec/Gas/Coal	0.5	0.8	0.0	1.2	1.9	0.3	0.3	0.6	0.5
Kerosene	0.4	4.6	0.5	8.2	13.9	0.7	0.2	3.5	2.5
Wood	99.1	94.6	99.5	90.6	84.2	99.0	99.5	95.9	97.0

Source: Timor-Leste MICS 2002

Notes: Roof   Good - Concrete, Roof tiles, Zinc/asbestos
                  Poor - Sugar palm fiber, Leaves, Other
          Walls Good - Brick
                  Poor - Wood, Bamboo, Other
          Floor Good - Marble/tile/ceramic, Cement, Wood/board
                  Poor - Earth, Other

Cooking Fuel

Wood is the dominant cooking fuel throughout Timor-Leste and it is only in the major urban areas of Dili and Baucau that more than a few percent rely on other sources of fuel (mainly kerosene). There, about 14 percent of households reported using kerosene as the main fuel for cooking and another 2 percent electricity, gas or coal (**Table 4.7**). In all other areas the percentage of households using wood was virtually universal at around 99 percent. This high reliance on wood should not be surprising. Wood use remains high in rural areas of Indonesia and particularly in provinces such as East Nusa Tenggara that are the most similar to Timor-Leste. Regarding health, however, the issue lies not so much in the use of wood as the conditions under which it is used and the efficiency of the cooking process. Use of inefficient wood stoves, indoors and under poorly ventilated and crowded

conditions is a major cause of respiratory infections (such as ARI) in children. MICS did not directly investigate these linkages, but the high level of dependence on wood as a cooking fuel in conjunction with generally poor housing conditions, and the lack of likelihood of substantial changes in use patterns over the short to medium term make this an important topic for further investigation.

Household Assets and Access to Land

Questions were also asked on possession of durable goods as a means of generally assessing socioeconomic conditions. These included household goods (radio/tape player, TV, telephone, refrigerator) as well as commodities associated with personal transport (bicycle, motorcycle, car, sailboat, motorized boat). These, as much as any other set of variables, indicate the poor general living conditions including high levels of poverty and lack of access to electricity reflected in an inability to consume such goods as well as the levels of disparity between the major urban centers and the rest of the country (**Figure 4.2**).

The most widely possessed durable good, a radio or cassette recorder is owned by only about one-third of households nationally and it is only in the major urban centers that the figure is above 50 percent. TV ownership applies to only about 10 percent of households and ownership here is particularly skewed toward the major urban centers where electricity is also most widely available. Other durable goods (such as refrigerators, telephones, bicycles, motorcycles and cars) are even less widely owned with ownership outside of the major urban centers limited to a few percent of households at most.

Figure 4.2 -   Percent of Households Owning Durable Goods by Type of Good and Selected Strata
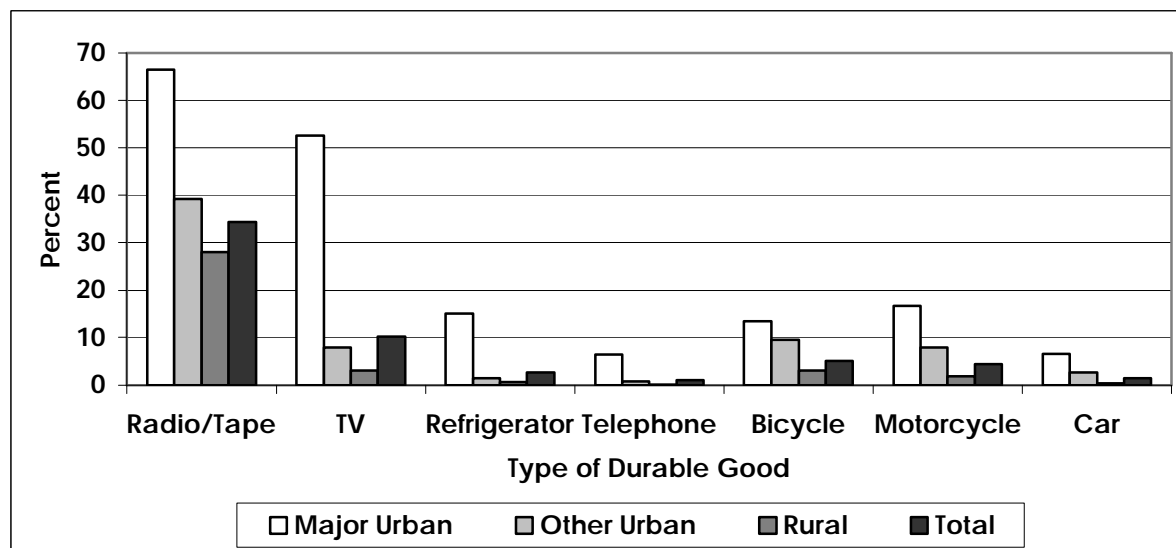
Source: Timor-Leste MICS 2002

Interestingly, the radio, TV, bicycle, motorcycle and car figures here are, in fact, reasonably comparable to pre-1999 conditions. The 1995 Indonesian Intercensal Survey (SUPAS) recorded similar levels of ownership for both radio and TV in Timor-Leste although both remained far below overall Indonesian averages. If these are taken as rough indicators of poverty, then it appears that poverty has remained endemic and widespread, particularly in areas outside of Dili over much of the past decade. Limited access to radio and TV is also indicative of the difficulties that government will necessarily face in trying to use these

mediums to convey important social messages, particularly to populations living in more isolated rural and upland areas.

Finally, a few simple questions were asked about access to and use of farmland. Overall, about 79 percent of households owned or had access to farmland, indicative of the highly agrarian nature of the economy. For strictly rural areas the figure was 87 percent and even in the major urban centers of Dili and Bacau, about 26 percent of households claimed to own agricultural land. For those with access to land, use was almost universal, 97 percent nationally with little variation across virtually all strata.

4.5   Estimates of Household Economic or "Wealth" Status

The MICS did not collect detailed information on household income or expenditures necessary to make direct estimates of income poverty. However, the information collected on housing quality, electrification, access to water and sanitation, and possession of durable goods was used to create a "proxy-based" distribution of households by wealth or economic status. The method used is one developed by Filmer and Pritchett as discussed in a paper by Kiersten Johnson of Macro International. The method involves creation of a wealth index using Principal Components Analysis (PCA) of the various proxy variables to place households on a scale representing their relative wealth. A cut-off (or series of cut-offs) can then be established to classify households below some level or percentile on the wealth scale as poor and those above as non-poor for purposes of analysis of other variables in the MICS. **Annex VI** contains a description of the 21 variables used in the MICS PCA along with the results of the analysis.

