



Timor-Leste Population and Housing Census 2010

Analytical Report on Fertility and Nuptiality

Volume 5



Timor-Leste 2010 Population and Housing Census

Series of Analytical Reports

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2010 Timor-Leste Population and Housing Census

FERTILITY AND NUPTIALITY MONOGRAPH

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National Statistics Directorate (NSD)
United Nations Population Fund (UNFPA)

Foreword

The 2010 Timor-Leste Population and Housing Census with the theme “**Our Census, Our Future: Be part of it**” was conducted in July 2010 on a de facto basis by the National Statistics Directorate. The 2010 census is the second after the one conducted in 2004 (post independent Timor-Leste) and fourth after the 1980 and 1990, both taken under the Indonesian forced occupation. This census was undertaken within the provision of the Statistics Decree Law No. 17/2003 and the 2010 Population and Housing Census Law of April 2010.

The main objective of the census was to collect, analyze and effectively disseminate demographic and socio-economic information required for policy and programme formulation, decision making in planning and administrative processes, and research. The census preliminary results were published in Volume 1 and launched by His Excellency the President of the Republic of Timor-Leste in October 2010. The main results were published in Volumes 2, 3 and 4 and launched by the Vice-Prime Minister in July 2011. After that an ambitious “*Sensus Fo Fila Fali*” project was undertaken by the MDG Secretariat (Ministry of Finance) in partnership with the Census Project Office that culminated in a Census report for each of the 442 sucos in the country. These reports were launched by the Prime Minister in November 2011, followed by a series of nationwide dissemination workshops held at national, district level and in each of the 442 sucos.

This fourth phase comprises of twelve analytical reports covering census thematic topics: Fertility and Nuptiality, Mortality, Migration and Urbanization, Population Projections, Education, Labour Force, Housing, Disability, Agriculture, Gender, Youth and the Atlas. The preparation of these reports was a collaborative effort by the Government of Timor-Leste and United Nations Population Fund (UNFPA); it involved local and international experts. The reports were authored under the supervision and guidance of the Chief Technical Adviser from UNFPA. The authors were recruited on competitive basis, ensuring that they had adequate knowledge of the topic they were to analyse.

The Government of Timor-Leste wishes to extend its sincere gratitude and thanks to UNFPA for providing technical, financial and administrative support throughout the census process. Further gratitude is extended to the authors of the analytical reports, the Director of NSD and his team, the Chief Technical Adviser – Census Project, technical staff for their commitment and tireless efforts to successfully undertake the thematic analysis exercise.

Last but not least, all Timorese deserve special praise for their patience and willingness to provide the requisite information which forms the basis of these reports and hence benchmark information for development. We in the Ministry of Finance and Government as a whole hope that the data contained in these twelve monographs will be fully utilized in national development planning process by all stakeholders for the welfare of the Timorese people.



Ms. Emilia Pires,
Minister of Finance

The Democratic Republic of Timor-Leste (RDTL)

Executive summary

In July 2010 Timor-Leste conducted the second population and housing census. The 2010 Census aims to provide current and reliable demographic, economic and social information which is important for effective and efficient development planning, administrative and policy decision making and for research. The objectives of the 2010 Census were to collect, compile, evaluate, analyze, publish and disseminate information on the size, composition and spatial distribution of the population; levels of education attained by the population; size and employment of the labour force; prevalence of disability and its spread; levels of fertility, mortality and migration; rate and pattern of urbanization; housing conditions and availability of social amenities; and participation in agricultural production.

The present monograph on fertility and nuptiality in Timor-Leste extends the analysis of the 2010 population census. It is the only study of its kind which systematically explains fertility and nuptiality in this geographical area since the government gained independence in 2002. Fertility is a main component of population growth. It is also affected by socio-economic and demographic background characteristics of a given population. The analysis of fertility levels, trends and differentials is essential in understanding the demographic change of the population and indicates groups of population with low and high fertility.

This monograph aims to review the trends and changes in fertility and nuptiality over the period 1995 to 2010. The Democratic People's Republic of Timor-Leste experienced total fertility rate fluctuations before and during 1995, mainly due to the relaxation of family planning programs by government. On the other hand, fertility began to decline in 2000-2001, and declined sharply in 2002. The question has arisen as to what extent this significant change has been due to the changes in nuptiality and fertility. The own-children data from the 2004 and 2010 censuses allows us to analyze the change in fertility in the last two decades, and to decompose the change in fertility into two main components of nuptiality and fertility. The results indicate that younger cohorts are more likely to have reduced fertility. The results further reveal that marital fertility varies according to the socioeconomic background characteristics of women.

Fertility is higher among women who live in rural areas, are illiterate, less educated, Catholics, Protestants/Evangelical or traditional religious followers, married, economically inactive, have poor quality housing, have some livestock and crops. However, complete fertility differs less than period fertility, indicating the predominance of traditional family values that resiliently and equally force couples to have a large number of children. The percentage of teenage mothers increases as the age of women increases. The figure is higher in rural areas than in urban areas.

Approximately 20 percent of the change is attributable to changes in nuptiality, specifically an increase in age at marriage and thus a reduction in the proportion of women married at early ages. After reviewing the literature on the demographic transition in Timor-Leste, the monograph will first analyze **the changes in fertility and nuptiality patterns**. Secondly, **the changes in fertility trends and levels** will briefly be discussed for the period 2004 to 2010. Then the change of fertility will be decomposed into the two components of fertility and nuptiality. Tentative explanations for the dramatic fluctuations in fertility and nuptiality will be put forward; and the future prospects of the fertility decline, policy implications and issues for further studies will be discussed.

Political and socio-economic development in the last decade have certainly brought about changes in fertility and nuptiality behavior in Timor-Leste. Exposure to these developments has contributed to the decline in fertility, increased the age at first marriage and the emerging fertility and nuptiality differentials across socio-economic groups. To promote further improvement in people's welfare especially through family planning, it is recommended that efforts be made by government, stakeholders and civil society to improve access to communication, information and education services that would help individuals to plan their marriage lives and help families to decide the number of children and how to achieve their reproductive goals that will eventually enable the country to alleviate poverty, reduce infant, child and maternal mortality and improve mother and child health.

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CHAPTER 1

INTRODUCTION

1.1 Background to the study

In July 2010 the Democratic Republic of Timor-Leste conducted the second Population and Housing Census after the country gained independence in 2002. The first Census was carried out in 2004. In 2009, the government changed the status of the country from conflict to sustained economic growth and development in its known motto “*Goodbye conflict and welcome development.*” A summary of the strategic development plan to eradicate poverty and address human and economic development in line with this policy was released in 2010, aligned with the UN millennium development goals, which sets out a pathway to longer term, sustainable human and economic development. The 2010 Census was conducted by the National Statistics Directorate (NSD) in the Ministry of Finance (NSD and UNFPA, 2011a).

The assessment of levels, trends and differentials in fertility was one of the main outcomes of the 2010 Census. Fertility and nuptiality are among the three major components of population growth, others being mortality and migration.

Fertility determines the size and composition of the population of a country. High fertility shortens the population, doubling the time that can seriously compromise the ability of the Government to provide the range of quality, accessible and equal public services. High fertility in the past resulted in the youth structure of the population where the percentage of youth (aged 0 – 14 years) is greater than those aged 40 years and above; an implication of greater development, resource allocation to invest in human resources of the youth, particularly in areas of health and education.

Fertility is directly affected by proximate determinants, in particular marriage, breastfeeding and contraceptive behaviors (Davis and Blake, 1956; Bongaarts and Potter 1983). Early marriage practice links to high fertility in traditional societies. Longer breastfeeding behavior has been found to contribute to fertility reduction in some societies through the postponement of a woman's insusceptibility to pregnancy which in turn prolongs birth spacing. Higher prevalence of contraceptive practices and more effective use of contraceptives has proved to lower fertility.

Socio-economic, demographic, cultural, environment and other development factors affect fertility indirectly through proximate determinants. Better educated women are more likely to postpone marriage and hence have lower fertility than women with lower education. Better off women have better access to reproductive choice (family planning) information and services and thus are more likely to use contraceptive methods. In societies where women are less empowered, adolescent pregnancy and motherhood is common and thus contributes to high fertility. Practice of contraception is lower and hence fertility is higher in societies that hold children as social security in old age. In general, the better the socioeconomic development level, the lower the fertility level.

As a determinant, fertility affects development achievement through its effect on population size, composition and spatial distribution. Evidence reveals that countries with lower fertility have better socio-economic performance (e.g. PRB, 2011). Countries with lower fertility in general have higher gross national product (GNP) per capita, lower poverty incidence, lower infant, child and maternal mortality, longer life expectancy at birth, better education achievement, higher gender equality and better women empowerment. It is also reflected in the human development index which is overall higher in countries with lower fertility. Further still, countries with lower fertility perform better in terms of achieving the millennium development goals. Overall, countries with better socio-economic development, human development and millennium development goal achievement have lower fertility.

At the household level, high fertility has adverse implications for the family welfare. Producing many children and giving birth at old age has serious health implications for the child-bearing women. Worse still, human development of the woman as a person in her own right is compromised. It denies her the right to exercise her reproductive life in terms of the preferred number of children; birth timing and methods to regulate her fertility that would enable her pursue other life's fulfillment activities such as education, career advancement and participation in state development. Further, children from large families do compete for household resources, such as food, health, education opportunities and parental guidance. They also face challenges to perform well in their growth, less survival chances, less education achievement and poor health.

It's from the above background that the present monograph tries to assess the levels, trends and differentials of fertility in Timor-Leste based on the results of the 2010 Census. The results of the assessment are expected to provide valuable information to the Government of Timor-Leste in its program evaluation and formulation of policies aimed at controlling the high birth rate in order to facilitate poverty alleviation, income rise and national productivity improvement. The analysis of fertility differentials by geographical areas as well as background characteristics of the population will further facilitate in the identification of high-risk fertility areas and groups of population for reproductive choice program intervention.

1.2 Levels, trends and spatial differentials of world fertility

Globally, an average woman would bear 2.5 children assuming that current age specific fertility rates remain constant throughout her reproductive period (PRB, 2011). As the preference for large family size is declining, the difference in fertility level between more developed regions and less developed regions is decreasing. Between 1965-1970, the total fertility rate (TFR) was 2.4 children per woman in well developed regions and 5.9 in less developed regions. In the period 2005-2010, the TFR declined to 1.7 in well developed regions and to 2.6 in less developed regions. However, fertility is still high in less developed regions: 6.7 in 1965-1970 and 5.9 in 2005-2010 (UN). High fertility in less and least developed regions historically; has brought about these global variations that indicate that the majority of world population (82.2%) now lives in less developed regions.

However, there is remarkable variation in fertility level across regions and countries in the world. In general, European countries have the lowest fertility in the world (TFR = 1.6) and African countries present highest fertility (TFR = 4.7), followed by countries in Oceania (TFR = 2.5) and Asia (TFR = 2.2). Across countries, the TFR varies from the lowest of 0.9 in Taiwan to the highest of 7.4 in Niger. This fertility differential has contributed to the significant difference in the phase of demographic transition among countries. For example, Afghanistan, Uganda and Zambia are still in Phase 1 of the transition with their high birth rate and high death rate, while countries like

Brazil, Germany and Japan are already in Phase 4 of the transition where birth and death rates are very low.

In Southeast Asia region fertility levels vary notably. Singapore, Thailand and Brunei already achieve below replacement fertility level that is 1.2, 1.6 and 1.7 children per woman respectively; whereas, Timor-Leste exhibits well over replacement fertility level with the highest TFR of 5.7 in Southeast Asia and second highest TFR in Asia after Afghanistan with a TFR of 6.3 (PRB, 2011).

1.3 Levels and trends of fertility in Timor-Leste

In the past, fertility was exceptionally high in Timor-Leste. According to the results of the 2004 Census the crude birth rate was 42.7 births per 1,000 people (Neupert, 2006); an indication that an average Timorese woman would produce 7.4 children at the end of her childbearing years. The results of the 2002 Multiple Indicator Cluster Survey (MICS) and the 2003 Timor-Leste Demographic and Health Survey (TLDHS) indicated that the total fertility rate was very high in Timor-Leste, i.e. 7.4 (UNICEF, 2003) and 7.8 (MOH, 2004b) respectively. However, the findings of the 2009-10 TLDHS revealed that the TFR had registered a steady decline, although still high; at 5.7 children per woman (NSD and ICF Macro, 2010).

This particularly high fertility has been a factor to the high population growth rate and maternal, infant and child mortality in Timor-Leste. The 2004 Census recorded that the population of the country was around 923,198 (NSD, 2006) and it increased to 1,066,409 million according to the 2010 Census (NSD and UNFPA, 2011a). Therefore, the natural population growth rate was 2.4 percent per annum in the period of 2004 – 2010. This is the highest growth of population in Southeast Asia (PRB, 2011). With this population growth rate, the population of Timor-Leste will be doubled in 29 years. Meanwhile, of 1,000 live births 45 could not reach their first birthday, which is among the highest infant mortality in Southeast Asia together with Cambodia, Laos and Myanmar. Maternal mortality is also high. In 2008, the adjusted annual number of deaths of women from pregnancy-related causes was the 29th highest in the world (WHO). According to results of the 2009-10 TLDHS the maternal mortality ratio for the seven years before the survey is 557 maternal deaths per 100,000 live births (NSD and ICF Macro, 2010).

Extremely high fertility in Timor-Leste in the past can be caused by a number of factors. Culturally, families would prefer larger families, particularly in dominating rural areas, because children are viewed to have a significant economic value for the household. Children are considered by their parents and other members of the family as valuable assets and a source of security in a politically unstable setting. In addition, due to a little degree of monetarization of the economy, scarce resources, food insecurity, uncommon formal savings and weak government support for older people, parents would rely on their children for their old-age security. Further, preference for many children implies that more family members share household tasks such as taking water or collecting firewood even at an early age.

Recognizing the fact that its fertility is among the highest in the world, the Government of Timor-Leste included family planning as among selected components of essential reproductive health in the National Strategy for Health Promotion 2004 – 2010 (MOH, 2004). The Government realized the importance of spacing births and reducing the exceptionally high fertility rate in a bid to alleviate poverty, reduce high maternal, infant and child mortality and to improve mother and child health in the country (MOH and UNFPA, 2004; MOH et al., 2004b). In order to assure that the choices and needs of couples and individuals in Timor-Leste are fulfilled, a regular supply

and effective distribution of the widest possible variety of contraceptives will be provided and available through the public system as well as registered private services linking with the sub-district distribution and planning with technical and financial support from the international community if necessary. Public promotion of family planning will be carried out within the framework of family health protection and overall reproductive health promotion. The promotion is expected to emphasize the freedom of choice available to all couples and individuals and will encourage accessing family planning information, counseling and services.

The recent fertility decline in Timor-Leste within nearly ten years after independence can be attributed to the significant socioeconomic development together with the family planning program in the country. The economy is growing commendably as the gross national income per capita increased more than five folds from US\$417 in 2003 to US\$2,458 in 2010 (IMF, 2005 and 2011). The health status of Timorese has improved. On average they live more than five years longer than before. The life expectancy at birth increased from 55.5 years in 2003 to 60.7 years in 2007 (UNDP, 2005 and 2009). Their knowledge has also enhanced. The adult literacy rate among population aged 15 and above has risen from 58.6 to 60.7 in 2007 (UNDP, 2005 and 2009). Meanwhile, the contraceptive prevalence rate has increased more than twice from 10 percent in 2003 to 22.3 percent in 2009-10 (MOH et al. 2004a and NSD and ICF Macro, 2010).

This socio-economic development has also brought about changes in fertility preference toward smaller family in particular among less parity currently married women. The results of the 2003 and 2009-10 TLDHS show that the percentage of currently married women age 15 – 49 years who wanted no more children increased more than twice from 17.1 percent in 2003 to 34.8 percent in 2009-10 (MOH et al. 2004a; NSD and ICF Macro, 2010). The mean ideal number of children declined from 5.7 children to 5.0 in 2003 children in 2009-10. The percentage who stated that the ideal number of children is two, three or four increased from 34.2 percent in 2003 44.7 percent in 2009-10.

In 2011 the Government of Timor-Leste launched the Strategic Development Plan (SDP) 2011–2030. In this SDP, it is acknowledged that fertility level in the country is still among the highest in the world and has been among the causes of high maternal mortality and transferable airborne disease spread. It is also stated that to further improve maternal health in Timor-Leste, the Government will increase access to high quality pre-natal, delivery, post-natal and family planning health services. However, the SDP does not specify a measurable target in terms of increase access to family planning health services as it does for antenatal care and assisted delivery.

The family planning target is stated in the NRHS 2004 – 2015 which aims is to increase the contraceptive prevalence of married and unmarried couples to 40 percent by the end of 2015 by increasing the knowledge of population on their right to make free and informed choices on the number and timing of children (MOH et al. 2004).

1.4 Summary of key findings

In Timor-Leste, five percent of the households (9,146) are single parent households or households with children under the age of 18 years, headed by a parent who is widowed, divorced, separated and not remarried, or by a parent who has never married. The majority of these households are headed by the elderly, aged 45-54 years and a certain proportion is headed by older people aged 65 years and above. Most single parent household heads are females, live in rural areas, some in Dili District - sub-district of Dom Alexio, widowed, Catholics, illiterate, have no education, come from

households with worse housing quality and have less livestock. Most of them have one child and are employed in the informal sector. Also, a percentage of them are at risk of physical and mental conditions.

The assessment of data showed that, generally the quality of age reporting was good. The Myer's index was 6.49; which is lower than 10 as a limit for good age reporting. There is large variation in age reporting quality across districts, mainly in the District of Bobonaro (6.2) and it is very significant in the District of Ermera (20.0). Across sub-districts, age reporting was best in Lolotoe Sub-district (4.0), while Atsabe Sub-district performed worst age misreporting. The age reporting issues could have been attributed to high levels of illiteracy amongst the population vis-a-vis the quality of data collection personnel.

Results of fertility level analysis show that the total fertility rate varies across the techniques employed to estimate. The total fertility rate is 4.5 children per woman based on the reported number of births in the last 12 months, 5.9 children per woman according to the own-children method, 6.0 children per woman by the Rele method, 6.4 children per woman based on the Arriaga technique, 7.0 children per woman by the relational Gompertz formula and 7.2 children per woman according to the P/F ratio technique.

The difference in the estimates of total fertility rate by techniques was due to the difference in the assumptions underlying each method. Nevertheless, all indirect method results give the same conclusions that although fertility is declining in Timor-Leste it is still high and declining at a slow tempo. As the own-children method does not need fertility trend assumptions in the past and is based on the actual fertility, the TFR estimated using the own-children method is deemed as one that conforms to fertility levels, trends and differentials in Timor-Leste. The TFR is 5.9 children per woman in the period of 2007-2008. Therefore, on average a Timorese woman would have six children at the end of their childbearing period.

Results of fertility trend analysis show that the total fertility rates fluctuated largely at the beginning of the 1995-2010. The peak movement slows down after 2000-2001. The sign of long-term fertility decline started in 2002. Younger cohorts are more likely to reduce fertility.

The results of fertility differential analysis, shows that fertility varies according to the socio-economic background characteristics of women. Fertility is higher among women who live in rural areas, are illiterate in Tetun or Bahasa Indonesia, are less educated, are Catholics, Protestants/Evangelical or traditional religion followers, are married, are economically inactive, have worse quality of housing, have some livestock, and have crops. However, complete fertility less differs than period fertility, indicating the predominance of traditional family values that resiliently and equally pushes couples to have a large number of children.

About six percent of women aged 15-19 years in Timor-Leste have had a live birth. The majority of these women are aged 19 years, live in rural areas, live in Dili, are literate in Tetun or Bahasa (Indonesian), have pre-secondary or lower education, are Catholics, married, economically inactive, live in worse or worst quality of housing, have no or one chicken, have six or more small animals, have no or one big animal, have temporary crops and permanent crops.

Sub-districts also exhibit relatively more heterogeneous distribution of fertility. The total fertility is lowest in the sub-district of Nain Feto in Dili District (4.0 children per woman) and highest in the sub-district of Hatu Bulico in Ainaro District (8.2 children per woman). Eight sub-districts have a total fertility rate of less than five children, 16 sub-districts have a total fertility rate of between five and six children per woman inclusive and the remaining 41 sub-districts have a total fertility rate of higher than six children per woman.

The percentage of teenage mothers increases as the age of the women increases. The figure is higher in rural areas than in urban areas, with a high concentration in Oecusse and among teenage women who are illiterate, have no, pre-primary or non-formal education, traditional or other religious followers, are separated from their spouses, are employed, live in worst quality of housing, have six or more chickens, have two to five small animals, have two to five large animals, have temporary crops and permanent crops.

Nuptiality is one of the proximate determinants of fertility. The shorter the time spent in marriage, the lower the fertility. The majority of Timorese are married. Males aged 15 years and above are less likely to be married compared to the females of the same age. Females aged 15 years and above are more likely to be married, widowed, divorced or separated. The percentage of single/never married is higher in urban areas, highest in Dili district and Nain Feto sub-district. Age at first marriage is relatively high in Timor-Leste. The singulate mean age at marriage is 25.8 years nationally. It is higher among males aged 15 years and above, higher in urban areas, highest in Dili district, lowest in Viqueque district, highest in Nain Feto sub-district and lowest in Passabe sub-districts.