Figure 4.3 -   Distribution of Households by Wealth Scores (households ranked from lowest to highest score)
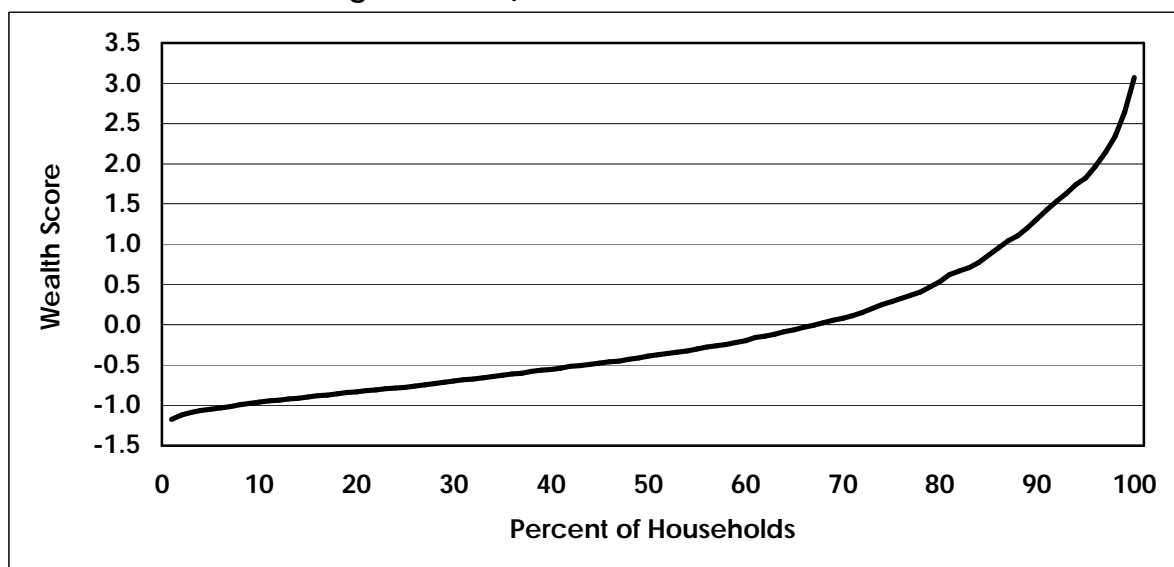
Source: MICS Timor-Leste 2002

On face value the results are quite encouraging. The first principal component was able to explain 30 percent of the total variance and the distribution of factor scores across the entire range of households is similar to what we would expect to see in an income or expenditure distribution for Timor-Leste with the bulk of households concentrated toward

the lower end of the range and a much smaller proportion of households with high factor scores (**Figure 4.3**). While we are not directly measuring income or expenditure, finding this pattern does lend strength to the credibility of the index as a potential proxy for poverty in the case of Timor-Leste.

Proportions of households in the bottom national "wealth" quintiles also are consistent with expected variations across strata, with higher levels of "poverty" clearly evident in rural and highland areas and in the Eastern part of the country (**Table 4.8**). The striking differentiation shown by the major urban centers (dominated by Dili) where more than three-quarters of households fall in the highest national wealth score quintile is of particular significance. It indicates the degree to which this stratum (the major urban centers) demarcates an island of relative affluence in a sea of general poverty and deprivation.

Table 4.8 -   Percent Distribution of Households by Wealth Score Quintiles and Strata

Strata	Percentage of Households in Wealth Quintiles					Total
	Poorest	Q2	Q3	Q4	Richest	
Eastern Region	36.0	24.2	19.8	13.6	6.5	100.0
Central Region	16.8	15.5	17.6	19.8	30.3	100.0
Western Region	12.0	27.6	27.3	23.6	9.4	100.0
Highland	28.1	24.4	23.0	19.3	5.2	100.0
Lowland	17.7	19.0	19.3	18.8	25.2	100.0
Urban	6.2	6.7	11.5	22.4	53.2	100.0
Major Urban	1.2	1.3	5.2	16.0	76.3	100.0
Rural	25.5	25.1	23.2	17.9	8.3	100.0
Total	21.0	20.7	20.4	19.0	18.9	100.0

Source: Timor-Leste MICS 2002

However, it should be made clear that this is a different approach from the expenditure-based method used in the recent Timor-Leste Poverty Assessement. One should not attempt to make strict comparisons. Even so, the results can help to provide a general view of relative variation in household and individual characteristics covered by the MICS between the poor and the better off. Thus, where appropriate, cross-tabulations of MICS indicators by "wealth status quintile" have been included in the standard tables presented in **Annex II.**

6. Education

Low education is both a cause and an effect of poverty. Equally important from the point of view of MICS, there is a close relation between people's education (particularly of women) and their behavior relative to a wide range of health and related issues affecting both themselves and their children. Thus it should not seem surprising that the Millennium Development Goals include objectives of dramatically reducing adult illiteracy and ensuring universal access to education, particularly primary education, for all children in the society – objectives that are reinforced for children in both the World Fit for Children and UNICEF Priorities. The Timor-Leste MICS survey included a separate module to assess levels of adult educational attainment as well as behavior in regard to school enrollment among all children aged 5 to 17 years in the survey households. A separate question was included in the Child Questionnaire on participation in any early childhood education program among children age 36-59 months at the time of the survey.

6.1. Early Childhood Education

(Annex Table 9)
(WFFC Goal #2; UNICEF Priority #2)

> **Only 2% of children aged 36-59 months attend any form of early childhood education program**

Early childhood education here refers to programs such as playgroups for very young children aged 36-59 months (ages 3 and 4). It includes more structured pre-primary school programs through kindergartens or *Taman Kanak-kanak* (*TK*) that are aimed at 5 and 6 year-old children only to the degree that children actually aged 3 or 4 years old may have been attending them. As noted in the introduction, 5 and 6 year-old children were asked about current school enrollment in the MICS, but unfortunately they were recorded as currently being in school only if they had already started primary school. Thus we cannot get an accurate picture of pre-school enrollment at these ages, even if we wanted to include it as part of early childhood education here.[28] This is something that should be rectified in future surveys.

In any case, Timor-Leste does not have much of a history of early childhood education as even in Indonesia, early childhood education, whether through playgroups or pre-school is still mostly provided through the private sector.[29]   It tends to be a prerogative of urban children and among the better off. Results of the 2002 MICS in Timor-Leste clearly

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[28] However, children in grade 1 were asked if they were in school the previous year and for this, *TK* was an allowable response. In the MICS data set no child in grade 1 said they were in kindergarten the previous school year, which suggests that enrollment in any form of pre-primary education is very low.

[29] Pre-school education, mostly private, accounts for about 12 percent of 3 to 4 year-olds and nearly a quarter of 5 to 6 year-olds in Indonesia. But rates for 5 and 6 year-olds are closer to 10 percent in Indonesian provinces closer to Timor-Leste that are probably more characteristic of pre-1999 conditions there.

demonstrate the currently negligible levels of early childhood education with less than 2 percent of children aged 36 to 59 months as attending any form of early learning program in their respective areas (see **Annex Table 9**). There are some minor differences across strata and population sub-groups (e.g. slightly higher participation in major urban areas, among older children and among children with more educated mothers), but literally nowhere are the differences large enough to be statistically meaningful.

In short, early childhood education can be considered to be basically nonexistent at present in Timor-Leste and as an area for future development. It is an area worthy of some concern as there is increasing evidence that effective interventions in support of Early Childhood Development (ECD) can contribute to child development and performance in subsequent years. However, given historical experience both in Timor-Leste and Indonesia generally, it is likely to remain a luxury for at least some time as greater (and probably necessarily greater) attention is paid to basic education, particularly at the primary or elementary school level. This is discussed in greater detail in the section below.