Population aged 15 years and above who are Catholics, illiterate, have no education, economically inactive, come from households with worst housing quality, come from households with no livestock and no crops are more likely to be in married status than other population aged 15 years and above.

Results of fertility spatial distribution analysis indicate that fertility still varies from a relatively high to high fertility with a small variation across districts. The total fertility rate differs from a lowest of 4.5 children per woman in Dili and to a highest of 7.4 children per woman in Ainaro. Two Districts (Dili and Covalima) have a total fertility level of less than six children per woman, while the other eleven districts have a total fertility rate higher than six children per woman.

1.5 Organization of the monograph

This monograph consists of five chapters. The background of the in-depth analysis of fertility and in Timor-Leste is presented in Chapter 1. In Chapter 2 the assessment of data quality, definition and concepts as well as the methods used for the in-depth analysis of fertility and nuptiality are discussed. The analysis of fertility is given in Chapter 3 that covers the analysis of levels, trends and differentials. The analysis of levels, trends and differentials of nuptiality is conveyed in the proceeding chapters. The monograph is closed with the conclusions, recommendations, references and appendices.

CHAPTER 2

METHODS AND PROCEDURES

2.1 Data quality assessment

For the purpose of these analyses, fertility measures used include the crude birth rate, age specific fertility rate, total fertility rates (TFRs)¹, teenage fertility rate, gross reproduction rate, net reproduction rate, child woman ratio, parity progression ratio and mean number of children ever born. In census information it is only possible to apply indirect techniques, the indirect techniques are employed to estimate the total fertility rate in Timor-Leste based on the 2010 Census. The indirect techniques consist of the Rele, P/F ratio, Arriaga, relational Gompertz and own-children method. Based on the assumptions for the methods used and levels generated, the TFRs estimated using the own children method are considered to reflect the levels and trends of fertility of Timor-Leste based on the 2010 Census. The assessment of data indicates that generally the quality of age reporting is good. The Myer's index of 6.49 is lower than 10; which is the recommended limit of good age reporting. There is large variation in age reporting quality across districts, however, where it is best in District of Bobonaro (6.2) and it is very serious in District of Ermera (20.0). Across sub-districts, age reporting is best in Lolotoe Sub-district (4.0), while Atsabe Sub-district performs worst age misreporting. The age reporting issues could be attributed to high levels of illiteracy amongst the population and the quality of data collection personnel.

Results of fertility level analysis show that the total fertility rate varies across the techniques employed to estimate. The total fertility rate is 4.5 children per woman based on the reported number of births in the last 12 months, 5.7 children per woman according to the own-children method, 6.0 children per woman by the Rele method, 6.4 children per woman based on the Arriaga technique, 7.0 children per woman by the relational Gompertz formula and 7.2 children per woman according to the P/F ratio technique. The difference in the estimates of total fertility rate by techniques is due to the difference in the assumptions underlying each method. Nevertheless, all indirect method results give the same conclusions that although fertility is declining in Timor-Leste it is still high and declining with a slow tempo. As the own-children method does not need fertility trend assumptions in the past and is based on the actual fertility, the TFR estimated using the own-children method is deemed as one that conforms to fertility levels, trends and differentials in Timor-Leste. The TFR is 5.9 children per woman in the period 2007-2008. Therefore, on average a Timorese woman would have six children at the end of her childbearing period.

Ideally, the fertility levels can be estimated directly from complete and reliable vital registration statistics using conventional indices. However, as in other developing countries, vital registration statistics are relatively incomplete in Timor-Leste. Hence, indirect techniques have been used to calculate fertility based on censuses and surveys. But, regarding fertility information census and survey data also have limitations, such as underreporting of children ever born and age

¹ TFR refer (Total Fertility Rate) is the sum of age –specific birth rates 95 –year age groups between 10 and 49) for female residents of a specified geographic area (nation, state, country) during a specified time period (usually a calendar year) multiplied by5.

misreporting. Therefore, before the data can be used to estimate fertility levels its quality should be examined first.

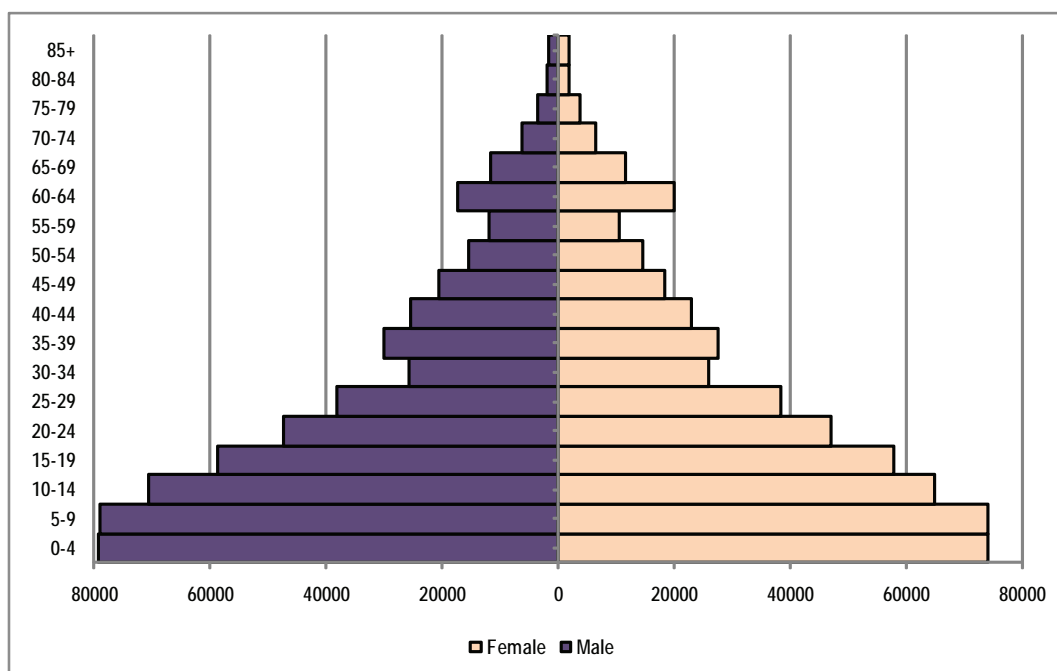
The assessment of data quality includes the examination of the age-sex composition of the population to identify the presence of preference of a particular terminal digit in age reporting and the analysis of the patterns of reported births in the last 36 months before the 2010 Census to detect possible errors in the reporting of the date of last birth. Myer's index is used to observe the presence of age heaping. This index is an estimate of the lowest percentage of persons in the population for whom an age with an inaccurate final digit is reported (Hubbs, 2004). The theoretical range of Myer's index is between 0 and 90, where 0 represents no age heaping and 90 indicates that all ages were reported at a single digit, say zero. If Myer's index is less than 10 this means that age reporting is reasonably good.

The age-sex structure of Timor-Leste's population is young. The results of the 2010 Population and Housing Census show that Timor-Leste's population pyramid has a very broad base and it narrows rapidly for older ages (Figure 2.1). This pyramid characterizes the case of an age-sex structure with a very large percentage of children (41.4%), a very small percentage of older people (4.7%) and a low median age (18.9 years). In other words, the population pyramid of Timor-Leste suggests high birth rate and high death rate prevailing in the country. In addition, the higher than expected percentage of population in age group 60-64 years might indicate the tendency to report ages 60 years and above because of government policy on social security to people who have reached 60 years and above.

Grouped data may conceal several important types of errors in age data. Therefore, the population pyramid for single years of age is produced (Figure 2.2). It can be seen that some obvious irregularities are revealed. For example, there are marked concentrations at ages ending in "0" and corresponding deficits at ages ending in "1". Less marked clustering are evidenced on ages ending in "5" almost without exception. The numbers for close ages should probably be quite the same. Although changes in fertility, mortality and migration can produce fluctuations from one single age to another, the variations observed reveal errors in age reporting in which respondents tend to report certain ages. The examination of age preference shows that there is some age misreporting in the 2010 Census in Timor-Leste. However, overall it is not serious. The Myer's index of terminal digit preference is 6.49, higher for females than for males (6.74 versus 6.24). This indicates that age reporting is relatively good. For a comparison, the Myer's index for the 2010 Indonesia Population and Housing Census is 3.01 for male population and 3.30 for female population. The calculation of Myers' index for both sexes, male and female is presented in Table A.1 in the Appendices.

There is a marked variation in age misreporting across districts and sub-districts. The district of Bobonaro performs better age reporting than other districts with lowest Myer's index of age preference of 6.2, while the District of Ermera exhibits quite serious age heaping of 20.0 (Figure 2.3 and Table A.2a). Disparity in errors in age reporting is even more pronounced across sub-districts. As it can be seen from Figure 2.4 and Table A.2b, Myer's index of terminal digit preference is lowest in Lolotoe (4.0) and highest in Atsabe (29.1). Half of sub-districts have Myer's index of age heaping higher than 9.5. Low literacy levels could be a factor of this higher age heaping in some sub-districts as the interviewer had to probe by linking with important events if the respondents could not remember their ages that could be misunderstood by respondents and increase the likelihood of age preference. It is observed that age heaping is relatively more apparent in sub-districts with lower literacy in Tetun or Indonesian language.

**Figure 2.1: Population by five year age group and sex:
Timor-Leste, 2010 Population and Housing Census**



**Figure 2.2: Population by single year age group and sex:
Timor-Leste, 2010 Population and Housing Census**

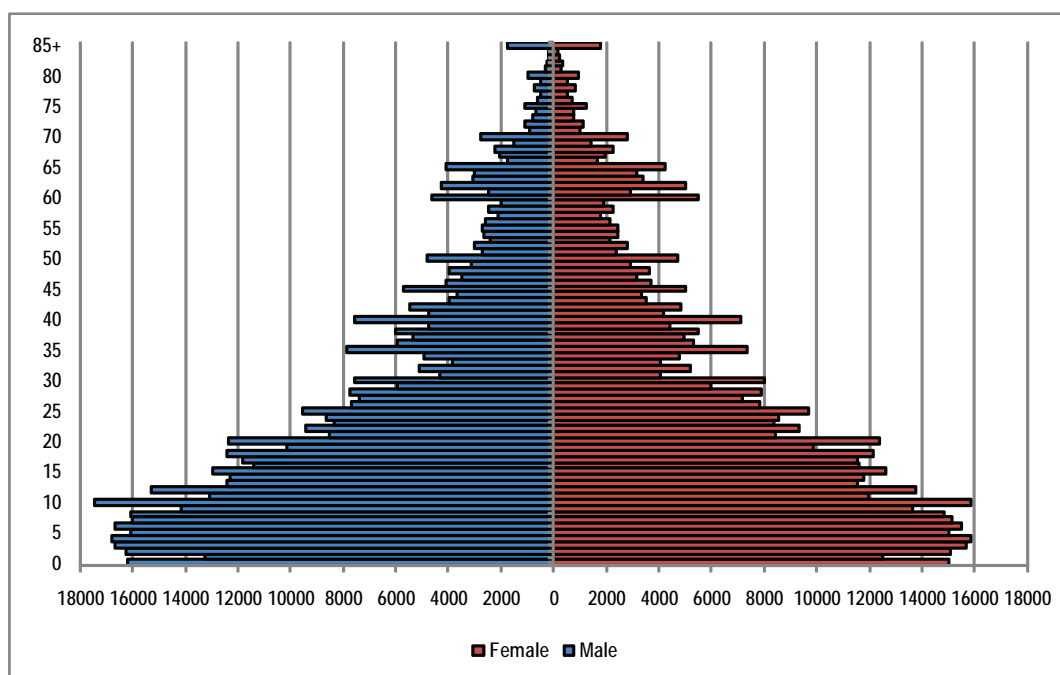


Figure 2.3: Myer's index of terminal digit preference by district: Timor-Leste, 2010 Population and Housing Census

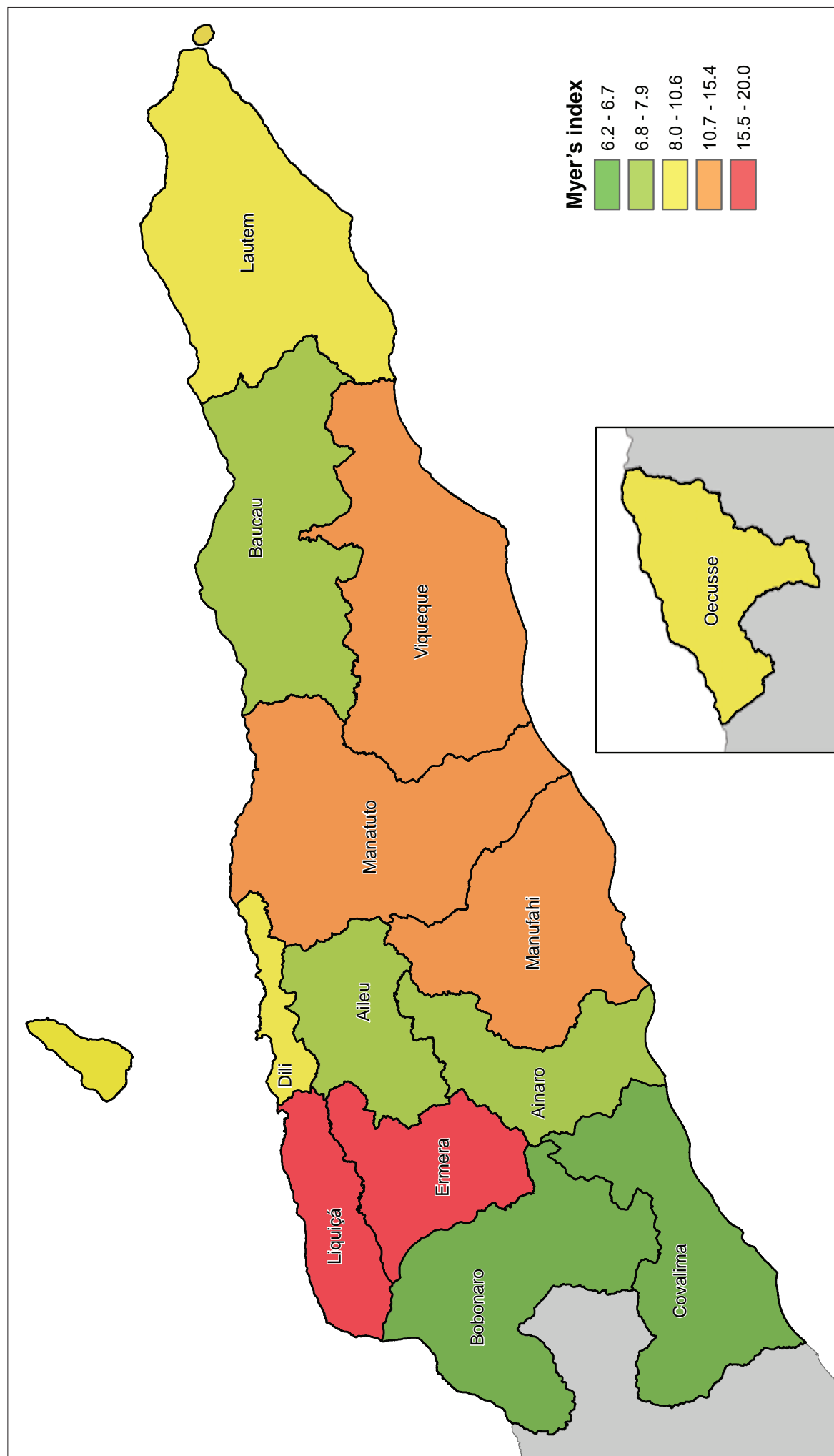
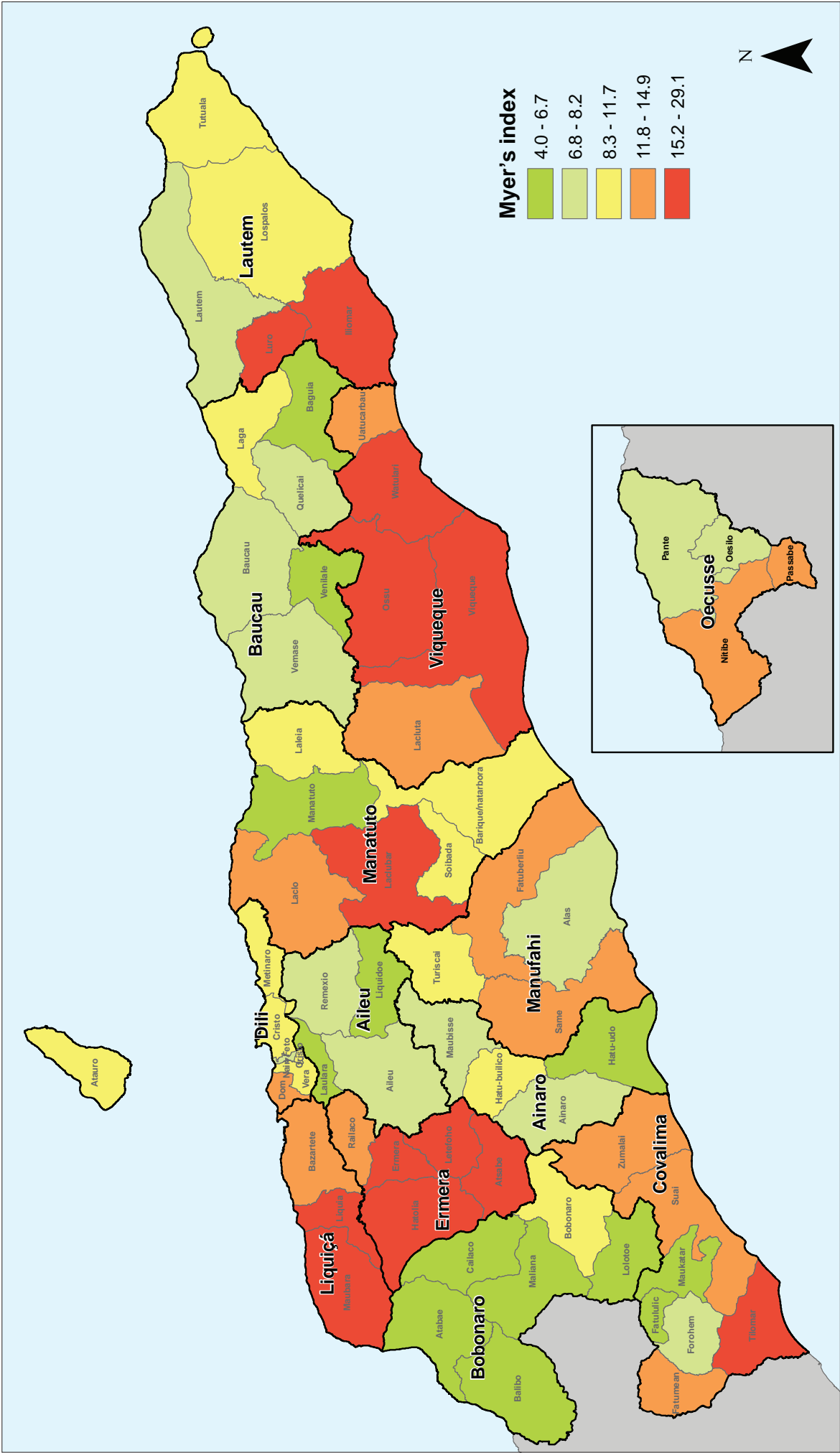
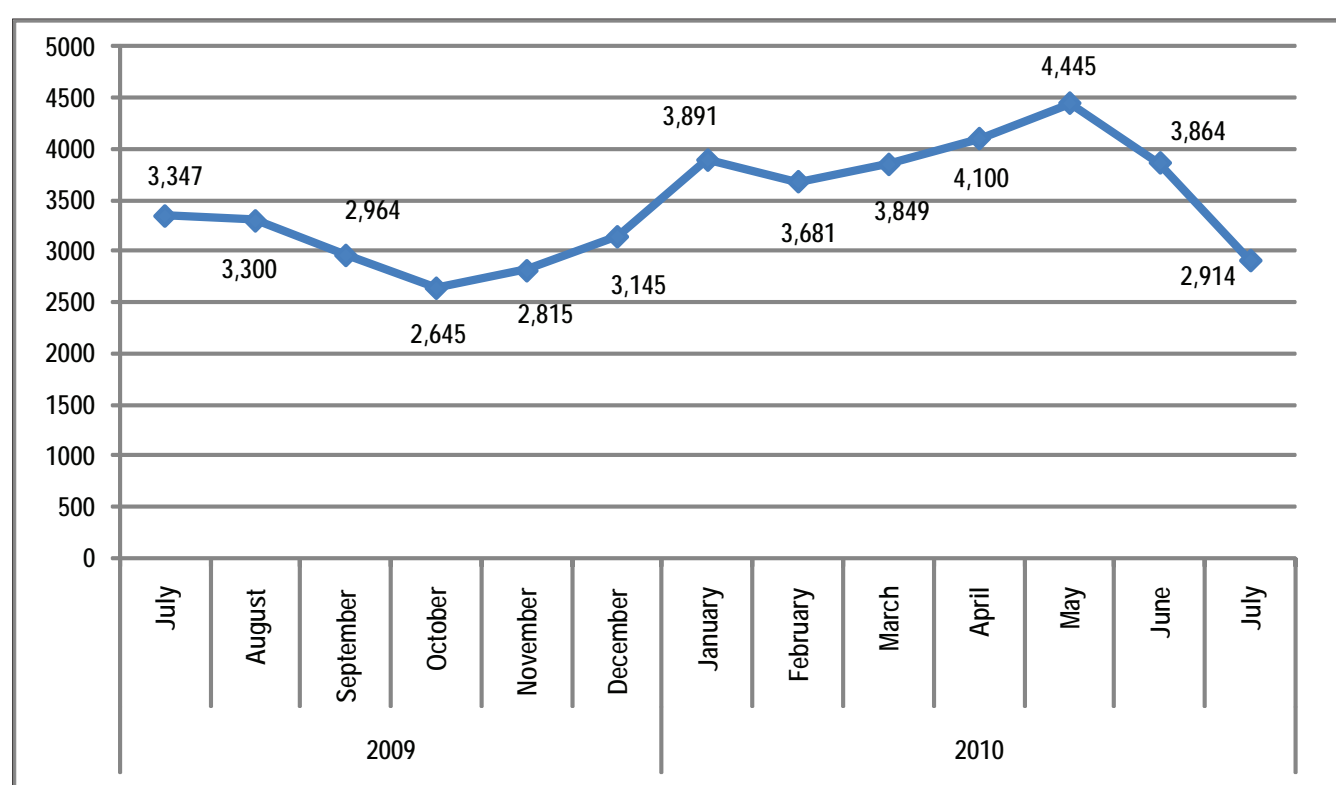


Figure 2.4 : Myer's index of terminal digit preference by sub-district: Timor-Leste, 2010 Population and Housing Census



The accuracy of fertility estimates depends on the extent to which the date of birth is correctly reported and recorded and the completeness with which child births are reported. Exclusion of births influences fertility estimates, displacement of birth dates affects fertility trends and age at birth misreporting may distort the age fertility age pattern. The examination of distribution of reported births in the last 12 months (the period of July 2009 – July 2010) shows an evidence of heaping of births at age two months (born in May 2010) and six months (born in January 2010). However, the variability of number of births in this period is low. The number of reported births varies from 2,645 births in October 2009 to 4,445 births in May 2010 (Figure 2.5). The mean number of births is 2,759 births with a standard deviation of 850 births. This implies that on average the monthly reported number of births during the period differs from its means as much as 16%. Thus, the birth heaping should be of no concern given that the present analysis is focused on the reported births in 12 months before the 2010 Census.

**Figure 2.5: Number of reported births in the last 12 months before the census:
Timor-Leste, 2010 Population and Housing Census**



The assessment of the mean number of children ever born according to women's age group from 2004 Census and 2010 Census shows that the figure declined for younger cohort women ages 15-29 and it increased for older women ages 30 and above in the 2004-2010 period. This trend might suggest fertility decline among younger women and better number of children reporting among older women. However, the mean number of children ever born declines as the age of women increases for older cohorts ages 45 and above in 2004 and for older women ages 50 and above in 2010. This could be the results of poor reporting by older women due to their age and literacy status. Older women are more likely to have forgotten their dead children and those who have moved out from their homes for marriage or work.

In conclusion, the assessment of data quality shows that the 2010 Census in Timor-Leste, age misreporting is not serious and the variability of number of births in the last 12 months before the 2010 Census is low. Therefore, data is good enough to provide estimates of fertility which are reliable.

**Table 2.1: Mean number of children ever born by women's age group:
Timor-Leste 2004 and 2010 Population and Housing Census**

Age group	Mean number of children ever born	
	2004 Census	2010 Census
15-19	0.1	0.1
20-24	1.0	0.9
25-29	2.6	2.3
30-34	3.9	4.0
35-39	4.9	5.0
40-44	5.4	5.8
45-49	5.3	6.0
50-54	5.0	5.9
55-59	4.8	5.6
60-64	4.3	5.2
65+	3.9	4.6
Total	3.1	3.2

2.2. Concepts and Definition

In fertility analysis, measures of fertility used are the crude birth rate, general fertility rate, age specific fertility rate, total fertility rate, gross reproduction rate, net reproduction rate, child woman ratio, mean number of children ever born and parity progression ratio. The crude birth rate (CBR) is the easiest and most common measure of fertility. It is the annual number of births per 1,000 mid-year population (Estee, 2004; PRB, 2011). It is directly related to natality and population growth rate (Arriaga et al., 2003). This rate is a crude rate since the base for its calculation includes the total population, comprising of men, children, and women outside the reproductive ages. Thus, the level of the CBR depends on the number of births and also on the proportion of population who are not exposed to having births. Accordingly, the CBR is influenced by the sex and age structure of the population.

Other fertility indices that limit the measurement of births to women in reproductive ages include the general fertility rate (GFR), child woman ratio (CWR), age specific fertility rate (ASFR), total fertility rate (TFR), mean number of children ever born (CEB) and parity progression ratio. There are also measures of reproduction which concern with the extent to which a population is replacing its own numbers by natural processes. These include the gross reproduction rate (GRR) and net reproduction rate (NRR).

The **General Fertility Rate** is the number of births in a year per 1,000 women of childbearing age at midyear. Meanwhile, the **Child Woman Ratio** (CWR) is the ratio of the number of children aged 0-4 years to the number of women aged 15-49 reported in a census (Pullum, 2004). The CWR is usually used to measure fertility level for small areas since it is often too expensive to tabulate data from special fertility questions for such areas. The GFR and CWR also have limitations since the number of births varies by age of women in reproductive ages. Thus, these measures are also affected by the age structure of women within the reproductive ages. The measure that takes into account this difference is the age-specific fertility rate.

The **Age-Specific Fertility Rate (ASFR)** is the number of births in a year to mothers of a specific age per 1,000 women of the same age at midyear. ASFRs are usually computed for women aged 15-49 years in each five year age group. However, the ASFRs are difficult to use for fertility comparative analysis among populations or within a particular population over time. The total fertility is a summary index of fertility that can be used for these purposes.

The **Total Fertility Rate (TFR)** is the number of children a woman would have at the end of her reproductive age if they experienced a given set of age-specific fertility rate throughout their reproductive span (Dharmalingam, 2004). The TFR is calculated by cumulating the ASFRs for all ages of women. When the rates are calculated for the seven conventional five-year age groups, the TFR is the sum of the ASFR for each age group and then is multiplied by five as the width of the age group interval.

The **mean number of children ever born** is a cohort fertility measure which reflects the fertility experience of a cohort of women. It is usually tabulated by the age of woman. In the 2010 Census this measure is obtained from several questions: *"Have you borne any children alive?"*, *"Of the children you have borne alive, how many usually live with you in this household?"* (P39 for male and P40 for female), *"Of the children you have borne alive, how many usually live elsewhere?"* (P41 for male and P42 for female) and *"Of the children you have borne alive, how many have died?"* (P43 for male and P44 for female). The total children ever born for each woman then is the sum of answer for question P39, P41 and P43 for male children (P37), the sum of answer for question P40, P42 and P44 for female children (P38), and the sum of P37 and P38 for both sexes.

Parity-Progression Ratios are the probabilities that a family will be enlarged by an additional child each year (Estee, 2004). They represent the probability, on a retrospective basis, of having ($n + 1$)th child among those that have an n th child. These probabilities are calculated only for cohorts of women who have reached the end of the childbearing period.

The **Gross Reproduction Rate (GRR)** is an index similar to the total fertility rate, but it measures the number of daughters a woman would have at the end of her reproductive age. It can be calculated by multiplying the TFR by the proportion of all births that are female. The GRR can be interpreted as the average number of daughters that would replace a group of women starting life together if the women had children according to a given set of age-specific fertility rates and if none of the girls die before they reach the age of their mothers in the reproductive years (Arriaga et al., 2003; Dharmalingam, 2004). This measure is gross because it assumes that all girls will survive to the age of their mothers in the reproductive years.

The **Net Reproduction Rate (NRR)** is a measure of the number of daughters that a cohort of newborn girl babies would bear during their lifetime assuming both fertility and mortality remain unchanged (Arriaga et al., 2003; Dharmalingam, 2004). Of interest is when the NRR equals to one which is referred as replacement level fertility. Replacement fertility level indicates that each woman will be replaced by just one other woman after a generation. The NRR has been used to measure the ability of a population to replace itself. Replacement fertility level in a population means that the population is able to exactly replace itself. Above replacement fertility level in a population indicates that the population is more than replacing itself, and a rate below unity means that the population is not replacing itself.

The analyses of nuptiality consist of the analysis of marital status, age at first marriage and characteristics of single parent households. The measure used for the age at first marriage is the Singulate Mean Age at Marriage (SMAM). It is the mean age at first marriage among those who ever marry (UN, 1983). In practice, it is the mean of age at first marriage among those who marry by some predefined age limit.

2.3 Methods and procedures of analyses

The analysis of fertility in this monograph comprises the analysis of fertility levels, trends, differentials and spatial distribution. For these purposes, the measures of fertility levels estimated includes the crude birth rate, general fertility rate, age specific fertility rate, total fertility rate, gross reproduction rate, net reproduction rate, child woman ratio, mean number of children ever born and parity progression ratio. Meanwhile, the analysis of nuptiality consists of the analysis of the age at first marriage, marriage patterns and characteristics of single parent households.

The crude birth rate (CBR) is calculated from the reported number of births (B) in the 12 months prior to the 2010 Census. This information can be obtained from question P45 *which is the month and year of last birth. B is the total births within the period of July 2009 to June 2010*. The formula to calculate the CBR is very simple. If the total population is P the CBR is B divided by P and then multiplied with 1,000.

Direct technique and five indirect techniques are employed to estimate the ASFRs and TFR. Direct technique is used to produce the unadjusted ASFRs and TFR. If b_i is the number of births in the 12 months prior to the 2010 Census to mothers age i and P_i^f is the number of women age i then ASFR for women age i is b_i divided by P_i^f and multiplied with 1,000, where $i = 1$ if the age of women is 15-19, $i = 2$ if 20-24, ..., and $i = 7$ if 45-49. b_i is obtained from the number of births in the 12 months before the survey from women age i . The TFR is the sum of all seven ASFRs and multiplied by five as the width of age interval.

The indirect fertility estimate techniques used to estimate fertility levels are the Brass-type (P/F ratio), Arriaga, relational Gompertz, Rele and own-children. The description of these techniques in the following section is based on UN (1983) and Arriaga et al. (2003). The analysis of fertility levels will use the TFR estimated employing these indirect methods. The indirect techniques that use information on the age structure of a population in the estimation of fertility include the Rele and own-children. The age structure of a population indicates the history of demographic events that took place in the population. In a census the population counted in a specific age group denotes the survivors of a number of births as many years ago as the age of the group, after taking into account mortality and migration during the interim. Meanwhile, the Brass-type, Arriaga and relational Gompertz methods are based on particular fertility questions included in censuses and surveys which are asked to women usually age 15 and above. These include the number of children ever born alive and the date and the sex of the last live birth which will then be used to produce respectively cohort fertility and the current fertility. The principle of these three indirect methods is to correct the current fertility according to the fertility level implied in the cohort fertility.

The Rele method

The Rele method is based on the study that there is a strong relationship between the ratio of children age 0-4 and age 5-9 to women of reproductive age with a certain fertility level after taking into account mortality during the period. The method estimates the total fertility rate and only needs the number of children age 0-4 and 5-9, the number of women age 15-49 and the life expectancy at birth in the estimation of TFR. The Ratio based on children age 0-4, provides the TFR for the period of 0-4 years before the census, while the ratio based on children 5-9 gives the TFR for the

period of 5-9 years prior to the census. However, the fertility estimates produced should be examined for consistency between the TFRs in the period 0-4 and 5-9 years prior to the census and also in relation to fertility estimates produced using other techniques. The TFR estimated using the Rele method is sensitive to the under-enumeration of young children which will consequently underestimate the TFR. Thus, the reported number of young children should be correct before concluding the final estimate of TFR.

The own-children method

The own-children method utilizes census data by age to obtain ASFRs and TFR for 10 to 15 years before the census date. The technique uses information on the number of children age 0-14 who live with their own mothers (matched children) by their single years of age and their mothers' single years of age, the number of children age 0-14 who do not live with their own mothers (unmatched children) by their single years of age, the total number of women by single years of age and appropriate life table survivorship for a 15-year period before the census. The method assumes that the census coverage is the same for children as well as women and that the distribution of mothers of unmatched children is the same as the age distribution of mothers for matched children. The method does not require any assumption about fertility trend. However, the procedure can produce biased results if there is age heaping at ages five and ten years that may overestimate fertility for exactly five and ten years before the survey. In addition, if there is under-enumeration of young children, fertility estimates will be under-estimated particularly for the years closely prior to the census. In this analysis, the TFRs estimated using the own children method are used to study the trends of fertility in the period of 15 years before the 2010 Census (1995-2010).

The Brass-type, Arriaga and relational Gompertz methods use information on births in the last 12 months by age of mother obtain a fertility pattern. These methods assume that if under-reporting or over-reporting of children problem is present in the information used for estimating the fertility pattern, such errors are comparatively similar for all ages of mothers. In other words, it is assumed that the errors will influence the true level of fertility and the information indicates the true fertility age pattern. The reported number of births from censuses and surveys are usually reported by a woman's age at the time of the interview. Therefore, an adjustment is needed to make the age of women refer to the date of the reported birth such that the fertility age pattern is not biased towards older age. The adjustment equals to approximately one-half of the reference period. If the data refers to births in the last 12 months before the interview, then each woman would be on average, six months younger at the time of birth than at the time of the interview.

The P/F ratio method

The Brass-type (P/F ratio) technique was first developed by William Brass. This technique adjusts an age-specific fertility pattern to a fertility level obtained from the information on children ever born. To do this, the fertility pattern is cumulated to ages 20, 25, ..., 50. These cumulated fertility rates, F, are adjusted and compared with the children ever born, P (parity). This technique utilizes the P/F ratios in each age group to adjust the reported fertility pattern to the level implied by the children ever born. The technique accepts the number of children ever born to represent the true real cumulative fertility level. Brass developed some adjustment to match the reference age of women in the mean number of children ever born (15-19, 20-24, ..., 45-49) and in the cumulative fertility (20, 25, ..., 50). He simulated the fertility pattern and the corresponding children ever born employing a third degree polynomial.

There are some assumptions in fertility estimation using the P/F ratio technique. First, the completeness of data from which it's estimated that age specific fertility rates are the same for all age groups of women. Secondly, the reporting of the mean number of children ever born is complete at least up to ages 30 or 35 years and represents the cumulative fertility up to these ages. Third, there is no age misreporting of women in the reproductive years. Fourth, the fertility pattern and level have not changed in the last 10 to 15 years before the census or survey. The P/F ratios can also be used to examine a possible recent fertility trend. Similar P/F ratios for the age groups 20-24, 25-29 and 30-34 years with declining ratios for the older ages indicate that fertility has been constant in the past as assumed by the technique, that any underreporting of births is the same for all ages of women and that any under-enumeration of children ever born happened only with respect to women age 35 years and above.

Violation of the assumptions or different pattern of underreporting may cause the deviations from the typical results. For instance, an increasing trend in the P/F ratios by women's age may indicate that fertility has been declining in the recent past. Meanwhile, a declining trend in the P/F ratios may reflect that fertility has been increasing or that reported data on children ever born experience increasingly rising omissions of children as age of women increases. Further, large fluctuations in the P/F ratios may suggest either differential coverage by age or selective women's age misreporting and hence the results must be examined with caution.

The Arriaga method

A limitation of the P/F ratio techniques is that it assumes that fertility has not changed or is constant within a certain years prior to the census or survey. This limitation is solved in the Arriaga technique, developed by Arriaga (1983), which does not need such an assumption. Arriaga observed, based on a simulation model, that under conditions of declining fertility, the number of children ever born by age of mothers changes almost linearly for mothers ages under 35 years. If information on the mean number of children ever born from two consecutive years is available, the technique can estimate the age specific fertility rates by single years of age which are influenced by possible decline in fertility. Arriaga's method assumes that the similarity of completeness of reported number of births in the last 12 months prior to the survey for all age groups, the mean number of children ever born is reported correctly for women age younger than 30 or 35, there is no age misreporting among women of reproductive ages and fertility changes will result in a linear change in the mean number of children ever born at each single year age of women between the two reporting years.

The relational Gompertz method

As in the P/F ratio and Arriaga's technique, this method, developed by Brass (1981), estimates the total fertility rates from the mean number of children ever born and the fertility pattern. In this technique fertility is estimated employing the Gompertz function which follows the pattern of the cumulative fertility rates. Since the cumulative fertility is similar to the mean number of children ever born then the Gompertz function can be fitted to both fertility measures. The information relating to each age group of mothers produces an estimate of the total fertility rate. It is recommended to take the estimates of the total fertility rate corresponding to the age groups 20-24 and 25-29 years as the actual levels of the total fertility rate. These techniques assumes that the mean number of children ever born by the age of women follows the pattern of Gompertz function, the mean children ever born reporting is complete and represents the level of cumulative fertility for each age group of women and the completeness the reported number of births in the last 12 months before the census is the same for all age groups of women.

The analysis of fertility differentials and spatial distribution will use the TFR estimated based on reported births in 12 months before the Census and the mean number of children ever born from women aged 45-49. The analysis of fertility differentials is intended to show the lowest and highest fertility groups. Meanwhile, the analysis of fertility spatial distribution of fertility aims to identify district and sub-district with lowest and highest fertility levels. For these analyses, two fertility measures are used which are period (current) fertility and completed (cohort) fertility. The unadjusted total fertility is used for the current fertility as the main objective is to assess fertility variations across districts and across sub-districts. The mean number of children ever born from women age 45-49 is used for the completed fertility. The parity-progression ratios are based on the proportions of married women who have had children of a particular order and above. The ratios a_i are calculated using the following formula.

$$a_0 = m_{1+}, a_1 = m_{2+} / m_{1+}, \dots, a_i = m_{i+1+} / m_{i+}$$

where $m_{1+}, m_{2+}, \dots, m_{i+}$ are the percents of married women in a given year who have had 1 or more, 2 or more, ..., $i+1$ or more children and a_0, a_1, \dots, a_i are the parity-progression ratios of the families with 0 (without children), 1 child, ..., i children.

The singulate mean age at marriage (SMAM) is calculated using the Hajnal method (UN, 1983). It is computed from the proportions of those who are single or never married in each age group. As the most commonly considered age interval is five years, the computation process of the singulate mean age at marriage is done for data classified by such age groups. The assumption is that no first marriages happen before age 10 or after 50.

CHAPTER 3

ANALYSIS OF FERTILITY IN TIMOR-LESTE

3.1 Levels of fertility based on the 2010 Census

The first analysis of fertility is the analysis of its levels that include the crude birth rate (CBR), child woman ratio (CWR), mean number of children ever born (CEB), total fertility rate, and parity progression ratio. The 2010 Census recorded that there was 29,889 births to women aged 15 – 49 in the last 12 months before the Census (for 2009 – 2010) and the population was 1,066,409. Therefore, the CBR is 28 births per 1,000 people. This low CBR might be due to under coverage of children under five years as depicted in the population pyramid (Figure 2.2). The assumption of 25 percent under-enumeration of children age 0-4 years as indicated in the base population for the projections in 2010 gives a CBR of 35 births per 1,000 people. Although, this birth rate has declined from 42.7 in 2004, this is still a high rate as the average CBR in Southeast Asia and even Asia is already below 20. This CBR is also close to the one estimated using the 2009-10 Timor-Leste Demographic and Health Survey (TLDHS) which was 33.2 (NSD and ICD Macro 2010). The crude birth rate for districts is attached in Table A.11.

There are 649 children age 0-4 years per 1,000 women age 15-49 years. After taking into account under-enumeration of young children age 0-4, the adjusted child woman ratio of Timor-Leste comes to 806 in 2010. This ratio is extremely high and is the second highest in the world after Niger (918). Globally, the child woman ratio is 357. It is 239 in more developed regions, 381 in less developed regions and 599 in least developed regions. Africa exhibits highest child woman ratio at 627 children age 0-4 years per 1,000 women age 15-49 years. The figure is 327 for Southeast Asia.

In the 2010 Census there is an indication of better reporting of number of children ever born among older women. Compared to the 2004 Census, the mean number of children ever born increased for women aged 30 years and above. For example, based on the 2004 Census the mean number of children ever born to women aged 50 – 54 was 5.0 in 2003 and it increased to 5.9 in 2010 (Table 3.1). The results also suggest fertility decline among the younger age groups. For instance, the mean number of children ever born to women aged 25 – 29 was 2.6 in 2004 and it declined to 2.3 in 2010.

However, there is still a problem of understating the true number of children as the mean number of CEB declines as women's age increases. Also, the percentages of women with six children or more decreases as the women's age increases. The decline can also be caused by a fertility increase among the younger cohort women. Still, this can be the result of the high mortality that high parity women are likely to have undergone. Older women would show lower parity because those women with high parity had lower chances to survive to older ages. Therefore, low parity women would dominate older age groups of women.

Observing the parity of women at the end of their reproductive ages (45 – 49 years), it can be seen that their mean number of children ever born is six. In addition, the majority of these women had six, seven, eight and five children (11.4, 11.1, 10.5 and 9.6 % respectively). Further, nine percent of these women never had a child, four percent have had one child and five percent have had two children and so on.