6.2. Basic Education

(Annex Table 10)
(MDG #2, 3; WFFC Goals #2; UNICF Priority #1)

At a minimum basic education must ensure that children gain a reasonable level of literacy and numeracy so that they can function in society. Beyond this, education aims to provide children with life and technical skills that they can subsequently apply these skills as adults in order to expand their social and economic horizons. Even more broadly, education can be seen as one of the basic rights of children (perhaps one of the most important rights) as a child denied the right to an education is a child who will likely be denied the chance for a healthy and prosperous life. It is thus little wonder that the various international conventions place a high emphasis on universal child access to school and on completion of at least a full primary cycle of education by the great majority of these children.[30]

The state and private school system in Timor-Leste continues to follow patterns established during the period of Indonesian integration. Under this system, pre-school education (*taman kanak-kanak* or *TK*) covers 2 years with a normative age range of 5 to 6 years. This is followed by primary school (*sekolah dasar* or *SD*) consisting of 6 years with the normative age range being 7 to 12 years. This is followed by 3 years of lower secondary school (*sekolah menengah pertama* or *SMP*) with a normative age range of 13 to 15 years and three years of upper secondary school (*sekolah menengah atas* or *SMA*) with a normative age range of 16 to 18 years. The normative age ranges form the basis for standard calculations of enrollment rates, but it needs to be recognized that significant numbers of children enter school at either younger or older ages.

General School Performance – Gross, Net and Age-Specific Enrollment Rates

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[30] Completion of 5 years (rather than primary education per se) is reflected in the earlier World Summit Goals and in the general MICS methodology and reflects, in part, the minimal amount of schooling needed for permanent retention of what is learned (reading, writing, arithmetic). However, in Timor-Leste, as in Indonesia, primary school actually involves 6 years, followed by three years each of lower and upper secondary school. It is these breakdowns that are used in the discussion in the chapter.

> **Gross, net and age-specific enrollment rates have generally maintained pre-1999 standards at primary level. But there is evidence of some deterioration in performance at lower secondary level.**

It is possible to make rough comparisons of recent trends by comparing basic education indicators (gross, net and age-specific attendance or enrollment rates[31]) for Timor-Leste between the 1999 Indonesian National Socioeconomic Survey (SUSENAS) and MICS. These are comparisons are shown in **Tables 6.1** and **6.2**.

Table 6.1 - **Gross, Net and Age-Specific Enrollment Rates at Primary and Lower Secondary Level by Sex and Urban/Rural Residence, Timor-Leste, 1999**

	Primary School (Ages 7-12)			Lower Secondary School (Ages 13-15)		
	Gross Enrollment Rate	**Net Enrollment Rate**	**Age-Specific Enrollment Rate**	**Gross Enrollment Rate**	**Net Enrollment Rate**	**Age-Specific Enrollment Rate**
Male						
Urban	105.5	88.7	90.5	102.8	68.5	91.0
Rural	93.7	72,4	73.5	57.2	31.9	73.6
Total	94.8	73.9	75.1	61.8	35.5	75.3
Female						
Urban	105.3	88.4	92.0	108.2	66.2	80.7
Rural	93.0	73.3	74.5	61.3	33.6	73.6
Total	94.1	74.5	76.1	66.5	37.2	74.3
Both Sexes						
Urban	105.4	88.5	91.2	105.4	67.4	86.1
Rural	93.4	72.8	74.0	59.0	32.6	73.6
Total	94.4	74.2	75.6	63.9	36.3	74.9

Source: Indonesian National Socioeconomic Survey (SUSENAS), 1999.
Notes: **Gross Enrollment Rate** - the number of students enrolled in a particular level of schooling over the number of people of the relevant ages. **Net Enrollment Rate** - the number of students of relevant ages enrolled in a particular level of schooling over the number of people of the relevant ages. **Age Specific Enrollment Rate** - the ratio of the population of a particular age group enrolled in school over the population of that age group

Table 6.1 indicates that by early 1999 performance at both primary and lower secondary levels in urban areas of Timor-Leste (e.g. Dili[32]) had reached levels close to Indonesian national averages, but that in rural areas they still lagged considerably behind, likely due at least in part to the difficult terrain and lack of penetration of schools. There was

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[31] We use the term 'enrollment rates' throughout, although it should be recognized that these data area based on reports by households and not on school statistics that would more clearly document actual attendance at school.
[32] Under the urban definition used by the Indonesian Central Bureau of Statistics (CBS) only Dili was classified as an urban area.

little difference, however, by gender in access to school according to these data, a situation that is characteristic of most of the rest of Indonesia as well.

Further important features reflected by these data suggest significant levels of over-age enrollment as indicated by substantial differences between gross and net enrollment rates. Gross enrollment measures all those enrolled in a particular level of schooling (of all ages) over the population of the relevant ages, while the net enrollment ratio limits the enrolled population to those of appropriate ages. The difference is mostly due to enrollment among those who are already beyond the appropriate ages, which at primary school level means 13 years and over, and at lower secondary level 16 years and over.

Pre-Independence gaps between enrollment at primary and lower secondary level are also worth noting, indicating that, even then, continuation to even the lower secondary level was not high. Enrollment at the lower secondary level was substantially lower than at the primary level, particularly for rural youngsters. While gross enrollment rates declined by about one third between primary and lower secondary levels (from 94 to 64 percent), net enrollment declined by more than half (from 74 to 36 percent) (**Table 6.1**).

Given the turmoil surrounding the 1999 Independence referendum, which resulted not only in widespread destruction but also in the departure of large numbers of Indonesian teachers who had been imported under the previous regime, one might have expected school enrollment to decline drastically. This, however, does not seem to be the case, at least when comparisons are made with the results of the 1999 SUSENAS and the focus is on primary school. In fact there is no apparent systematic decline in the performance figures at primary school level (**Table 6.2**). In fact, except for lower secondary school among urban youngsters, gross enrollment rates were all higher according to the MICS 2002 compared to the 1999 SUSENAS results, suggesting (when compared with the lack of change in net enrollment rates) an increase in over-aging or rising numbers of older children enrolled in primary school. This may well be partly a result of the turmoil in 1999 that caused disruptions in education and forced many children to miss a year or two of school. These children would have generally been older than they should have been when they finally tried to return to continue their studies. Nevertheless, it is a significant issue and the problem of over aging needs to be addressed urgently in order to improve efficiency and learning environment in the classroom. It will work itself out to some degree over time, but meeting needs of these children could also benefit from provision of additional non-formal accelerated learning programs aimed at older children and adolescents, who might otherwise, due to the past disruptions, not complete a full cycle of primary school.

At lower secondary level, however, there is evidence of some deterioration in conditions, particularly in urban areas. Thus, while overall net enrollment and age-specific enrollment rates among urban primary school age children declined by around four percentage points between 1999 and 2002, at lower secondary level, for both sexes, urban gross enrollment rates declined by 17 percentage points and net enrollment rates by 23 percentage points. For rural areas the change at lower secondary level was much smaller - overall gross enrollment declined by only 2 percentage points and net enrollment by 8 percentage points (**Table 6.2**). These results clearly suggest that urban enrollment at this level (which was already much higher than that in rural areas before 1999) was affected more by the turmoil associated with the 1999 Independence Referendum. What actually happened is an issue requiring further investigation.

Table 6.2 -   Gross, Net and Age-Specific Enrollment Rates at Primary and Lower Secondary Level by Sex and Urban/Rural Residence, Timor-Leste 2002

	Primary School (Ages 7-12)			Lower Secondary School (Ages 13-15)		
	Gross Enrollment Rate	Net Enrollment Rate	Age-Specific Enrollment Rate	Gross Enrollment Rate	Net Enrollment Rate	Age-Specific Enrollment Rate
Male						
Urban	114.6	86.1	87.7	87.0	42.1	89.3
Rural	102.0	72.7	74.1	62.9	24.4	82.8
Total	105.1	76.0	77.4	69.9	29.5	84.7
Female						
Urban	110.4	83.7	86.4	89.0	45.5	90.5
Rural	103.1	71.8	73.0	52.0	24.8	80.8
Total	104.8	74.6	76.1	60.7	29.7	83.1
Both Sexes						
Urban	112.6	85.0	87.1	87.9	43.7	89.9
Rural	102.5	72.3	73.6	57.1	24.6	81.7
Total	104.9	75.3	76.8	65.1	29.6	83.8

Source: Timor-Leste MICS 2002

However, it is also worth noting that in this context age-specific enrollment rates should be considered with care. The reason for this is the issue mentioned above - over-aging. Similar to the case with primary school age children, the rise in enrollment among lower secondary school age children of 13 to 15 years, particularly in rural areas and among females, can also be mainly attributed to over-aging. Thus rising shares of rural and female children age 13 to 15 years are enrolled in school, but not necessarily at the lower secondary school level.[33]

Regional and Age-Specific Variations in School Enrollment

> **Primary school enrollment among 7-12 year olds is around 90% in Dili/Baucau, but in rural and upland areas only about 70% of this age group is enrolled in school.**

While gender differences in patterns of primary school enrollment are relatively small, there are noticeable differences between different regions, most notably between highland and lowland and rural and urban areas (**Figure 6.1**). Overall, about three-quarters of primary school age children (7-12 years) were enrolled in school with little variation by major region (Eastern, Central, Western) or between girls and boys. However there is a substantial gap between performance in highland and lowland areas and, particularly between rural areas and the strata containing the major urban centers of Dili and Baucau. As has been mentioned earlier, Dili appears like an island where residents

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[33] Age-specific enrollment, however, is important as an indicator where policy is focused more on whether on not the child is enrolled in school or not rather than the level of school in which the child is enrolled.

have greater access to a variety of services, including educational services. Hence the higher enrollment rates in lowland areas (about 80 percent), and in urban areas (85 percent) and especially the major urban centers (almost 90 percent) is mainly a function of the significance of Dili in this equation.

**Figure 6.1 -   Percent of Children Aged 7-12 Enrolled in Primary School by Strata**
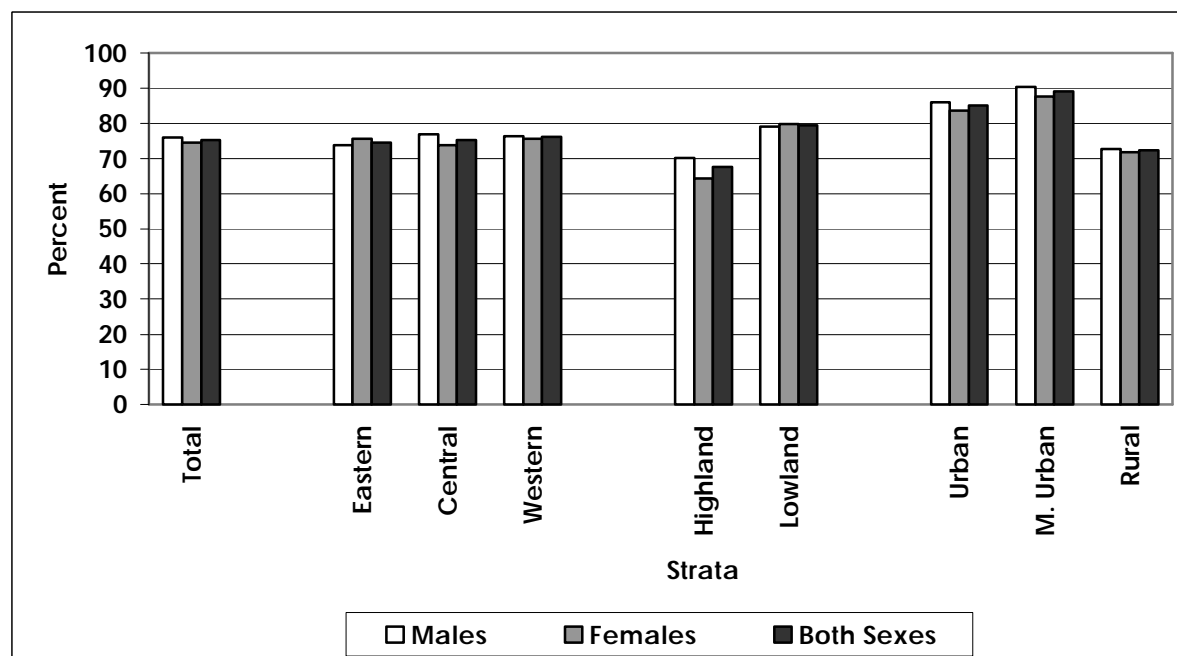
Source: Timor-Leste MICS 2002, **Annex Table 10**.

There are also significant variations in enrollment by wealth score quintile suggesting that poor children are much less likely to be in school. Among children in the poorest quintile only 64 percent were enrolled in primary school in 2001/2002 compared to 90 percent in the richest quintile (see **Annex Table 10**). Poor areas and poor children are both at a distinct disadvantage. And this sets a clear challenge for educational policy to ensure greater equity in access for all children in Timor Leste no matter where they live or whether they are rich or poor.

Figure 6.1 suggests that nearly one-quarter of primary school age students are not in primary school. However, to understand how much of this reflects children who will never attend school it is necessary to look at patterns of school enrollment by single years of age as well as ages of those who have dropped out of school. **Figure 6.2** shows age specific enrollment rates or the percentage of a particular single year age group enrolled in school at any level. Here it is easier to see the patterns of enrollment (or non-enrollment) that not only fall within, but also outside the normal age ranges – in effect, the influence of late starting and "over-age" enrollment at a particular level or grade. As can be seen in **Figure 6.2** only 55 percent of children aged 7 and 72 percent of children aged 8 were enrolled in school. The peak in enrollment occurs at age 11 (89 percent) and then begins to taper off slightly to closer to 75 percent around ages 16 and 17 years. The relatively low figures at ages 7 and particularly at age 8 reflect the degree of late start of schooling, while the difference of around 10 percentage points between the peak and 100 percent (at around age 11) is mainly indicative of the proportion of children will probably never attend school. In any case, for Timor-Leste the priority concern at this stage should probably be focused on

the late start as a means of addressing problems of "over-age" students, who are also more likely to drop out subsequently in the educational process.