Of importance is the parity of women in their prime time reproductive ages (20 – 34 years). It is relatively small: 0.9 for women aged 20 – 24, 2.6 for women aged 25 – 29 and 4.0 for women aged 30 – 34 years. In spite of this, a substantial percentage of these women already have had many children. For example, 27.4 percent of women aged 25 – 29 and 57.8 percent of women aged 30 – 34 have had four or more children.

Table 3.1

Percentage distribution of women by number of children ever born, total number of children ever born and mean number of children ever born according to age groups of women: Timor-Leste, 2010 Population and Housing Census

Age of women	Children ever born													Total	Total number of women	Total number of children ever born	Mean number of children ever born
	0	1	2	3	4	5	6	7	8	9	10	11	12+				
15-19	93.7	3.5	1.4	1.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	56,907	6,286	0.1
20-24	58.5	15.2	13.4	7.0	3.2	1.3	1.0	0.4	0.0	0.0	0.0	0.0	0.0	100.0	46,277	42,276	0.9
25-29	27.8	11.0	16.9	16.9	12.8	7.2	4.0	1.7	1.1	0.7	0.0	0.0	0.0	100.0	38,049	88,591	2.3
30-34	14.3	5.6	9.0	13.4	16.3	14.1	11.6	6.7	4.3	2.4	1.5	0.7	0.0	100.0	25,760	101,949	4.0
35-39	10.4	4.2	6.0	9.0	12.3	13.7	13.7	10.9	8.3	5.0	3.1	1.5	1.9	100.0	27,217	136,545	5.0
40-44	9.5	3.8	4.9	7.1	9.2	11.3	12.2	11.6	10.2	7.3	5.4	3.3	4.2	100.0	22,732	130,788	5.8
45-49	9.1	4.1	5.1	6.7	8.2	9.6	11.4	11.1	10.5	8.4	6.4	4.0	5.3	100.0	18,239	109,316	6.0
50-54	9.7	5.1	5.7	7.1	8.3	9.5	10.4	10.6	9.9	8.0	6.1	3.6	5.9	100.0	14,385	84,227	5.9
55+	16.2	9.1	7.1	7.5	7.7	8.0	8.5	8.3	7.8	6.3	5.0	3.3	5.3	100.0	55,641	278,049	5.0
Total	36.6	7.6	7.9	7.9	7.6	6.8	6.5	5.4	4.5	3.3	2.4	1.5	2.0	100.0	305,207	978,027	3.2

Note: The percentage distribution of women by number of children ever born, total number of children ever born and mean number of children ever born according to age groups of women by children's sex is presented in Table A.3.

The occurrence of primary sterility, that is the percentage of women who have never had a child at the end of their reproductive period, declined from 14.4 in 2004 to 9.1% in 2010. But, this percentage increased among older cohorts of women. The percentage of women who had no children for women aged 65 year and over declined significantly from 30.4 in 2003 to 19.9 in 2010. These levels and trends of primary sterility could be the results of inaccurate reporting in number of children ever born that is typical of this fertility data. Nevertheless, these primary sterility facts might suggest that childless women have atypical likelihood of survival to older ages. Thus, they are overrepresented in the older cohorts. Concurrently, these facts could reveal a significant mortality. Women with children and specifically the high parity women may be underrepresented. In summary, the analysis of cohort fertility measure of number of children ever born suggests that despite the possible inaccuracy in number of children ever born reporting fertility levels are still high.

The unadjusted total fertility rate based on the reported number of births in the last 12 months prior to the survey is 4.5 children per woman (Table 3.2). This value is indeed underestimating the fertility level. This unadjusted fertility level could be distorted by an incorrect reporting of the date of the last birth in particular if the mothers state the age of the last child and not the month and year of birth which is requested in the 2010 Census. It is possible that mothers with last birth age less or more than 12 months state that the age of the last child is more or less than 12 months. This problem will influence the actual fertility level and not the fertility age pattern if it is supposed that inaccuracy in the understanding of the reference period is the same in all age groups of women.

The calculation of the adjusted TFR using the Arriaga's technique is presented in Table A.4 for the 2004 Census data and in Table A.5 for the 2010 Census data. Using this method, the adjusted TFR based on the 2010 Census was estimated to be 6.4 children per woman in 2005-2010. Thus Timor-Leste's TFR is still very high and among the highest fertility levels in the world. According to the 2010 Human Development Report, only Niger and Afghanistan have a higher fertility level than Timor-Leste (UNDP, 2010). It is also important to notice that women over 35 years of age exhibit high fertility level. Of 1,000 women aged 35-39 years for example, 223 had births during the 12 months prior to the Census and the figure is 116 for women aged 40-44 years. These numbers are exceptionally and Timor-Leste shares these same high rates of fertility among women age 35-39 and 40-44 as in some other countries in Africa, Western Asia and Oceania.

The adjustment factor used to adjust ASFRs and TFR is 1.424. This means that the observed ASFRs were adjusted by increasing their values by 42.4 percent. This finding also suggests that, as expected, the accumulated fertility levels are higher than current levels. This means fertility decline is on its way in Timor-Leste. The adjusted TFR based on the 2004 Census was 6.5 children per woman. It is possible that this low TFR estimate is due to under-reporting of children ever born in the 2004 Census that caused lower cohort fertility than current fertility. If it is true then the adjusted TFR in 2004 should be higher. Still, the results suggest a slow fertility decline during the period of 2004-2010. This is quite reasonable as socioeconomic development that is taking place in the country has not yet had impact on the reproductive behavior changes in particular among older cohorts of women. It can be seen that during the period of 2004-2010 fertility rate declined among younger women ages 15-24 and increased among older cohorts women ages 29 and above except among women age 30-34 years.

The calculation of the adjusted TFR using the P/F ratio technique is presented in Table A.6 for the 2004 Census data and in Table A.7 for the 2010 Census data. This method gives a TFR of 7.2 children per woman based on the 2010 Census. It declined slowly from 7.4 children per woman based on the 2004 Census. This result confirms high fertility and slow decline of fertility level in the country, even in the absence of fertility decline assumption.

Using the relational Gompertz technique based on ASFR and CEB the TFR is estimated to be 7.0 children per woman based on the age groups 15-19 to 35-39 from women age 20-29. It declined from 7.3 according to the results of the 2010 Census. Again, this technique supports that fertility is still high in Timor-Leste and it declined in a slow pace. The Rele method gives a TFR of 6.0 in 2003 and 4.8 in 2008 for the unadjusted number of young population aged 0-4 and 5-9. These values definitely underestimate the level of fertility. It is because that in 2010 Census the young children population is under-enumerated as in most censuses. Therefore, the number of population aged 0-4 and 5-9 are adjusted by using the percentage of these groups of population from the results of population projection of Timor-Leste for the year 2010 conducted by the National Statistics Directorate (NSD, without date). This adjustment gives a TFR of 6.5 in 2003 and 6.0 in 2008.

Meanwhile, the direct estimation of TFR using the 2003 TL-DHS is based on ever married women. It gives a very high TFR of 7.8 children per woman. This TFR will be lower if the estimation is based on all women aged 15-49 years. Therefore, taking into account all women aged 15-49 years in the direct estimation of TFR using the 2003 TLD-DHS will produce the TFR that conforms to the TFR estimated using the Rele method in 2003, while the direct estimate TFR from the 2009-2010 TL-DHS TFR is close to the TFR estimated using the Rele method in 2008. The summary of the estimation of the total fertility rates by technique is presented in Figure 3.1 and Table 3.2. It can be seen that the total fertility rates differ according to the technique employed to estimate it and to the source. The indirect methods also produce different results due to different assumptions in the estimation. This is a common situation in countries with incomplete and unreliable vital registration statistics. Nevertheless, the findings indicate that fertility is still high in Timor-Leste and among the highest in the world and it declines with a slow pace. Based on the assumptions, levels and trends, it is considered the TFR estimated using the own-children method conforms to the fertility levels in Timor-Leste based on the 2010 Census that is 5.9 children per woman.

Figure 3.1: The total fertility rate (children per woman) by techniques and sources: Timor-Leste, 2002 – 2010

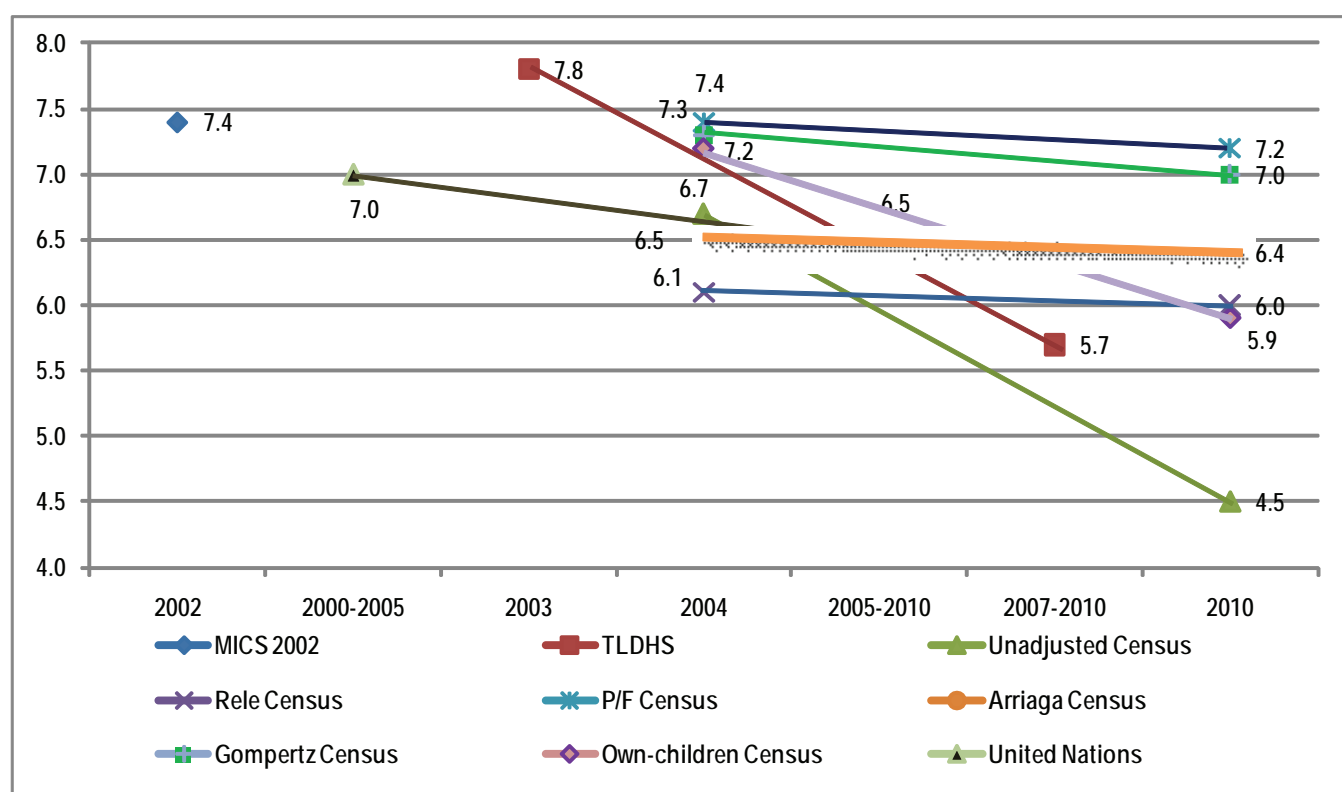


Table 3.2: The estimation of the total fertility rates, gross reproduction rates and net reproduction rate by techniques and sources: Timor-Leste, 2002 – 2010

No.	Sources/techniques	Total fertility rate		Gross reproduction rate 2010 Census	Net reproduction rate 2010 Census	Note
1.	Multiple Indicator Cluster Survey 2002	7.4				Estimated using the P/F ratio method.
2.	Timor-Leste Demographic and Health Survey	2003	2009-2010			
		7.8*	5.7			Estimated using the direct technique from the number of births in the last three year before the survey.
	Population and Housing Census	2004	2010			
	Unadjusted	6.7	4.5	2.1		Estimated from the reported number of births the last 12 months prior to the survey.
	Rele method	6.1	6.0	3.0		Based on the adjusted number of children aged 0-4 and 5-9
	P/F ratio method	7.4	7.2	3.5	3.0	Based on the average of adjustment factors P2/F2 and P3/F3 (1.102).
3.	Arriaga method	6.5	6.4	3.5	3.0	Based on the average of adjustment factors P2/F2 and P3/F3 (0.966).
	Gompertz method	7.3	7.0	3.4		Based on ASFR and CEB and on the age group 15-19 to 35-39 from women aged 25-29.
	Own-children method	7.2	5.9	2.8	2.3	Based on the current age structure of the population and mortality estimates for the past.
4.	World Population Prospects 2010 Revision	2000-2005	2005-2010			
		7.0	6.5			

*TFR is calculated only for ever-married women unlike other sources which provide all women aged 15–49 years.

Large differences in the total fertility rate according to the own children method between the 2004 Census and 2010 Census can be due to data-related reasons. Unlike the 2010 Census, the 2004 Census does not have question which records the line number of the biological mother if she was present in the same household that allows producing the table that connects child to mother in the household. It can result in higher number of own children and consequently higher fertility level.

High fertility in Timor-Leste is also manifested in high chance of having additional children among those women who have had a large number of children ever born. As it can be seen from Table 3.3, among women who have had nine children, the possibility of having the tenth children or more is 0.63. This parity progression ratio is higher among women who have reached the end of the childbearing age (0.70). The results of the 2010 Census also show that the probability of getting one more children among women who have had a specific number of children declines as the number of children ever born increases. In addition, the probability of enlarging family with an additional child is lower among younger cohorts of women than among older cohorts of women. This indicates that fertility decline is taking place in the country in particular among younger women who are more likely to engage in education and labor market in present Timor-Leste.

Table 3.3: Parity progression ratios: Timor-Leste, 2010 Population and Housing Census

Age group of women	Children ever born									
	1	2	3	4	5	6	7	8	9	10+
15-19	0.06	0.44	0.51	0.31	0.23	0.00				
20-24	0.42	0.64	0.49	0.46	0.46	0.54	0.29			
25-29	0.72	0.85	0.72	0.62	0.53	0.51	0.46	0.52	0.39	
30-34	0.86	0.94	0.89	0.81	0.72	0.66	0.57	0.57	0.52	0.48
35-39	0.90	0.95	0.93	0.89	0.83	0.76	0.69	0.64	0.58	0.56
40-44	0.90	0.96	0.94	0.91	0.88	0.83	0.77	0.72	0.66	0.64
45-49	0.91	0.95	0.94	0.92	0.89	0.86	0.80	0.76	0.70	0.65
Total	0.57	0.87	0.83	0.80	0.77	0.75	0.70	0.68	0.63	0.60

With the high fertility level, on average a Timorese woman would be replaced by around three daughters if the woman had children according to the current age specific fertility rates and if none of the girls die before they reach the age of their mother in the reproductive years. The gross reproduction rate for Timor-Leste is 3.0 according to the Rele technique, 3.5 based on the P/F ratio technique, 3.5 by Arriaga's method, 3.4 according to relational Gompertz formula and 2.8 based on the own-children technique.

Timor-Leste is characterized by the above replacement fertility level which indicates its population is more than replacing itself. On average, at the end of her reproductive age a Timorese woman would be replaced by between two and three daughters who follow their mother's fertility and mortality patterns. The net reproduction rate is 3.0 based on the P/F ratio and Arriaga's technique respectively and 2.3 based on the own-children technique.

3.2. Trends of fertility

The analysis of fertility trends aims to study the variations in fertility during the recent past and to indicate the time when fertility began the downward trend. For these purposes, the total fertility is estimated using the own-children method that allows the calculation of the age-specific fertility rates and total fertility rates for the 15 years before the census. To do this the cross tabulation of children and their mothers by single ages is constructed. This is possible only if the children can be connected in some way to their mothers. This can be done by inferring the mother-child relationship from the information about the relationship with the head of household. In the 2010 Census there is a question which records the line number of the biological mother if she was present in the same household (*P6: Write line number of biological mother if present in the household, if the mother not in the household write ("00")*). Therefore, it is possible to produce the table that connects child to mother in the household.

It should be noted that although the mother-child relationship can be determined, the own-children technique tends to underestimate fertility. This limitation can be particularly serious during the three or four years before the Census due to the omission of young children. Also, age heaping from children aged five or ten years can produce unexpected high fertility rates. Despite these limitations, it is deemed that this technique provides sensible fertility estimates. Also, the technique is considered more appropriate to estimate fertility trends during the 15 years before the survey than to estimate the levels of fertility.

The yearly total fertility rates for Timor-Leste during the 15 years before the 2010 Census using the own-children method are presented in Figure 3.2. It can be seen that the TFRs tend to increase at the beginning of the period of 1995-2010 with a great fluctuation during 1996-2001. This crest and trough movement slows down after 2000-2001 where the TFRs tend to decline as the year moves into the present.

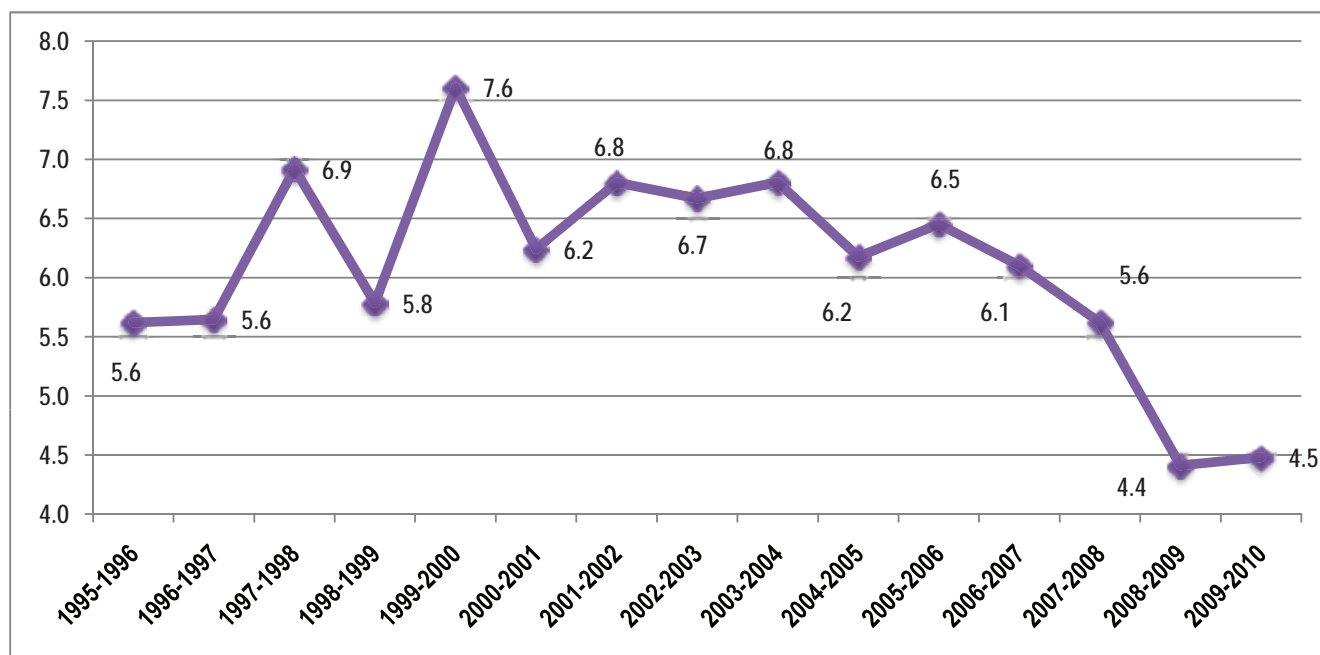
However, the levels they imply should be treated cautiously. The yearly TFRs for the periods 1997-1998 and 1999-2000 are higher than the TFRs of the surrounding years. These TFRs are estimates derived from children whose reported ages in 2010 were 12 and 10 years, respectively. It is clear that age-preference for ages 12 and 10 is the reason for the comparatively high TFRs related to 1997-1998 and 1999-2000. Meanwhile, the relatively low estimated TFRs for 1998-1999 and 2000-2001 can be caused by age misreporting or the avoidance of age 11 and 9 respectively.

In particular, the exclusion of young children may bias downward the estimate for 2008-2010. As mentioned before, the analysis of under-reporting of children aged 0-4 years using the base population for the projections indicate that the percentage of under-enumeration of children aged 0-4 years was 25 percent in the 2010 Census. Even after taking into account this under-counting, the TFRs still decline after 2002. This finding suggests the existence of a long-term fertility decline in Timor-Leste starting from 2001-2002.