Figure 6.2 -   Age and Sex-Specific Enrollment Rates of Children Aged 5 – 17 Years
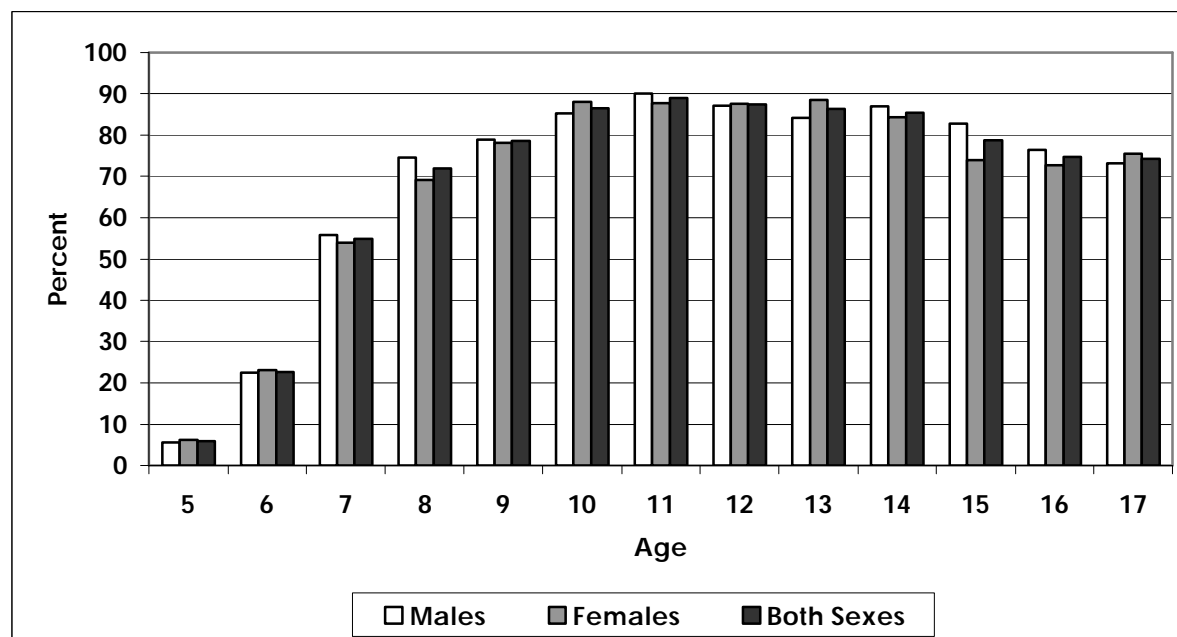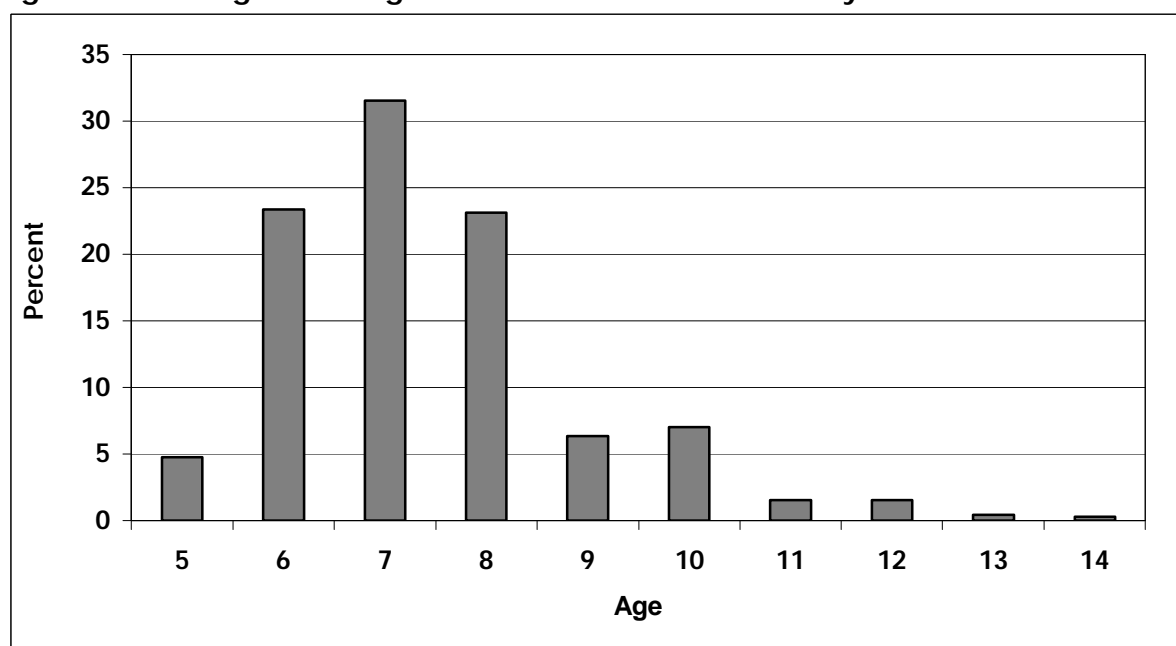

Source: Timor-Leste MICS 2002, **Annex Table 10**.

An even more striking picture of the late age issue can be seen by looking at the age distribution of children in grade 1 of primary school (**Figure 6.3**). MICS did not ask about ages at first entrance into school. However, it is arguable that evidence on the proportions of older-age children still in first grade can be used as a reasonable proxy for this phenomenon. The results shown in **Figure 6.3** clearly point out the nature of the issue. 40 percent of children in grade 1 had reported ages of 8 or more and 17 percent of 9 or more in the MICS survey.

There may be some age reporting errors here, but the picture is roughly the same as in parts of Eastern Indonesia where similar conditions prevail. Thus there are a few children who start school early, at least according to the "standard" ages of the Indonesian system (there is no information that this has changed for Timor-Leste since 1999). According to the MICS data there are even a few 5 year-olds already in first grade, but greater credence should probably be placed on the proportion of 5 and 6 year-olds (28 percent) as a rough measure of early entrance. Seven year-olds constitute another 32 percent of students in first grade indicating that about 60 percent of children are at the right, or at least a reasonable age for this grade level.   Given that the MICS data collected age data on children at the end (rather than the start) of the school year, even some of the 8 year-olds may still not be over-age as they would still have been 7 years old at the start of the academic year. However, as noted above, beyond this point, most children are probably late starters and, in any case, are clearly over-aged for the particular grade. In most societies, an age range from 5 to 14 for grade 1 primary school is indeed very wide. During those ages children grow, not just physically, but also mentally, which could well create problems for the overall teaching and learning process.

Figure 6.3 -   Single-Year Age Distribution of Grade 1 Primary School Students

Source: Timor-Leste MICS 2002

In fact, the wide range of ages at various grade levels persists across all grades at primary and lower secondary levels. This can be seen in **Figure 6.4**, which plots age-specific enrollment by grade for primary and lower secondary schools according to the MICS data. For example, in grade 2 of primary school, students range in age from around 7 to 14. And there are relatively large numbers of 15, 16 and 17 year-olds who are still in the upper years of primary school.

At lower secondary level, where the modal ages are supposed to be 13 to 15 years, the issue of over-age enrollment is even more striking. Many students indicated in the graph are already over age 15 even in the first years of lower secondary school and there are likely significant numbers above age 17 in the latter years at this level that cannot be shown only because of the age-17 cut-off in the survey for questions on current school enrollment.

Never-Enrollment, Dropouts and Progression

> **Cross-sectional data from the MICS suggest that about 10% of children never go to school. And by age 15 about 9% of children who had started school have dropped out.**

MICS data permits a breakdown of children who are currently not enrolled in school by whether or not they have ever enrolled in school. This information can be used to generate a graph of both those who had never enrolled in school and of dropouts by age (see **Figures 6.5** and **6.6**). Never-enrollment is about 95 percent at age 5 and then drops rapidly, but is still more than 40 percent at age 7 and 25 percent at age 8 indicating again the problems faced by the educational system due to late entrance into school (**Figure**

6.5). Although the figures are based on cross sectional data, if one assumes reasonable stability in conditions over the recent past, the low point on the graph of never-enrollment (at ages 11 to 12) can be used as an approximation of the proportion of children who never attend school. This reinforces the earlier point that probably around 10 percent of children are still totally outside the education system.