To smooth out some of the peaks and pits observed in the yearly TFRs, averages for continuous three years are calculated. To do this the TFR in the farthest two years (1995-1996 and 1996-1997) are removed considering that these low TFRs can be due to memory errors in the declaration of children aged 14-15 years. In the same way, under-enumeration of small children has caused low TFR in the two years preceding the Census. Therefore, the TFR in 2008-2009 and 2009-2010 are

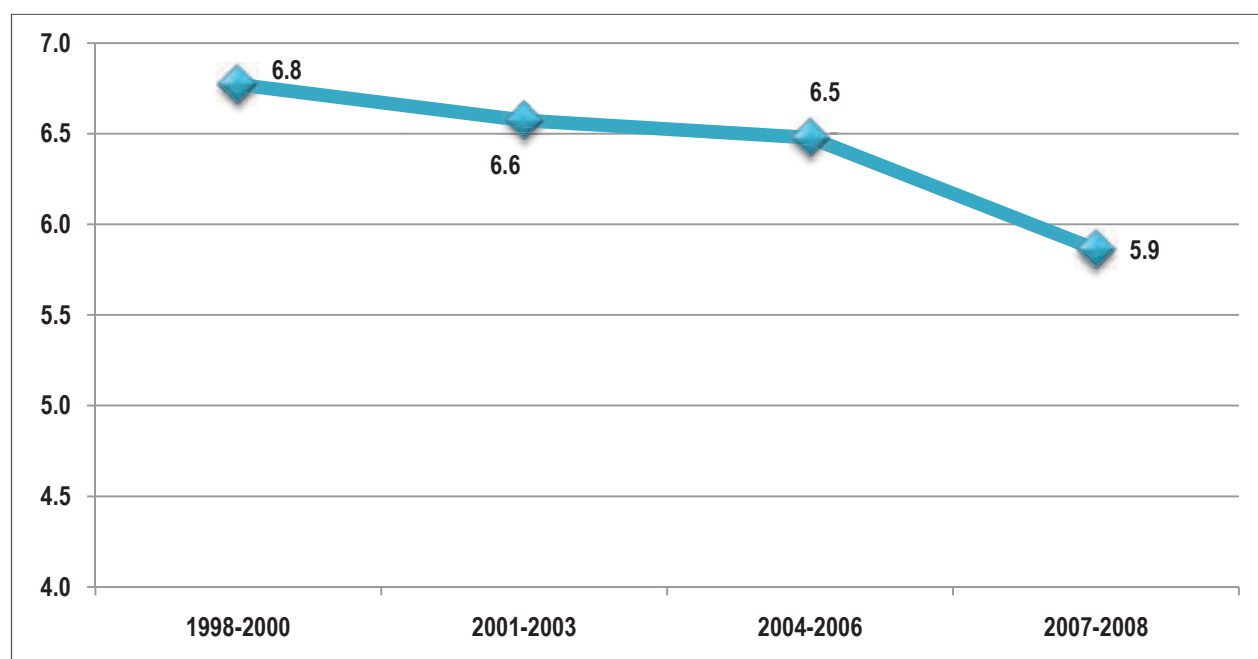
also eliminated in the TFR smoothing. It can be seen that there is a very clear rapid and substantial fertility decline in Timor-Leste during the past few years (Figure 3.3). The TFR declined from 6.8 children per woman in 1998-2000 to 6.6 children per woman in 2001-2003, to 6.5 children per woman in 2004-2006 and to 5.9 children per woman in 2007-2008.

Figure 3.2: The yearly total fertility rate (children per woman): Timor-Leste, 1995-2010



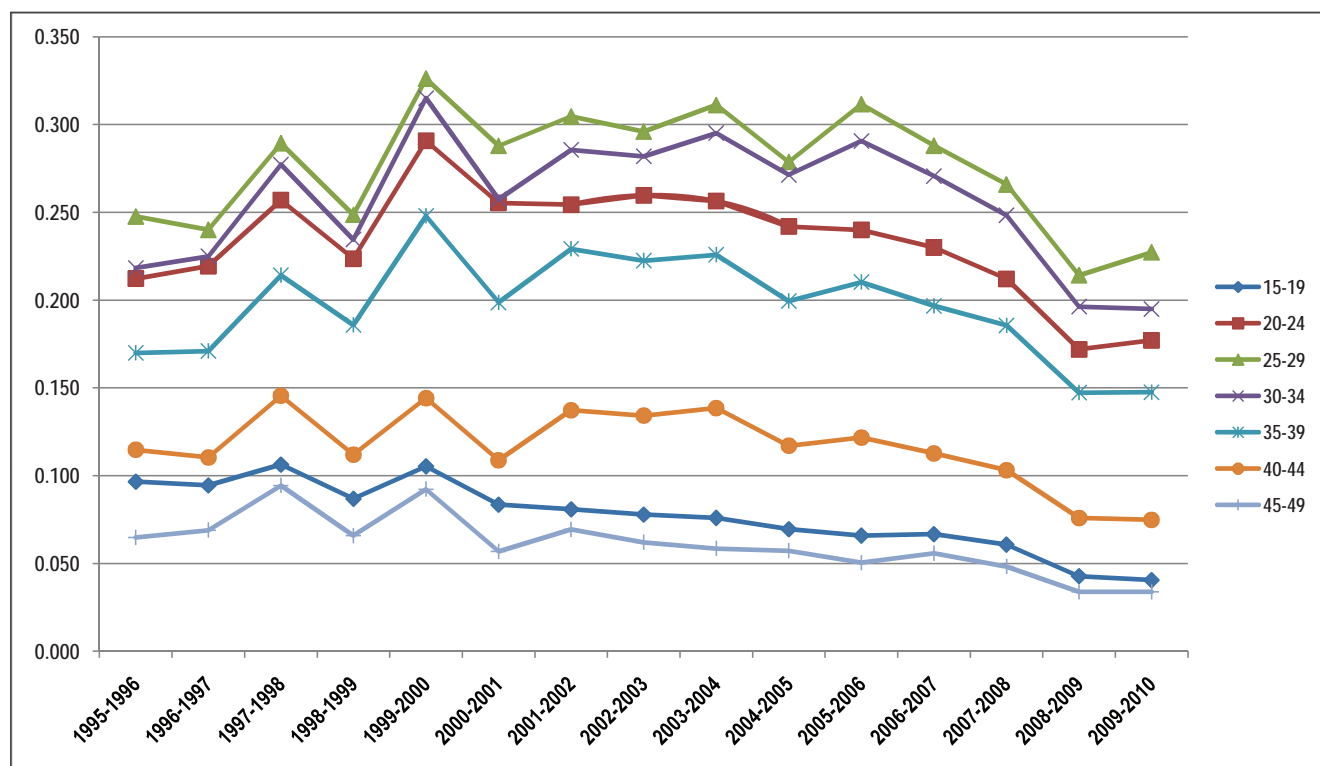
Using the results of the 2004 Census, the TFRs are also estimated employing the own-children technique and the same procedure. The finding based on the 2004 Census is consistent with the results of the 2010 that fertility was very high toward the end of the 1990s, on average around seven children per woman, and started to decline to about six children per woman in 2000-2002 (Figure A.1).

Figure 3.3: The three-year total fertility rate (children per woman): Timor-Leste, 1998-2008



Regarding the fertility age patterns, some interesting findings emerge (Figure 3.4 and Table 3.4). For example, the fertility rates for women aged 30-34 and 20-24 exhibit similar levels and trends until the end of 1990s and differ afterward. This implies that younger cohort women experienced more significant fertility decline than the older women. These results suggest possible changes in reproductive behavior toward lower fertility among the younger cohorts of women in the childbearing ages. The similar findings of the trends of fertility age-patterns also found using the results of the 2004 Census (Figure A.2 and Table A.8).

Figure 3.4
The age specific fertility rate (births per 1,000 women at specific age):
Timor-Leste, 1995-2010



**Table 3.4: The age-specific fertility rates
(births per 1,000 women): Timor-Leste, 1995-2010**

Year	Age specific fertility rate						
	15-19	20-24	25-29	30-34	35-39	40-44	45-49
1995-1996	103	187	263	231	216	120	66
1996-1997	101	205	243	239	218	115	71
1997-1998	114	262	286	295	275	153	98
1998-1999	93	239	231	250	239	118	69
1999-2000	113	311	295	336	320	152	97
2000-2001	90	274	259	275	256	115	60
2001-2002	87	273	288	290	295	146	73
2002-2003	84	279	303	263	286	143	66
2003-2004	82	275	333	262	293	148	62
2004-2005	75	260	298	244	259	125	61
2005-2006	71	257	333	263	273	130	54
2006-2007	71	246	308	259	240	120	59
2007-2008	65	227	283	254	211	110	51
2008-2009	45	183	227	208	156	80	36
2009-2010	42	183	234	201	151	77	35

3.3. Fertility differentials

The analysis of fertility differentials is intended to indicate the groups of women who have low fertility and the groups of women who have high fertility. It is done by examining fertility according to the socio-economic background characteristics of women. These background characteristics include the place of residence (urban versus rural), literacy in Tetun or Indonesian language, educational attainment, religion, marital status, economic activity, housing quality, ownership of chickens, ownership of small animals, ownership of large animals, ownership of permanent crops and ownership of temporary crops.

As a census including the 2010 Census is not a fertility survey, the analysis of fertility differentials is limited. It is not possible to estimate the total fertility rate using the own-children method for each background characteristic. The method is not adequate to adjust the fertility of sub-populations that sometimes may be very small, such as traditional religion followers or women with tertiary education. Therefore, the completed fertility – the mean number of children ever born from women age 45-49 – is used as the measure of fertility in the analysis of fertility differentials.

Fertility is higher in rural areas than in urban areas (Table 3.5). The mean number of children ever born from women aged 45-49 years is higher in rural areas than in urban areas (6.1 children versus 5.6 children). This finding is as expected as urban women might be more exposed to modern development that is taking place in Timor-Leste, like being involved in economic activity, and more exposed to smaller family norms that encourages them to plan their families. It is also possible that living in urban areas is more expensive than living in rural areas so that urban women are more likely to lower their family size.

In the 2010 Census, respondents including women in reproductive ages were asked whether they can speak, read and write in Tetun, Portuguese, Bahasa Indonesia or English. In this analysis, a woman is literate if she can speak, read and write in Tetun or Bahasa Indonesia. It can be seen that women who can speak, read and write in Tetun or Bahasa Indonesia have lower mean number of children ever born, from women aged 45-49 years than illiterate women. It is reasonable since literacy is a gateway to information and knowledge for a better living standard that promotes new family norms among couples in order to achieve a prosperous family that allows children to participate in education and to access quality health services.

The results of the 2010 Census show that the higher the educational attainment of women, the lower the fertility. The mean number of children ever born from women aged 45-49 years is lowest among university graduate women (4.0). Meanwhile, lower educated women still exhibit high mean number of children ever born from women aged 45-49 years of around six children. These results indicate that higher educated women are more willing to reduce their fertility than lower educated women. It can be understood as significant modern socio-economic development in Timor-Leste indeed needs qualified Timorese human resources including higher educated women to support the development that can discourage them to have a large number of children. In addition, having high education can mean better access to information and services that can promote reproductive behavior change towards moderate family size.

Fertility varies across religions. In the 2010 Census, there are seven religions listed in Timor-Leste: Catholic, Protestant/Evangelical, Islam, Buddha, Hindu, Traditional and other. The majority of native Timorese (99.5%) are Catholic, Protestant/Evangelical or traditional religion followers. Regarding the mean number of children ever born from women aged 45-49 years, it is highest among women who are traditional religion adherents (7.0), followed by Catholic (6.0) and Protestant/Evangelical women (5.6). This finding suggests that reproductive norms that favor larger family are still prevalent among native Timorese.

The 2010 Census collects information on the number of children ever born regardless the marital status of the women. Marital status is grouped into single/never married, married, widowed, divorced and separated. By marital status, fertility is lowest among single/never married women and highest among married women. The mean number of children ever born from women aged 45-49 years is lowest among single/never married women (1.0) and highest among married women (6.5). Having less socio-economic security and the absence of a present spouse might have forced single/never married women to limit their number of children. On the other hand, married women are in a safer socio-economic situation to have as many children as their families might want to.

Being involved in economic activities can affect fertility behavior. The results of the 2010 Census show that the mean number of children ever born from women aged 45-49 years is lowest among women who are looking for a job and highest among women who are economically inactive. It is possible that employed women or job seeker women have higher awareness of sharing the responsibility to improve the welfare of their families by participating in economy. Thus, they are more likely to postpone marriage, to plan their families and to have lower fertility. High fertility among economically inactive women might be caused by the fact that they have partners or families who can support them to have more children which is common in Timor-Leste.

Table 3.5: The mean number of children ever born from women age 45-49 by selected background characteristics: Timor-Leste, 2010 Population and Housing Census

Background characteristic	Mean number of children ever born from women aged 45-49 years
Place of residence	
Urban	5.6
Rural	6.1
Literacy in Tetun or Bahasa Indonesia	
Literate	5.8
Illiterate	6.1
Educational attainment	
None or pre-primary	6.1
Primary	6.3
Pre-secondary	5.8
Secondary	5.1
Polytechnic/diploma	5.2
University	4.0
Non-formal	5.3
Religion	
Catholic	6.0
Protestant/Evangelical	5.6
Islam	4.2
Buddha	2.7
Hindu	3.0
Traditional	7.0
Other	2.9
Marital status	
Single/never married	1.0
Married	6.5
Widowed	4.5
Divorced	3.8
Separated	4.0
Economic activity	
Employed	5.7
Unemployed	4.6
Inactive	6.3
Economic activity of household head	
Employed	6.1
Unemployed	6.1
Inactive	5.2

Continued

Background characteristic	Mean number of children ever born from women aged 45-49 years
Housing quality	
Rank 1 (best)	3.7
Rank 2 (good)	5.7
Rank 3 (medium)	6.1
Rank 4 (worse)	6.1
Rank 5 (worst)	6.0
Ownership of chickens	
None	5.6
1	6.0
2-5	6.1
6-20	6.2
21 or more	6.1
Ownership of small animals	
None	5.5
1	6.3
2-5	6.3
6-20	5.8
21 or more	5.2
Ownership of large animals	
None	5.8
1	6.6
2-5	6.3
6-20	6.1
21 or more	5.6
Ownership of permanent crops	
Yes	6.2
No	5.7
Ownership of temporary crops	
Yes	6.2
No	5.7
Total	6.0

In contrast, having economically active household head leads to a higher fertility. The mean number of children ever born from women aged 45-49 years is highest among women whose household head is economically active than among other women. These results suggest that the traditional reproductive norms that favor large number of children are still prevalent in Timor-Leste in particular in the presence of family economic security.

Housing quality reflects socio-economic wellbeing of women and can be associated with fertility behavior. In this analysis housing quality is composed from the structural adequacy (wall and floor material) and service adequacy (material of roof, drinking water, human waste disposal, cooking fuel and lighting fuel). This housing quality index is then scored and ranked into five ranks with rank 1 is houses with the best quality, such as concrete/brick wall, tile floor, tile roof, bottled

drinking water, pour/flash to septic for human waste disposal, electricity cooking fuel and electricity lighting. The results of the 2010 Census show that women from better housing quality have lower fertility than women from other households. The mean number of children ever born from women aged 45-49 years is lower than four among women who come from households with best housing quality, while it is above six among women who come from households with worse housing quality. This finding confirms the importance of household welfare manifested in housing quality to reduce fertility level.

Fertility is lower among women who come from households with no chickens, small animals (pigs, sheep or goats), large animals (horses, cattle/cow or buffalo), temporary crops (rice, maize, cassava, vegetable, temporary fruit or other temporary crops) or permanent crops (permanent fruit, coffee, coconut or other permanent crops). Households with 21 or more small animals also exhibit lower fertility. It is possible that households with no agricultural amenities have income from formal sectors and live in urban areas and hence have smaller number of children. Households with largest number of livestock might represent the well-off households who prefer less number of children with better education and health. Meanwhile, other households might have main income from agriculture sectors and still hold to the traditional norms of reproductive behavior that encourage a large number of children for secured labor force in the agricultural sector and for an old age security.

In summary, as Timor-Leste is experiencing significant political and socio-economic changes in the last decade, fertility differentials began to emerge, both for period fertility (total fertility rate) and completed fertility (mean number of children ever born). Better socio-economic groups of women have lower fertility than other women. However, there is a larger variation in the period fertility than in the completed fertility, indicating the prevalence of traditional reproductive norms that favor a large number of children among oldest cohort of women.

In summary, as Timor-Leste is experiencing significant political and socio-economic changes in the last decade, fertility differentials began to emerge. Better socioeconomic groups of women have lower fertility than other women.

3.4. Fertility spatial distribution

The analysis of fertility spatial distribution of fertility aims to locate the populations with the lowest and highest fertility levels. The period (current) fertility and the mean number of children ever born from women age 45-49 are used to assess fertility variations across districts and sub-districts. The current fertility used is the adjusted total fertility rate estimated using the own-children method.

Fertility differences across districts are present, although it is not large. Fertility is lowest in Dili, the capital of Timor-Leste which is 4.5 children per woman (Figure 3.5 and Table A.9). Ainaro exhibits highest total fertility rate of 7.4 children per woman. Fertility rate difference between these two districts is 2.9 children per woman. The TFR in Dili is still high. Meanwhile, other 11 districts, except Covalima, have a very high TFR of more than six children per woman. The mean number of children ever from women aged 45-49 years ranges from 5.2 in Oecusse to 6.8 in Ermera (Figure 3.6 and Table A.9). The figure is six or higher in seven of the 13 districts. It can be seen that in general districts with high total fertility rate also have high mean number of children ever born from women aged 45-49 years. However, the correlation is not strong (0.31). Further, the current fertility is lower than the cohort fertility. This indicates that fertility level is declining in Timor-Leste.

Figure 3.5 : The adjusted total fertility rate (children per woman) by district: Timor-Leste, 2010 Population and Housing Census

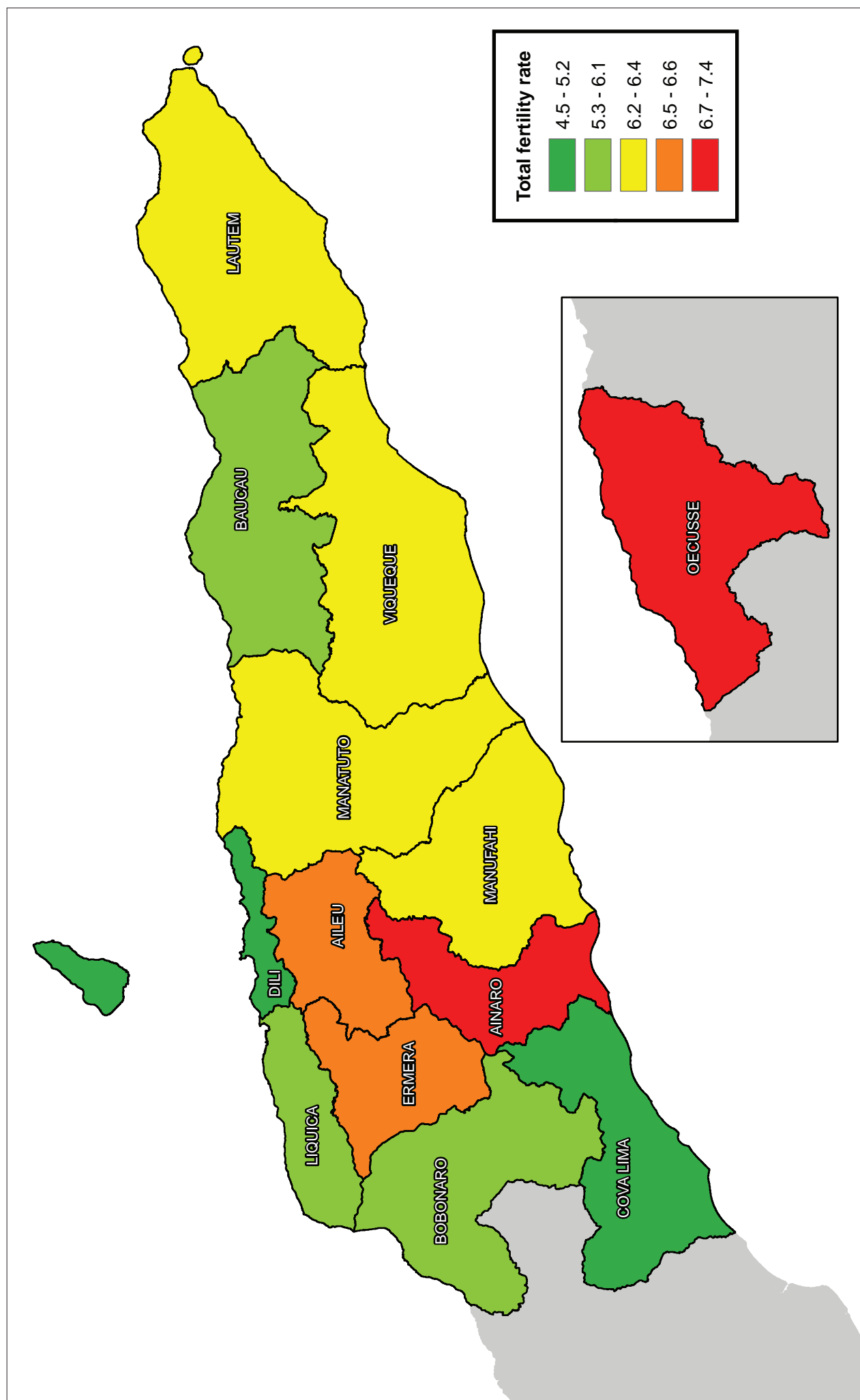
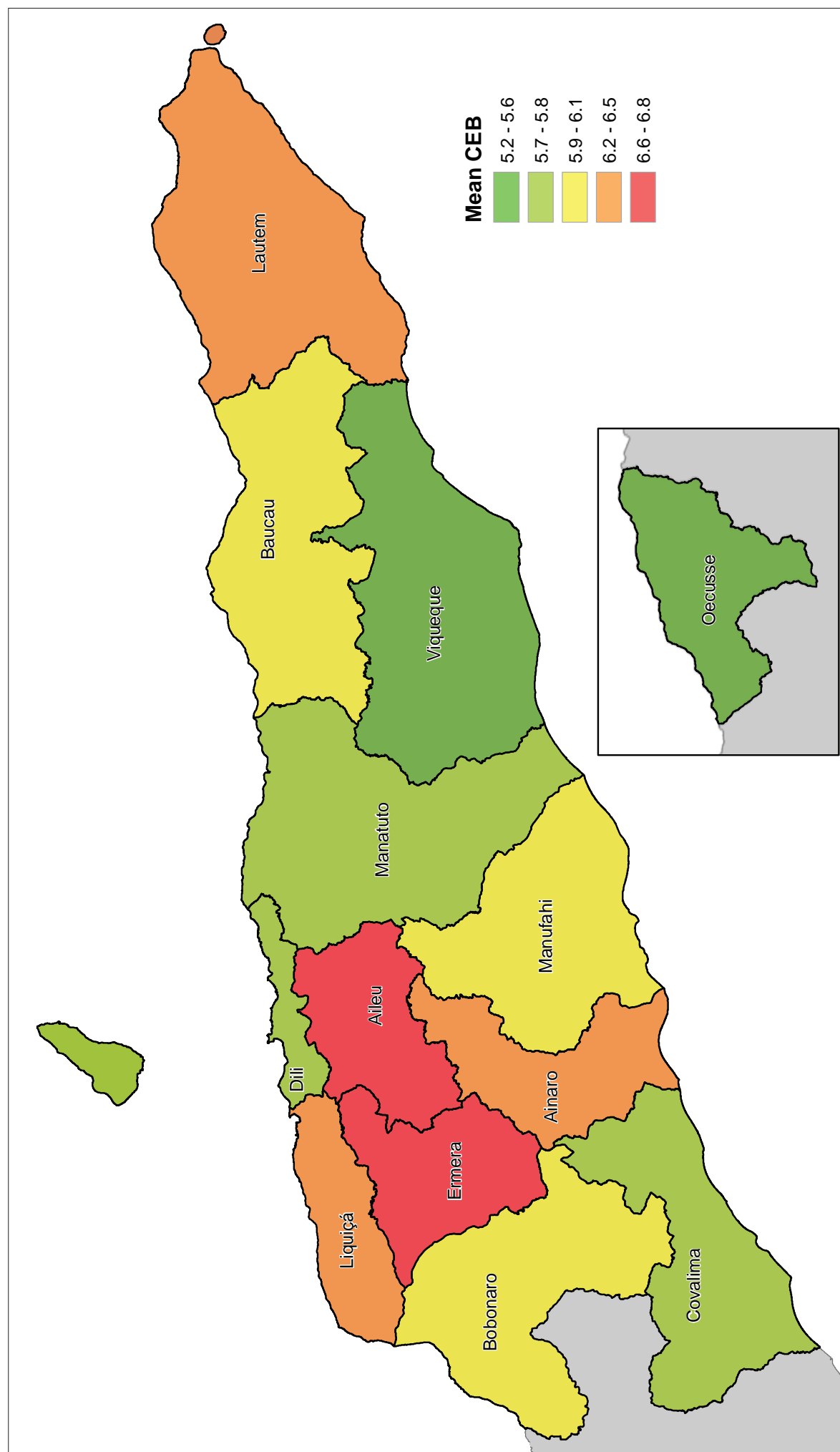