Figure 6.4 -   Age Composition of Primary and Lower Secondary School Students by Grade
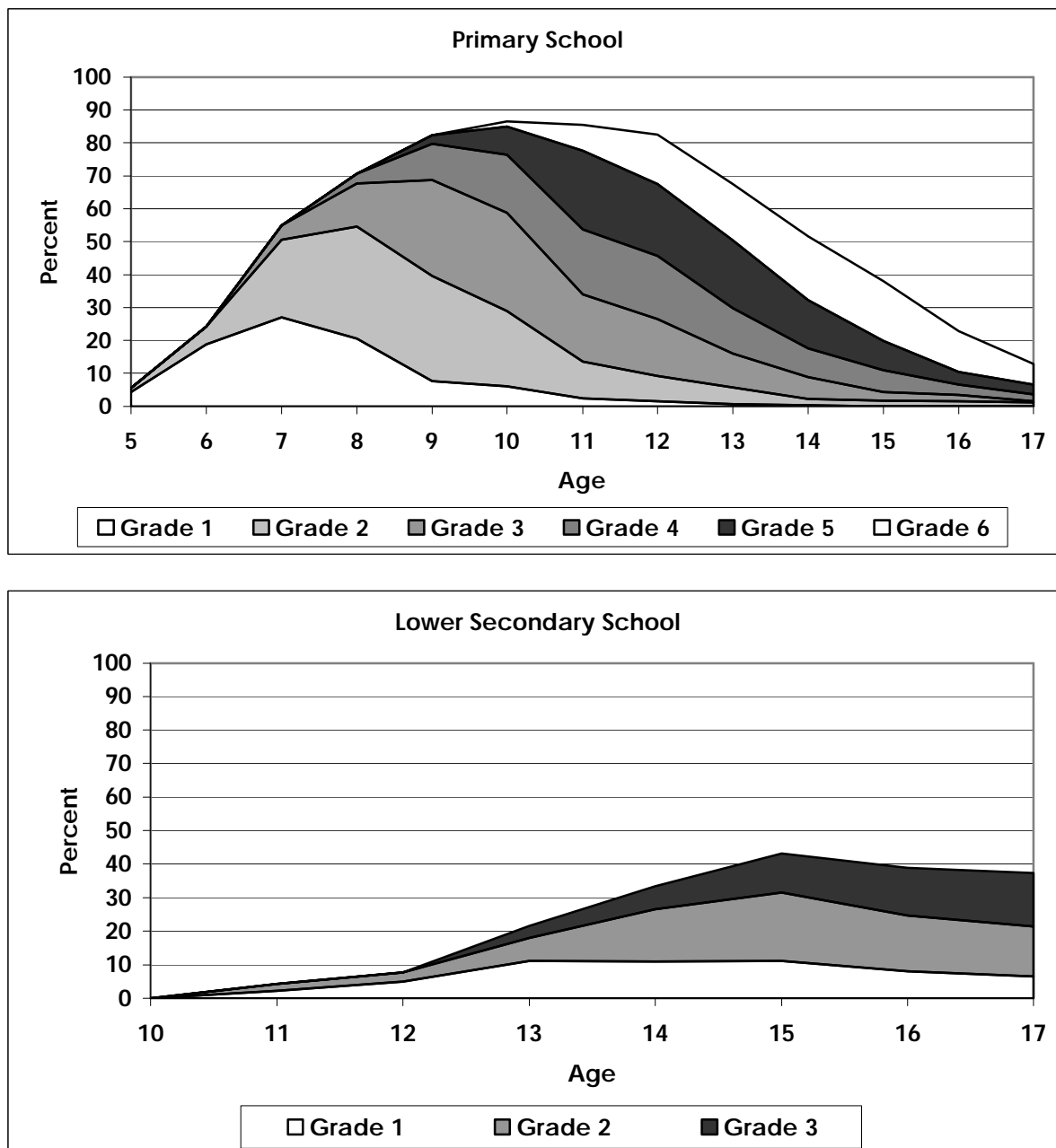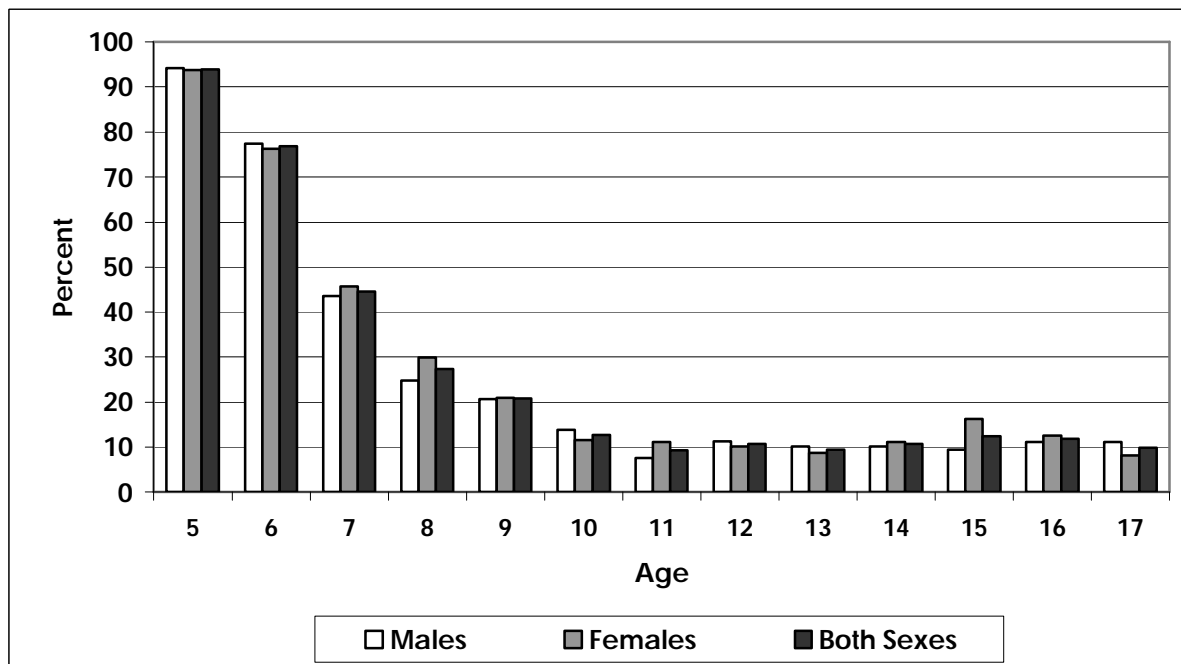

Source: Timor-Leste MICS 2002.

Dropouts, up to about age 15 are surprisingly low, suggesting that once children enter school, they tend to stay there, at least until they enter their teens (**Figure 6.6**). Thus, according to these data, up to age 10 less than one percent of children had dropped out of school. Even, at ages 11-12 it is only about 2 percent. It is only after age 12 that

the percentage starts to rise, but it still only reaches about 4 percent at ages 13-14 and 8 percent at age 15. Even at age 17 (the highest age covered in the survey) more than 80 percent of those who had ever enrolled in school were still enrolled in school according to the data collected in the MICS.

Figure 6.5 - **Percent of Population Aged 5-17 Years Who Had Not Yet or Never Enrolled in School by Single Years of Age and Sex**

Source: Timor-Leste MICS 2002

Figure 6.6 - **Percent of Population Aged 5-17 Years Who Had Dropped Out of School by Single Years of Age and Sex**
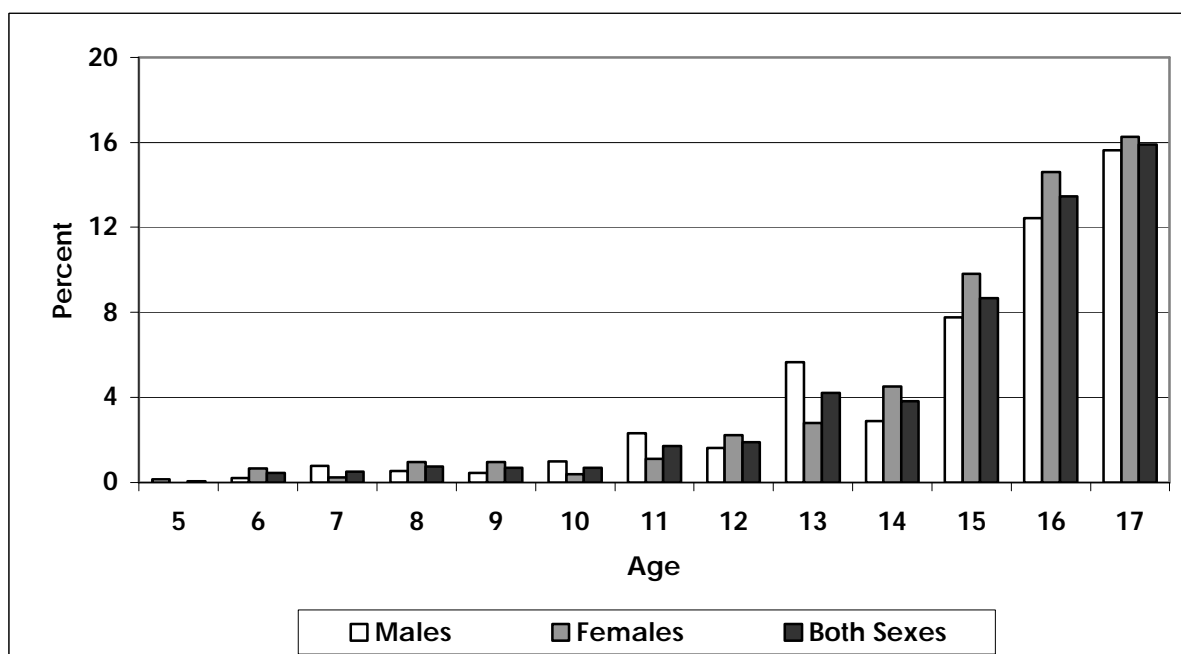
Source: Timor-Leste MICS 2002

This suggests that most young children are enrolled in school and that reasonably high percentages are staying in school at least up to around 11 or 12 years of age. While this is a positive finding, particularly given Timor-Leste's recent history, it should be stressed that it is not just school enrollment that is important, but also the quality of the output in terms of student capability. This is something that MICS cannot answer. If students are simply progressing irrespective of their real capability or grade achievement, then this is an issue of concern. It is certainly an issue demanding further investigation, and certainly prior to any serious intervention in the sector by the government and donor agencies.

School Attendance

Finally, the MICS questionnaire included a question on the number of school missed during a particular month. Because of problems with school vacation, the MICS did not ask about the month before the survey, but referred to the last full calendar month of school in the previous year, June 2002. This provides a rough indicator of school attendance as opposed to school enrollment.

Slightly over half (about 54 percent) of children aged 5-17 claimed to have missed no days of school during June 2002. Just over one-fifth (21 percent) said they missed one or two days and another fifth (22 percent) three to six days. Only 4 percent said they had missed more than a week of school during June 2002. There was no significant variation by age or gender   By stratum, the only major difference lay in an apparent tendency for better attendance in the Eastern Region compared to the other regions. In the Eastern Region nearly three-quarters (74 percent) of children had no missed days of school compared to figures of 57 percent in the Western and only 42 percent in the Central Regions.

Summary and Conclusions

In summary, the last few subsections have provided a fairly rich range of information on schooling of children focusing on those aged 5 to 17 years and those attending primary and lower secondary school. The results suggest that attention needs to be drawn to the following issues on which government may need to conduct further evaluation and to make needed policy decisions as part of a revitalization process of the educational system.

- Late start - Timely entrance into the schooling system is important for child development. Policy decisions need to be made on the "proper ages" for schooling at a particular level.

- Over-aging – This is, of course, closely related to late start and thus in the long run, part of over-aging problem will be resolved when decisions are made on proper starting ages. However, it is also a function of how children progress through school and the avoidance of disruptions in their educational process. The degree of age variation at individual grade levels found in the MICS may be partly a result of recent societal disruptions, but it is an issue that needs to be addressed, both from the point of view of the children and of the educational process where combining a great age range in the same class may make the teaching and learning process more difficult.

- Not yet/never enrolled in school - The proportion of children who still never even get to school is still high and should be a priority area for intervention if the government intends to achieve a goal of education for all.

    ☞ <u>Dropouts</u> – Dropouts appear to be remarkably low among younger children, but they rise rapidly as children enter their teens. This needs to be further evaluated and clear policies developed to ensure that as many children as possible stay in school through relevant educational cycles.

    ☞ <u>Continuation rates</u> – The high continuation rates between classes indicated in the MICS is encouraging. But, there is a need for a more detailed and thorough study on this topic and on what actually happens in the classroom, particularly in terms of just what the children are learning and just what is driving the continuation process.

6.3 Adult Literacy and Educational Attainment

(Annex Table 11)

> **Fewer than 60% of adults claim to be able to read a newspaper. However, the figure varies from about 85 percent for 15-34 year-olds to less than 20% at ages 55 and over.**

Adult literacy rates reflect a long history of educational achievement or disparity, and given the history of education in Timor-Leste, it should not be surprising that literacy among adults is not very high. Overall less than three-fifths of the adult population age 15 and over in Timor-Leste claimed to be literate (**Figure 6.7**). Gender differences are substantial with 65 percent of males but only 52 percent of females being literate. While there is little variation between the Eastern, Central and Western regions, literacy is much higher in the lowlands (65 percent) than the highlands (46 percent), and much higher in urban (73 percent) than in rural areas (53 percent), and higher still in major urban areas (80 percent) There is also fairly wide variation in literacy by wealth quintile ranging from 40 percent among females in the poorest quintile up to 90 percent among males in the richest quintile.

The historical trends in improvement in literacy can also be demonstrated by tabulating literacy by age. This is shown in **Figure 6.8**. There is a marked downward slope indicating the degree to which education reached fewer and fewer of the population as one moves back into the past. Thus, 83 percent of those aged 15-24 claimed to be able to read a newspaper (the question used in the MICS questionnaire) while for the oldest age group (65 and over) the level of literacy had fallen to just 13 percent.

The gender-gaps are also of interest, particularly the degree to which that appears to have narrowed over time. Thus, whereas among the youngest age group of 15-24 year-olds, female literacy is 80 percent as compared to 87 percent for males, the gender gap increases rapidly with age and among 45 to 54 years-olds the literacy rate for females is only 15 percent compared to fully 39 percent for males. This is in line in what has been observed earlier – that at least in more recent periods, there has been hardly any gender difference in school enrollment.

Literacy rates are mirrored in data on educational attainment of the adult population. Although the Millennium Development Goals focus on literacy (particularly among young adults), educational attainment statistics can be even more revealing as they can be used to

provide at least an initial indication of skill levels in the adult population   Although this is not investigated further in the MICS, it is a topic of interest to those concerned with manpower policies and labor markets as well as those dealing with broader aspects of poverty reduction.