Figure 3.6 : The mean number of children ever born from women age 45-49 by district: Timor-Leste, 2010 Population and Housing Census



Regarding fertility spatial distribution at sub-district level, the variation of fertility level is relatively small, suggesting a relatively identical spatial distribution of the total fertility rate. The total fertility rate ranges from 4.0 children per woman in Sub-district Nain Feto in Dili, to 8.2 children per woman in Sub-district Hatu Bulico in Ainaro (Figure 3.7 and Table A.10). Only eight of the sub-districts have a total fertility rate of lower than five children per woman, 16 sub-districts have a total fertility rate of between five and six children per woman inclusive and 41 sub-districts have a total fertility of higher than six children per woman. The mean of the total fertility rate is 6.2 children per woman and its standard deviation is 0.93. This means that on average the sub-district's total fertility rate differs from the mean in 0.93 children.

The mean number of children ever born from women aged 15-49 years across sub-districts varies less than the total fertility rate across sub-districts (Figure 3.8 and Table A.10). It is lowest in Laleia in Manatuto (4.7 children) and highest in Tutuala in Lautem (7.3 children). On the whole, sub-districts with lower total fertility rate also have lower mean number of children ever born from women aged 15-49 years with a coefficient correlation of 0.27.

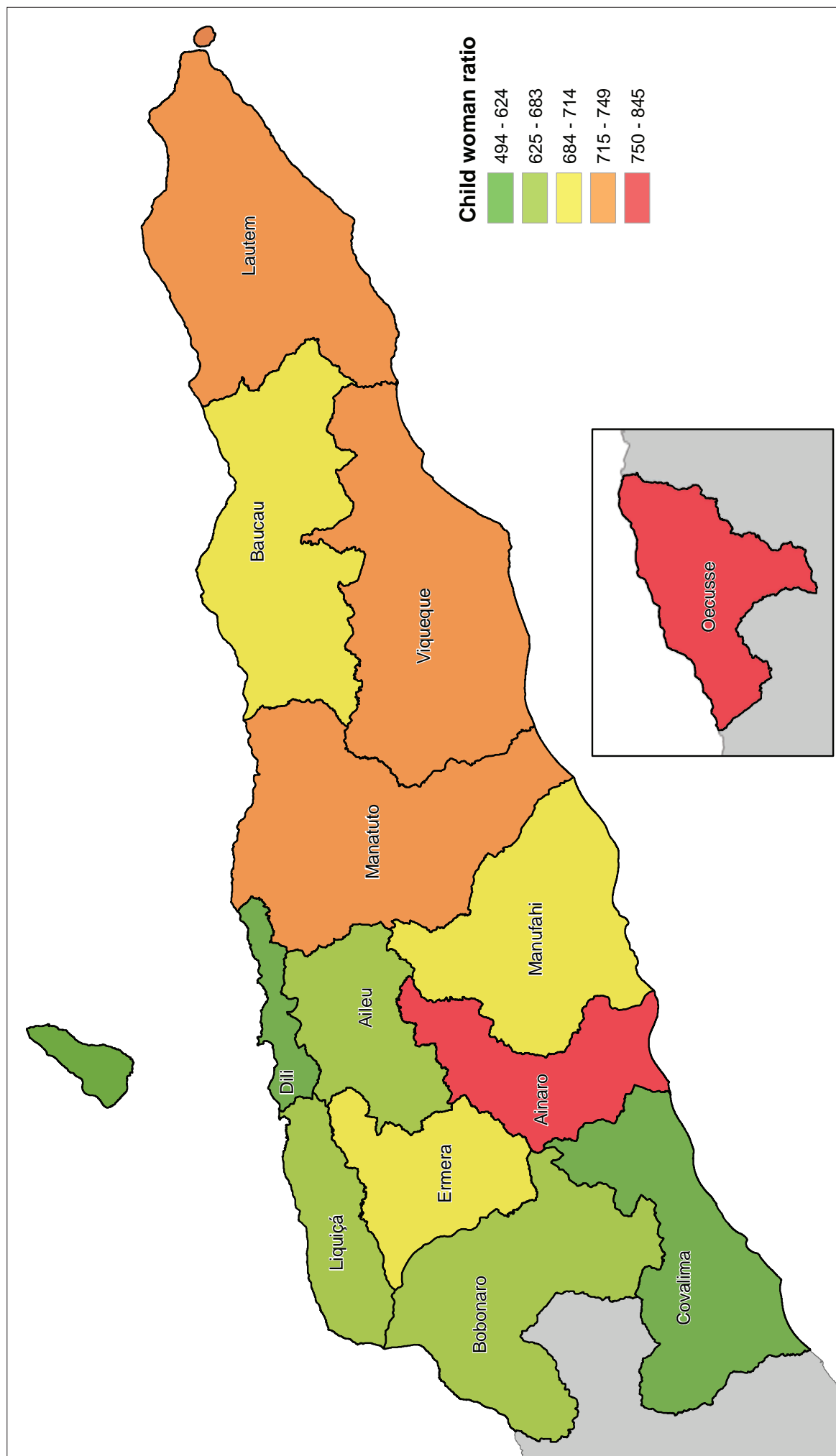
Other fertility measure of child woman ratio also confirms the spatial homogeneity of high fertility across districts and sub-districts. It varies greatly from 494 in Dili to 845 in Ainaro (Figure 3.9 and Table A.11). The child woman ratio ranges from 436 in Sub-district Nain Feto to 1,058 in Sub-district Hatu Bulico (Figure 3.10 and Table A.12). This finding implies that in Sub-district Hatu Bulico there are more children aged 0-4 years than women aged 15-49 years.

[illegible]

38 Fertility monograph 2010



Figure 3.9 : Child woman ratio (children age 0-4 per 1,000 women age 15-49) by district: Timor-Leste, 2010 Population and Housing Census



[illegible]

3.5. Teenage fertility

Teenage motherhood has potential adverse health and social consequences. From health perspective, the risk of infant and child illness and death is higher among children born to teenage mothers. Meanwhile, adolescent mothers have higher probability to suffer risky pregnancy outcomes and maternity-related mortality than older women. From social perspective, teenage childbearing lowers the chance for women to pursue higher education and to participate in the labor market.

Around six percent (3,569 women) of 56,907 women aged 15-19 years in Timor-Leste has had a live birth according to the results of the 2010 Census (Table 3.6). This figure can be higher if women aged 15-19 years who are pregnant are included. However, the 2010 Census does not collect information on the pregnancy status of women. The majority of women aged 15-19 years who have had a live birth are aged 19 years (38.9%), live in rural areas (76.4%), live in Dili (16.2%), are literate in Tetun or Bahasa Indonesia (67.5%), have pre-secondary or lower education (85.9%), are Catholic (97.3%), are married (67.5%), are economically inactive (75.1%), live in worse or worst quality of housing (57.2%), have no or one chicken (41.0%), have six or more small animals (48.0%), have no or one large animal (64.0%), have temporary crops (63.3%) and have permanent crops (58.8%).

The percentage of teenage motherhood varies according to background characteristics of the women. The percentage of teenage mothers increases as the age of the women increases. The figure is higher in rural areas than in urban areas, live in Oecusse district and among teenage women who are illiterate in Tetun or Bahasa Indonesia, have no, pre-primary or non-formal education, are traditional or other religion followers, are separated from their spouses, are employed, live in worst quality of housing, have six or more chickens, have two to five small animals, have two to five large animals, have temporary crops and have permanent crops.

Table 3.6: Percentage of women aged 15-19 years who have had a live birth by background characteristics: Timor-Leste, 2010 Population and Housing Census

Background characteristic	Number of women aged 15-19 who have had a live birth	Percentage of women aged 15-19 who have had a live birth	Number of women aged 15-19
Age (years)			
15	241	1.9	12,487
16	378	3.3	11,402
17	512	4.5	11,335
18	1,050	8.8	11,947
19	1,388	14.3	9,736
District			
Ainaro	227	8.2	2,780
Aileu	138	5.2	2,641
Baucau	398	6.8	5,849
Bobonaro	309	6.6	4,669
Covalima	264	8.4	3,138
Dili	577	4.1	14,207
Ermera	349	5.4	6,470
Liquica	218	6.0	3,614
Lautem	212	7.1	2,978
Manufahi	164	6.2	2,661
Manatuto	161	8.3	1,938
Oecusse	263	9.3	2,814
Viqueque	289	9.2	3,148
Literacy in Tetun or Bahasa Indonesia			
Literate	2,410	5.3	45,321
Illiterate	1,159	10.0	11,586
Educational attainment			
None, pre-primary or non-formal	992	10.3	9,615
Primary	1,030	8.6	12,104
Pre-secondary	978	5.1	19,287
Secondary	538	3.5	15,229
Polytechnic/diploma	7	4.9	143
University	18	3.4	529

Continued

Background characteristic	Number of women aged 15-19 who have had a live birth	Percentage of women aged 15-19 who have had a live birth	Number of women aged 15-19
Religion			
Catholic	3,471	6.3	55,510
Protestant/Evangelical	79	6.5	1,218
Islam	9	10.2	88
Buddha	1	10.0	10
Hindu	0	0.0	7
Traditional	4	13.3	30
Other	5	11.4	44
Place of residence			
Urban	844	4.0	21,025
Rural	2725	7.6	35,882
Marital status			
Single/never married	1,018	1.9	52,318
Married	2,409	55.2	4,364
Widowed	65	52.0	125
Divorced	44	68.8	64
Separated	33	91.7	36
Economic activity			
Employed	738	10.6	6,994
Unemployed	152	5.9	2,588
Inactive	2,679	5.7	47,325
Housing quality			
Rank 1 (best)	18	3.1	582
Rank 2 (good)	507	3.6	14,250
Rank 3 (medium)	1,002	5.3	18,983
Rank 4 (worse)	1,630	8.4	19,506
Rank 5 (worst)	412	11.5	3,586
Ownership of chickens			
None or one	1,462	5.9	24,750
2-5	1,297	6.3	20,475
Six or more	810	6.9	11,682

Continued

Background characteristic	Number of women aged 15-19 who have had a live birth	Percentage of women aged 15-19 who have had a live birth	Number of women aged 15-19
Ownership of small animals			
None or one	1,084	5.9	18,529
2-5	773	9.2	8,427
Six or more	1,712	5.7	29,551
Ownership of large animals			
None or one	2,283	6.0	38,105
2-5	375	8.4	4,465
Six or more	911	6.4	14,337
Ownership of permanent crops			
Yes	2,260	7.1	32,016
No	1,309	3.3	24,891
Ownership of temporary crops			
Yes	2,097	7.0	29,760
No	1,472	5.4	27,147
Timor-Leste	3,569	6.3	56,907

CHAPTER 4

ANALYSIS OF NUPTIALITY IN TIMOR-LESTE

4.1 Patterns and differentials of marital status

The analysis of marital status is carried out by examining patterns and differentials of marital status by sex, age, place of residence, district, sub-district and other selected background characteristics. The marital status is divided into single/never married, married, widowed, divorced and separated. The results of the 2010 show that the majority (56.3%) of population aged 15 years and above in Timor-Leste are married, 36.9 percent are single or have never married, six percent are widowed, only 0.4 percent are divorced and 0.3 percent are separated (Figure 4.1). In addition, males are more likely to be in single/never married category than females; and females are more likely to be in married, widowed, divorced and separated status compared to males.

Marital status varies by sex and age. As expected, the percentage of never married people decreases as the age increases (Figure 4.2). Meanwhile, the percentage of widowed rises as the age gets older. The percentage of married follows an inverse-U shaped: it increases as age increases, reaches a peak at age 40-49 and then declines for older population. However, the age patterns of marital status differ between males aged 15 years and above and females aged 15 years and above. The percentage of married declines faster among females aged 15 years and above than among males aged 15 years, while the percentage of widowed increases faster among females aged 15 years and above than among males aged 15 years and above. In addition, the peak of the percentage of married is at age 45-49 years for males aged 15 years and above, whilst it is at age 35-39 years among females aged 15 years and above.

Figure 4.1: Percentage distribution of population aged 15 years and above by sex and marital status: Timor-Leste, 2010 Population and Housing Census

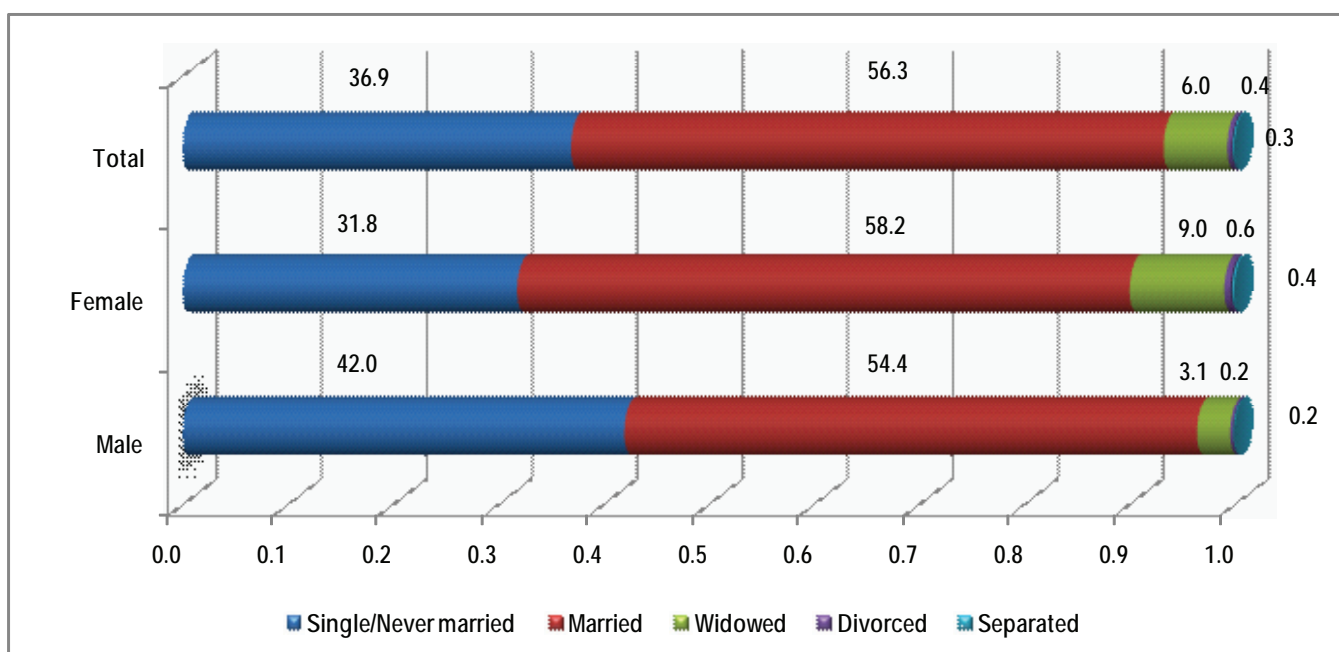
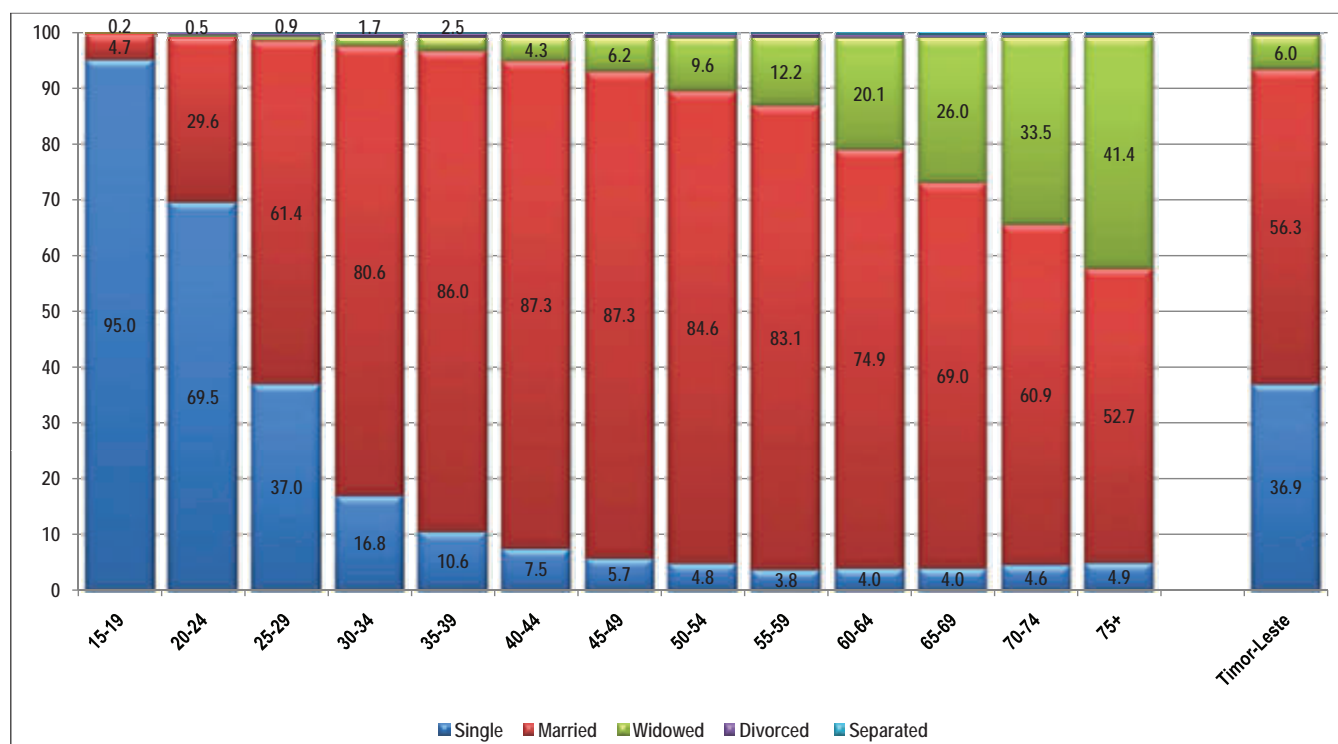
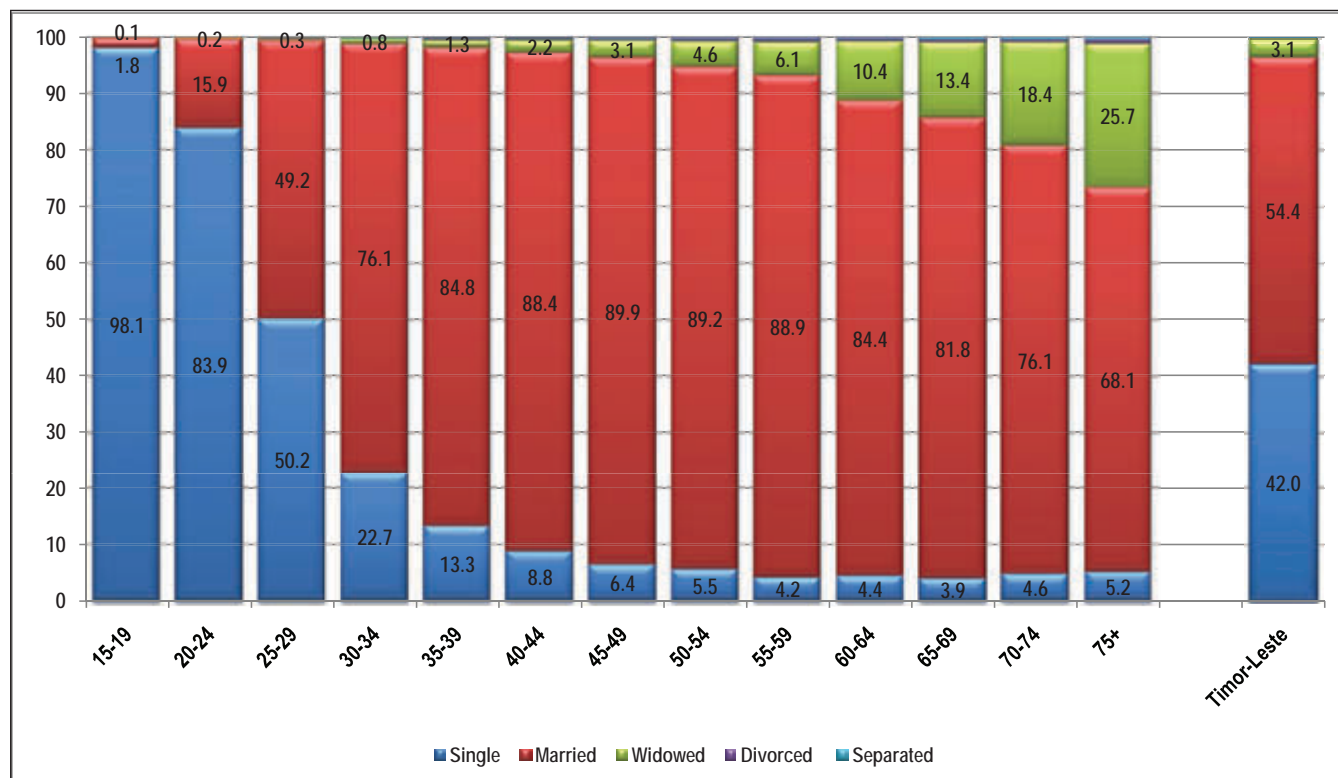


Figure 4.2: Percentage distribution of population aged 15 years and above by age and marital status: Timor-Leste, 2010 Population and Housing Census

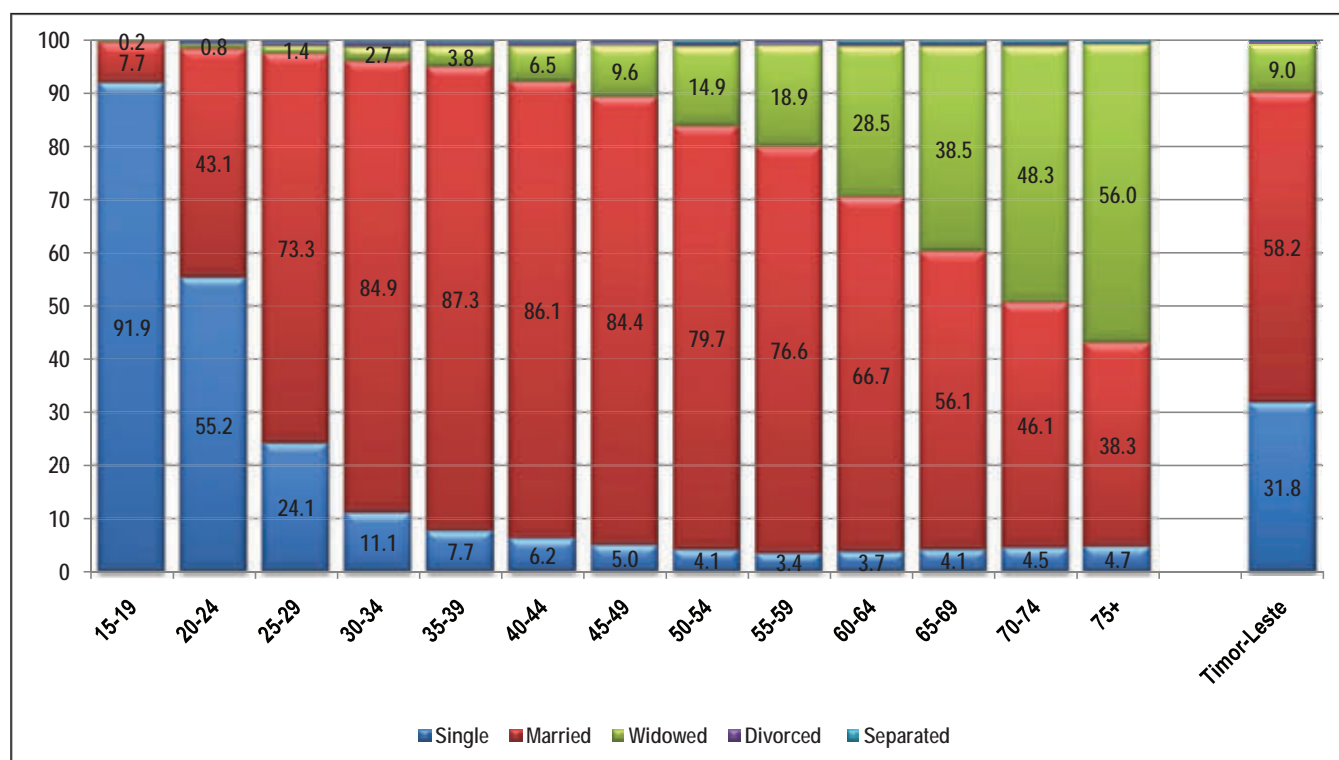
Both Sexes



Male



Female



In the study of family structure and changes, fertility and population growth, the never married proportion is of great interest. Of importance is the percentage of those who have not been married by age 35 which historically is called bachelor for males and spinster for females. The percentage of bachelor and spinster is low (13.3% and 7.7% respectively). The decline in the percentage of never married after age 35 both for males and females suggest that these never married Timorese would be married at some time.

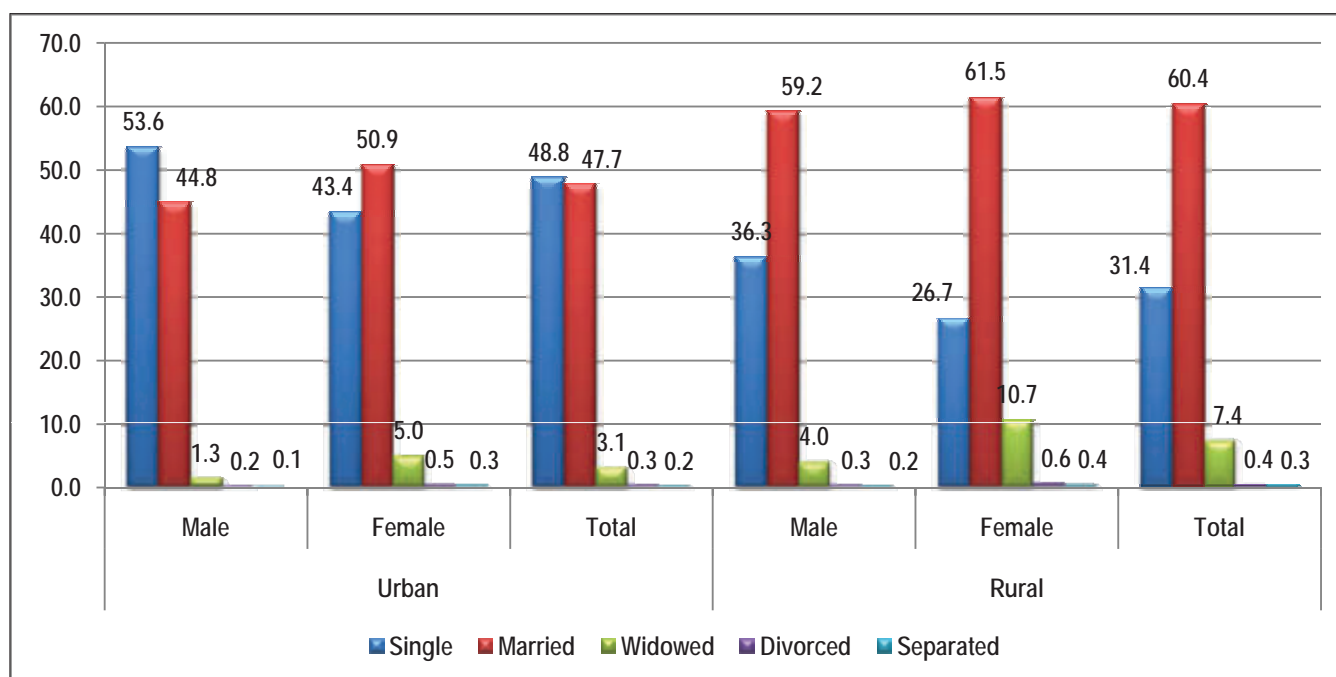
By place of residence, urban dwellers are more likely to be in single/never married status than rural dwellers (48.8% versus 31.4%), both for males and females (Figure 4.3). The percentage of married is higher in rural areas (60.4%) than in urban areas (47.7%), suggesting earlier family formation time in rural areas than in urban areas. Rural dwellers are also more likely to be in widowed status than urban dwellers (7.4% versus 3.1%).

Marital status differs across districts (Figure 4.4 and Table A.14). The percentage of single/never married is lowest in Oecusse district (26.9%) and highest in Dili (49.3%), also for both males aged 15 years and above and females aged 15 years and above. Oecusse's dwellers are most likely to be in married status, while Dili's residents are least likely to be married, also for both males aged 15 years and above and females aged 15 years and above. Meanwhile, widowed status is least prevalent in Dili and most common in Viqueque, also for males aged 15 years and above. For females aged 15 years and above, the percentage of widowers is also lowest in Dili (4.6%) but highest in Bobonaro (11.6%).

There is great disparity in marital status across sub-districts (Figure 4.5 and Table A.15). The single never married varies from 19.7 percent in Fatumean to 50.6 percent in Nain Feto. The percentage of single is also lowest in Fatumean, also both for males aged 15 years and above and for females aged 15 years and above. The single/never married is also most prevalent in Nain Feto for females aged 15 years and above, but is most common in Dom Alexio for males aged 15 years and above. In general, the population aged 15 years and above in Nain Feto is least likely to be in married status, while the population aged 15 years and above in Passabe is most likely to be in married status. The percentage of married is also highest in Passabe for both males aged 15 years and above and females aged 15 years and above. This figure is also lowest in Nain Feto both for

males aged 15 years and above and for females aged 15 years and above. Regarding widowhood incidence, it is lowest in Dom Alexio, also for both males aged 15 years and above and females aged 15 years and above. The percentage of widowers is highest in Fatumean (13.2 %). It is highest in Laculata for males aged 15 years and above (8.1%) and highest in Fatululic for females aged 15 years and above (19.7%).

Figure 4.3: Percentage distribution of population aged 15 years and above by place of residence and marital status: Timor-Leste, 2010 Population and Housing Census



Marital status also differs across socio-economic and cultural characteristics (Table 4.1 and Table A.16 for male and for female). The percentage of single/never married is lowest among those aged 15 years and above who are traditional religion followers, are illiterate, have no schooling, are employed, come from households with worst housing quality, come from households with five or less livestock and come from households with permanent and temporary crops. Meanwhile, population aged 15 years and above who are Buddhists, illiterate, uneducated, employed, poor, with some livestock and with agricultural crops also more likely to be in married status. The incidence of widowhood are also higher among those aged 15 years and above who are traditional religion followers, illiterate, uneducated, employed, poor, with large livestock and with agricultural crops.

Figure 4.4: Percentage distribution of population aged 15 years and above by district and marital status: Timor-Leste, 2010 Population and Housing Census

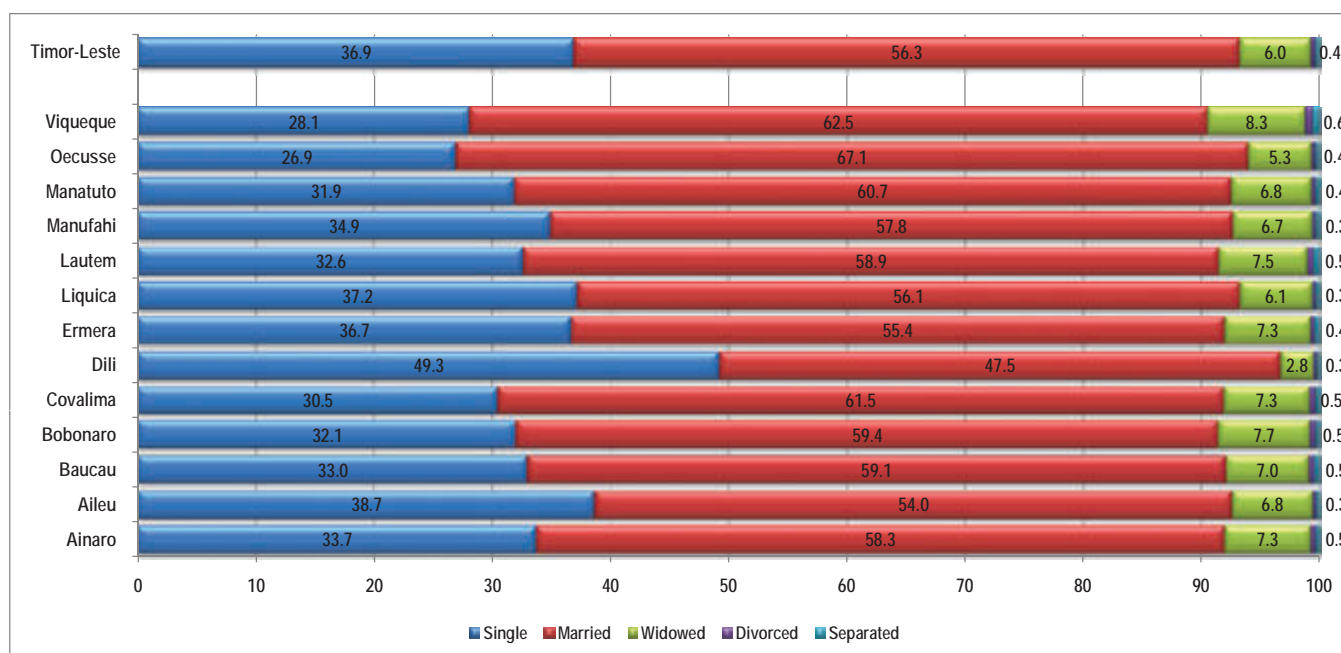


Figure 4.5: Percentage distribution of population aged 15 years and above by sub-district and marital status: Timor-Leste, 2010 Population and Housing Census

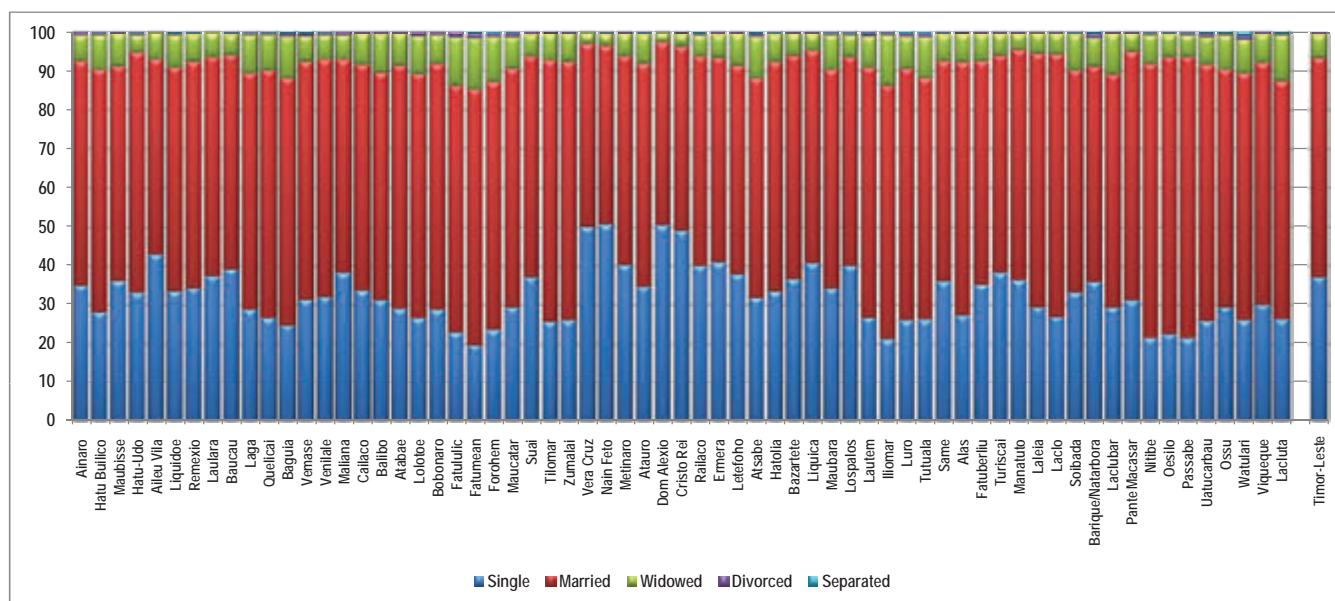


Table 4.1: Percentage distribution of population aged 15 years and above by marital status and background characteristics: Timor-Leste, 2010 Population and Housing Census

Background characteristics	Marital status					Total
	Single	Married	Widowed	Divorced	Separated	
Religion						
Catholic	37.2	56.2	6.0	0.4	0.3	100.0
Protestant/Evangelical	33.9	57.9	7.5	0.4	0.3	100.0
Islam	30.3	65.7	3.2	0.5	0.3	100.0
Buddha	26.2	70.0	2.1	0.8	0.8	100.0
Hindu	30.6	67.5	1.3	0.6	0.0	100.0
Traditional	11.4	61.2	26.8	0.3	0.4	100.0
Other	31.5	61.1	6.2	0.1	1.0	100.0
Literacy in Tetun or Bahasa Indonesia						
Literate	49.4	48.5	1.5	0.3	0.2	100.0
Illiterate	20.0	66.9	12.2	0.5	0.4	100.0
Educational attainment						
None	18.2	67.9	13.0	0.5	0.4	100.0
Pre-primary	32.9	61.8	4.6	0.5	0.2	100.0
Primary	36.7	60.0	2.7	0.4	0.2	100.0
Pre-secondary	58.9	39.7	1.0	0.3	0.2	100.0
Secondary or higher	53.8	45.0	0.7	0.3	0.2	100.0
Non-formal	36.3	58.5	4.5	0.4	0.3	100.0
Economic activity						
Employed	22.4	70.4	6.4	0.5	0.3	100.0
Unemployed	62.0	32.1	5.1	0.5	0.3	100.0
Inactive	49.9	43.8	5.8	0.3	0.2	100.0
Housing quality						
Rank 1 (best)	49.2	48.3	2.1	0.2	0.2	100.0
Rank 2 (good)	48.7	47.7	3.1	0.3	0.2	100.0
Rank 3 (medium)	40.1	54.0	5.3	0.4	0.3	100.0
Rank 4 (worse)	29.9	61.3	7.9	0.5	0.3	100.0
Rank 5 (worst)	25.1	65.7	8.5	0.5	0.3	100.0

Continued

Table 4.1: Percentage distribution of population aged 15 years and above by marital status and background characteristics: Timor-Leste, 2010 Population and Housing Census

Background characteristics	Marital status					Total
	Single	Married	Widowed	Divorced	Separated	
Ownership of chickens						
None	42.2	51.9	5.2	0.4	0.3	100.0
1	33.3	58.8	7.2	0.4	0.3	100.0
2-5	34.0	58.7	6.6	0.4	0.3	100.0
6-20	35.3	58.2	5.8	0.4	0.3	100.0
21 or more	38.1	56.2	5.0	0.5	0.2	100.0
Ownership of small animals						
None	42.6	51.4	5.2	0.4	0.3	100.0
1-5	17.6	74.9	6.9	0.4	0.3	100.0
6-20	44.7	49.6	5.1	0.3	0.2	100.0
21 or more	56.6	34.4	8.2	0.5	0.3	100.0
Ownership of large animals						
None	39.5	53.9	5.9	0.4	0.3	100.0
1-5	17.3	76.2	5.9	0.3	0.2	100.0
6-20	41.9	51.6	5.8	0.4	0.3	100.0
21 or more	51.0	39.4	8.7	0.5	0.4	100.0
Ownership of permanent crops						
Yes	33.3	59.2	6.8	0.4	0.3	100.0
No	41.4	52.8	5.1	0.4	0.3	100.0
Ownership of temporary crops						
Yes	33.3	59.2	6.8	0.4	0.3	100.0
No	42.2	52.2	5.0	0.4	0.3	100.0
Timor-Leste	36.9	56.3	6.0	0.4	0.3	100.0

4.2. Patterns and differentials of age at first marriage

Age at first marriage is relatively high in Timor-Leste. Among those who ever marry the mean age at first marriage is 25.8 years. This figure is quite high, but similar high figures are generated for the 2004 Census data (both sexes 24.9, males 27 and females 22.8). This singulate mean age at marriage is higher than the singulate mean age at marriage for Indonesia (22.3 years) which might be due to the majority of Moslems in Indonesia who are more likely to marry earlier than other religion followers. On average, the number of years spent in single state by those who marry before age 50 is almost four years shorter for females than for males (23.9 years versus 27.8 years).