Figure 6.7 -   Percent of Population Aged 15+ Who Are Literate by Sex and Strata
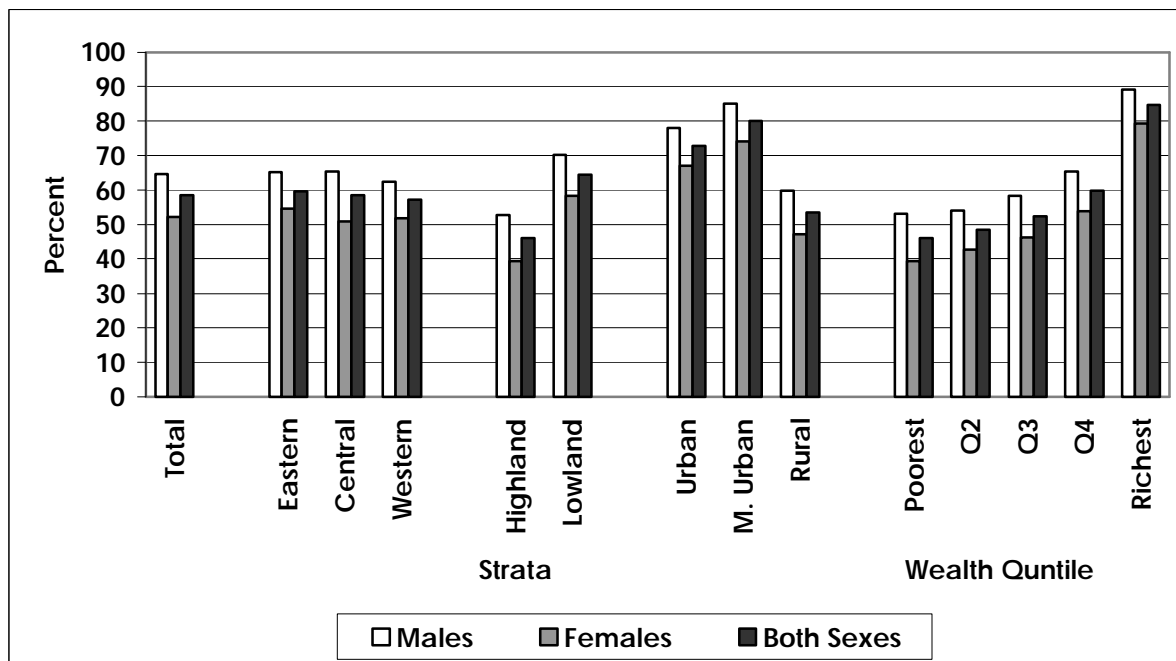
Source: Timor-Leste MICS 2002, **Annex Table 11**.

Figure 6.8 -   Percent of Population Aged 15+ Who Are Literate by Age Group
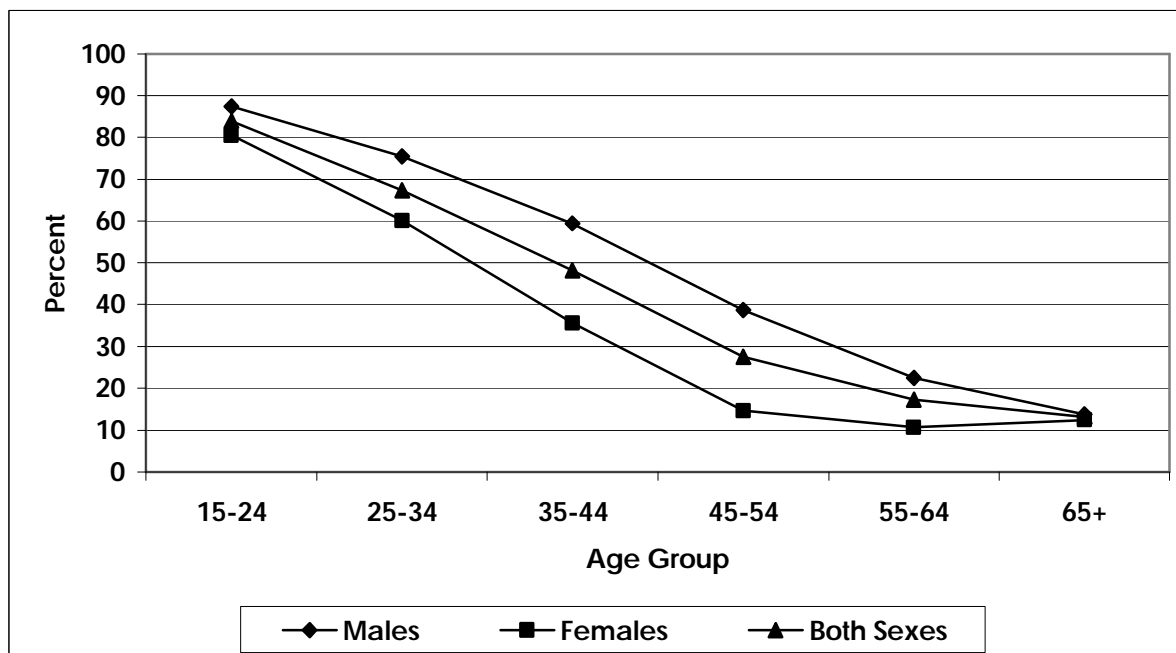
Source: Timor-Leste MICS 2002, **Annex Table 11**.

Results are shown in **Table 6.3**.   They clearly show the degree to which low education may form a barrier to socioeconomic advancement. For example, among adults

aged 35-44 (prime ages in terms of workforce participation) 67 percent of males and fully 87 percent of females have less than a full primary school education. In rural areas, only 11 percent of all population aged 15 and over have progressed anywhere beyond lower secondary school and this figure falls slightly below 10 percent in highland areas and the Western region.

Table 6.3 -   Percent of Adults (Ages 15 and Over) by Level of Completed Education, Strata, Age Group and Sex

	Level of Completed Education					
	Never Enrolled in School	**Some Primary School**	**Completed Primary School**	**Lower Secondary School**	**Upper Secondary School or More**	**Total**
Total	54.3	14.4	6.2	10.4	14.7	100.0
Eastern Region	54.3	15.7	5.6	11.2	13.2	100.0
Central Region	51.5	14.1	5.8	11.0	17.6	100.0
Western Region	61.0	13.4	8.0	7.8	9.7	100.0
Highland	64.3	14.7	3.8	8.1	8,8	100.0
Lowland	49.3	14.2	7.4	11.5	17.5	100.0
Urban	38.6	15.4	6.7	12.6	26.7	100.0
Major Urban	28,5	16.1	8.0	14.7	32.7	100.0
Rural	59.4	14.1	6.1	9.6	10.8	100.0
Males						
15-34	30.9	17.7	8.6	16.5	26.2	100.0
35-44	50.8	16.6	7.0	9.0	16.5	100.0
45-54	71,1	15.5	5.0	3.8	4.6	100.0
55+	89.9	6.9	1.8	0.7	0.7	100.0
Females						
15-34	41.7	16.8	8.1	15.1	18.3	100.0
35-44	76.3	11.5	3.0	4.8	4.3	100.0
45-54	93.1	3.5	1.7	0.6	1.2	100.0
55+	97.2	1.8	0.6	0.3	0.1	100.0

Source: Timor-Leste MICS 2002.
Note: Completed primary school includes those with a primary school diploma but no further education. Lower secondary school includes those with some lower secondary or a lower secondary school diploma. Upper secondary includes those with any upper secondary education or more.

These results clearly highlight the challenge that will be faced by the new government in revitalizing the economy, particularly where it involves introduction of technologies and skills that are at least partly dependent on an educated workforce. It also highlights the degree of urban/rural disparity and particularly the relative dominance of the major urban centers (notably Dili) where a high proportion of more educated adults are concentrated. This latter finding should not be surprising given the previous discussion on "wealth" distribution, but it does serve to re-emphasize the problems that are likely to be faced in spreading development more equitably across all parts of the country.

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