Singulate mean age at marriage is higher in urban areas than in rural areas, both for males and females (Figure 4.6). The mean age at first marriage among those who ever marry is two years longer in urban areas than in rural areas (27.0 years versus 25.0 years). It is reasonable as urban dwellers usually have greater exposure to more socioeconomic activities, in particular education and employment, and hence they are more likely to spend shorter time in married status than rural dwellers.

Age at first marriage varies by district (Figure 4.7). Population aged 15 years and above in Viqueque is the most likely to spend their lives in married status, also for both males aged 15 years and above and females aged 15 years and above. The singulate mean age at marriage is 24 years in Viqueque, 25.9 years for males aged 15 years and above and 22.3 years for females aged 15 years and above. Meanwhile, the average age at first marriage among who ever marry is highest in Dili. The singulate mean age at marriage is 27.2 years in Dili, 29.0 years for males aged 15 years and above and 25.3 years for females aged 15 years and above.

There is a large variation in age at first marriage across sub-districts (Figure 4.8 and Table A.17). The singulate mean age at first marriage varies from a lowest of 22.9 years in Passabe to a highest of 27.8 years in Nain Feto. Males aged 15 years and above who ever marry in Passabe are also more likely to spend their lives in married status (the singulate mean age at marriage is 24.8 years), while males aged 15 years and above who ever marry in Nain Feto are also more likely to spend their lives in married status (the singulate mean age at marriage is 29.7 years). Among females aged 15 years and above, the singulate mean age at marriage is lowest in Barique/Natarbora (21.2 years) and highest in Vera Cruz (26.0 years).

Figure 4.6: Singulate mean age at marriage (years) by sex and place of residence: Timor-Leste, 2010 Population and Housing Census

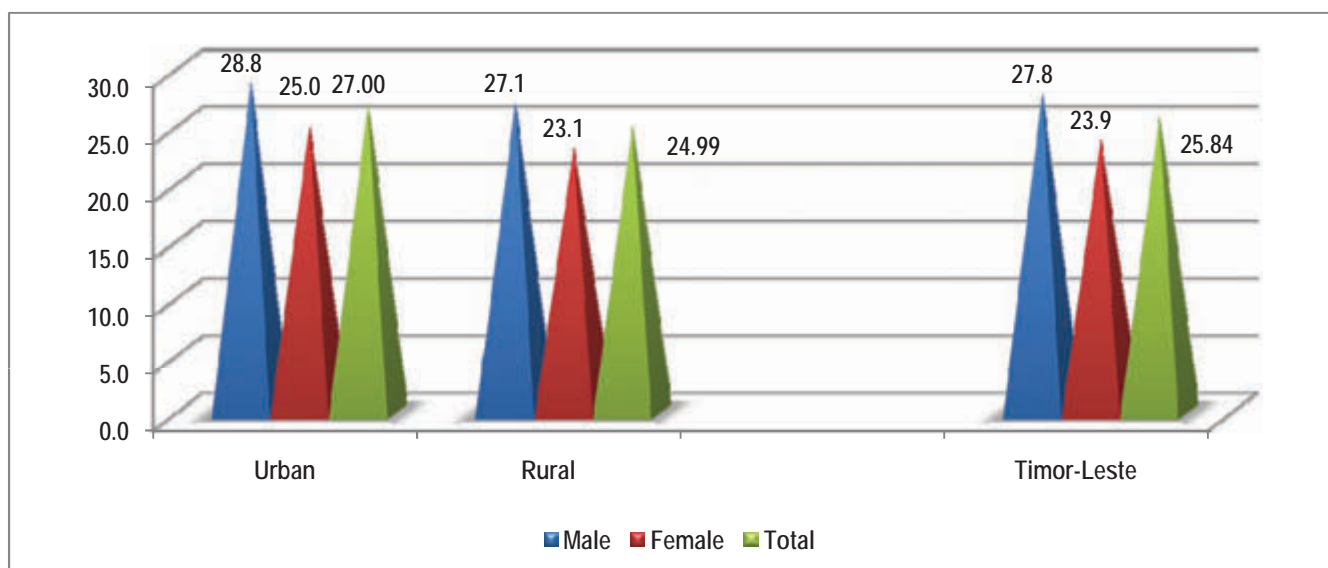


Figure 4.7 : Singulate mean age at marriage (year) by sex and district: Timor-Leste, 2010 Population and Housing Census

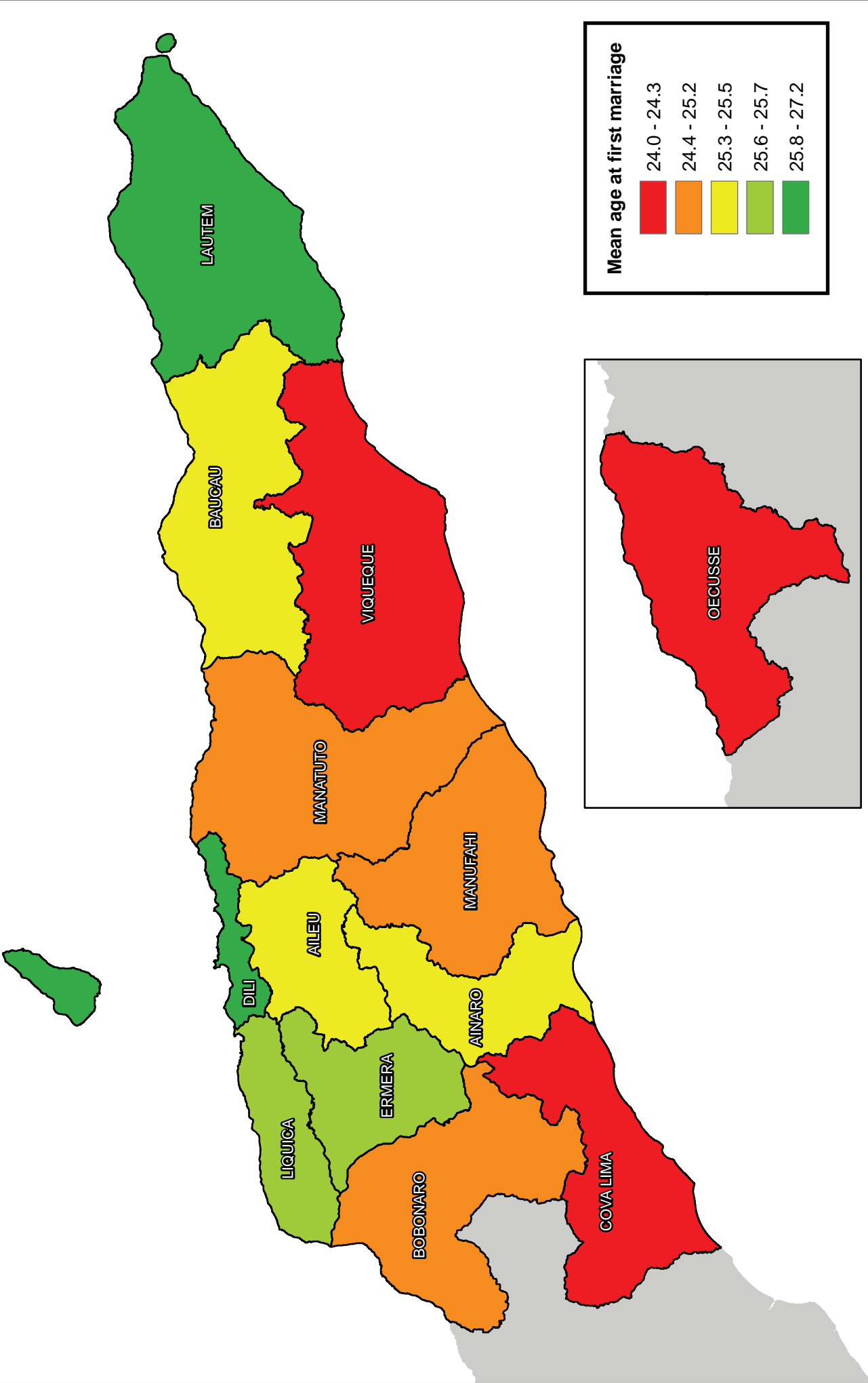
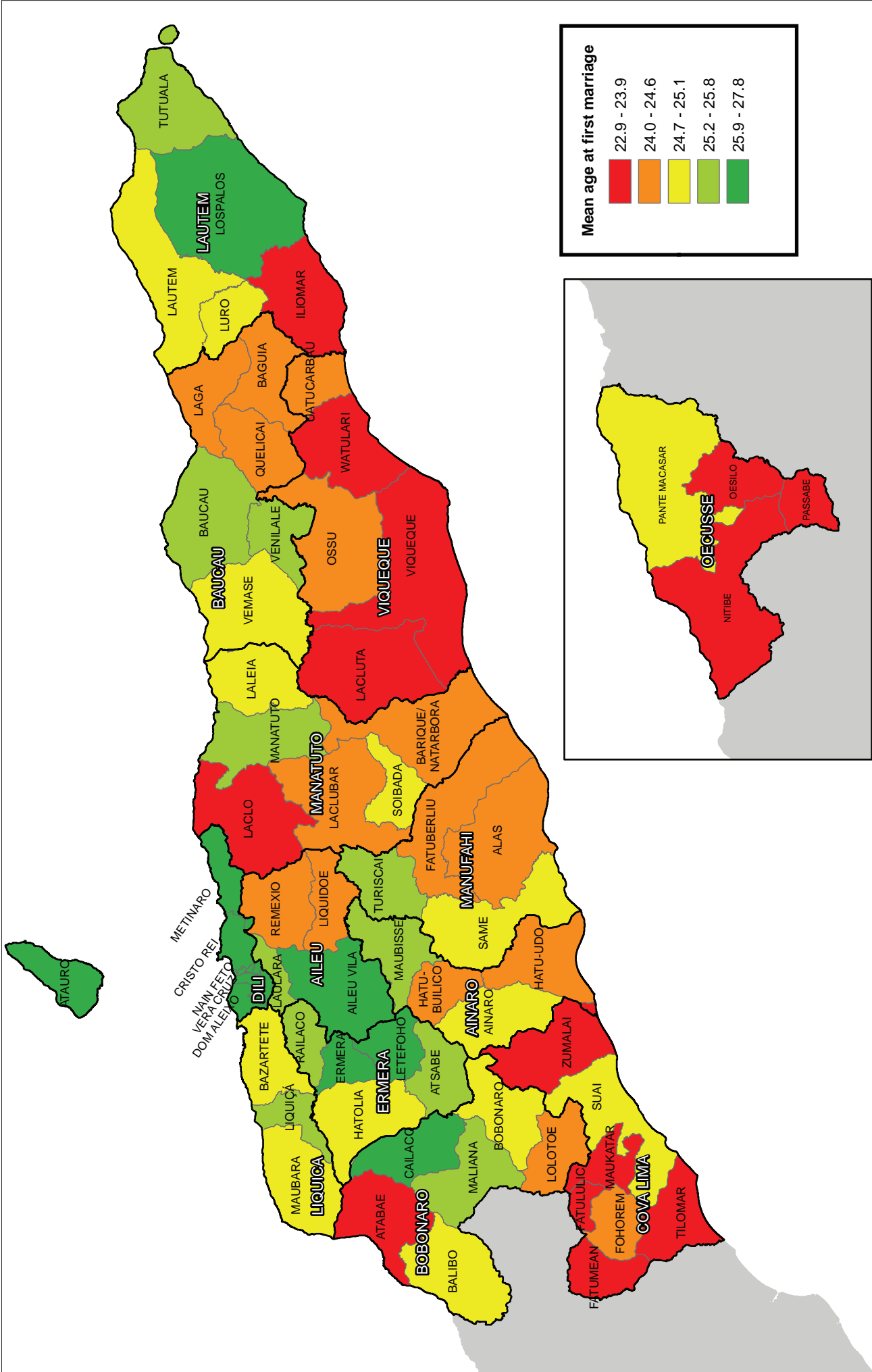


Figure 4.8 : Singulate mean age at marriage by sex and sub-district: Timor-Leste, 2010 Population and Housing Census



Age at first marriage differs according to socio-economic background characteristics (Table 4.2). It is higher among groups of population aged 15 years and above with better socio-economic conditions. The singulate mean age at marriage is lower among population aged 15 years and above who are illiterate, with lower education, employed, with worst housing quality, with some livestock and with permanent and temporary crops. These differentials in age at first marriage are also held for both males 15 years and above and females 15 years and above.

Table 4.2: Singulate mean age at marriage by sex and background characteristics: Timor-Leste, 2010 Population and Housing Census

Background characteristics	Singulate mean age at marriage (years)		
	Male	Female	Both sexes
Religion			
Catholic	27.9	23.9	25.8
Protestant/Evangelical	27.7	24.0	25.8
Islam	27.2	23.1	25.7
Buddha	26.8	23.3	25.0
Hindu	27.2	16.9	24.4
Traditional	30.7	24.0	27.5
Other	27.2	22.8	25.3
Literacy in Tetun or Bahasa Indonesia			
Literate	28.0	23.9	26.0
Illiterate	27.3	23.0	24.8
Educational attainment			
None	27.3	23.0	24.8
Pre-primary	26.8	22.8	24.7
Primary	26.4	22.2	24.3
Pre-secondary	26.7	21.7	24.1
Secondary	28.4	24.5	26.6
Polytechnic	29.0	26.7	28.0
University	29.8	26.3	28.6
Non-formal	29.6	24.1	25.8
Economic activity			
Employed	26.2	24.0	25.4
Unemployed	31.1	28.9	30.3
Inactive	33.0	23.3	25.2

Continued

Table 4.2: Singulate mean age at marriage by sex and background characteristics: Timor-Leste, 2010 Population and Housing Census

Background characteristics	Singulate mean age at marriage (years)		
	Male	Female	Both sexes
Housing quality			
Rank 1 (best)	29.3	25.2	27.4
Rank 2 (good)	29.1	25.2	27.2
Rank 3 (medium)	28.1	24.0	26.1
Rank 4 (worse)	26.8	22.9	24.7
Rank 5 (worst)	25.7	22.0	23.7
Ownership of chickens			
None	28.1	24.3	26.2
1	27.1	23.0	25.0
2-5	27.6	23.6	25.5
6-20	28.0	23.9	25.9
21 or more	28.3	24.3	26.2
Ownership of small animals			
None	28.1	24.1	26.1
1	20.2	20.7	20.2
2-5	26.4	22.1	24.0
6-20	29.6	24.5	26.7
21 or more	28.5	25.1	27.1
Ownership of large animals			
None	27.8	23.9	25.8
1-5	25.9	22.6	24.1
6-20	29.4	24.4	26.6
21 or more	29.5	24.7	27.1
Ownership of permanent crops			
Yes	27.5	23.6	25.5
No	28.1	24.1	26.1
Ownership of temporary crops			
Yes	27.5	23.5	25.4
No	28.2	24.2	26.2
Timor-Leste	27.8	23.9	25.8

4.3. Characteristics of single parent households

Information on the characteristics of single parent households is important in the formulation of policies aimed to improve the wellbeing of these households. Single parent households are defined as households with children under age 18 headed by a parent who is widowed, divorced, separated and not remarried, or by a parent who has never married. In 2010 there are 184,651 households in Timor-Leste of which 9,146 (5.0%) are single parent households (Table 4.3). Of these, the majority of the heads are aged 45-54 years (27.5%), followed by aged 35-44 years (26.9%). A significant percentage of the head of these single parents households are aged 55-64 years (21.3%) and aged 65 years and above (9.4%). This finding suggests that a percentage of older population in Timor-Leste is economically at risk as they still have responsibility to take care for the wellbeing of their under age 18 household members.

Most of the heads of single parent households are women (63%). These female single parent household heads are in weaker situation than their male counterparts as in the patriarchal culture of Timor-Leste women usually have less access to and control of basic services, goods and opportunities for participation in decision making process. This situation can affect the wellbeing of their family members, especially their under age 18 children, who might have lower survival probabilities, poorer health and lower performance in school.

Single parent household heads mainly live in rural areas (79.5%). These households are in more vulnerable situation than their urban counterparts as rural areas are usually left behind urban areas in terms of development in particular economic development. Hence, rural single parent households can have less chance of accessing development facilities, in particular health, education and employment opportunity, which are the main ingredients of human development.

The majority of the head of single parent households have one child (39.3%). However, a certain percentage of them have five or more children (8.8%). These children of single parent households might have limited access to quality health, education and employment facilities than other children as they only have one parent to support them.

The heads of single parent households are mostly widowed (72.7%). Also, as the majority of Timorese are Catholics, almost all of the heads of single parent households are Catholics (95.4%).

In terms of education, most heads of single parent households are illiterate in Tetun or Bahasa Indonesia (67.5%) and have no education or pre-primary education (66.1%). These educational limitations can impede their efforts to improve their wellbeing of their families in particular in emergent Timor-Leste which needs literacy both in mostly used languages and in education.

Heads of single parent households are mainly employed in the informal sector (78.4%). In terms of housing amenities, a greater percentage of heads of single parent households dwell in houses with worse housing quality (48.5%) and a notable percentage live in houses with worst housing quality (10.4%). Regarding livestock ownerships, most of heads of single parent households have less than five chickens, less than five small animals and have no large animals. These finding suggests that the majority of single parent households in Timor-Leste are economically vulnerable.

Although the majority of heads of single parent households are not disabled, a percentage of them do have some difficulties in walking (2.6%), seeing/reading (5.1%), hearing (3.2%) and intellectual/mental condition (1.0%). The welfare of these households is at risk as the heads have physical and mental limitations to fulfill the needs of their family members.

Table 4.3: Percentage distribution of single parent household by selected background characteristics: Timor-Leste, 2010 Population and Housing Census

Background characteristic	Percentage
Age group (years)	
15-24	2.0
25-34	12.8
35-44	26.9
45-54	27.5
55-64	21.3
65+	9.4
Sex	
Male	37.0
Female	63.0
Place of residence	
Urban	20.5
Rural	79.5
Number of children	
1	39.3
2	25.5
3	16.8
4	9.6
5+	8.8
Marital status	
Single/never married	16.3
Widowed	72.7
Divorced	6.5
Separated	4.6
Religion	
Catholic	95.4
Protestant/Evangelical	3.6
Islam	0.3
Buddha	0.1
Hindu	0.0
Traditional	0.5
Other	0.1
Literacy in Tetun or Bahasa Indonesia	
Literate	32.5
Illiterate	67.5
Educational attainment	
None or pre-primary	66.1
Primary or pre-secondary	21.4
Secondary	8.4
Polytechnic/diploma or university	2.6
Non-formal	1.6

Continued

Table 4.3: Percentage distribution of single parent household by selected background characteristics: Timor-Leste, 2010 Population and Housing Census

Background characteristic	Percentage
Economic activity	
Employed in formal sector	15.9
Employed in informal sector	78.4
Unemployed	1.2
Inactive	4.5
Housing quality	
Rank 1 (best)	0.5
Rank 2 (good)	13.6
Rank 3 (medium)	27.1
Rank 4 (worse)	48.5
Rank 5 (worst)	10.4
Ownership of chickens	
None	34.0
1	12.1
2-5	38.0
6-20	14.7
21 or more	1.1
Not reported	0.2
Ownership of small animals	
None	32.6
1	22.5
2-5	34.6
6-20	9.5
21 or more	0.6
Ownership of large animals	
None	70.1
1	10.7
2-5	14.5
6-20	4.2
21 or more	0.5
Ownership of permanent crops	
Yes	59.1
No	40.9
Ownership of temporary crops	
Yes	64.1
No	35.9
Disability	
Walking	2.6
Seeing/reading	5.1
Hearing	3.2
Mental	1.0
No disability	88.2
Total	100.0 (9,146)

It can be seen from Figure 4.9 that as the majority of Timorese live in Dili, the majority of single parent households also live in Dili (15.4%). Figure 4 shows that across sub-districts, the majority of single parent households live in Dom Alexio (6.0%).

Figure 4.9: Percentage distribution of single parent household by district: Timor-Leste, 2010 Population and Housing Census

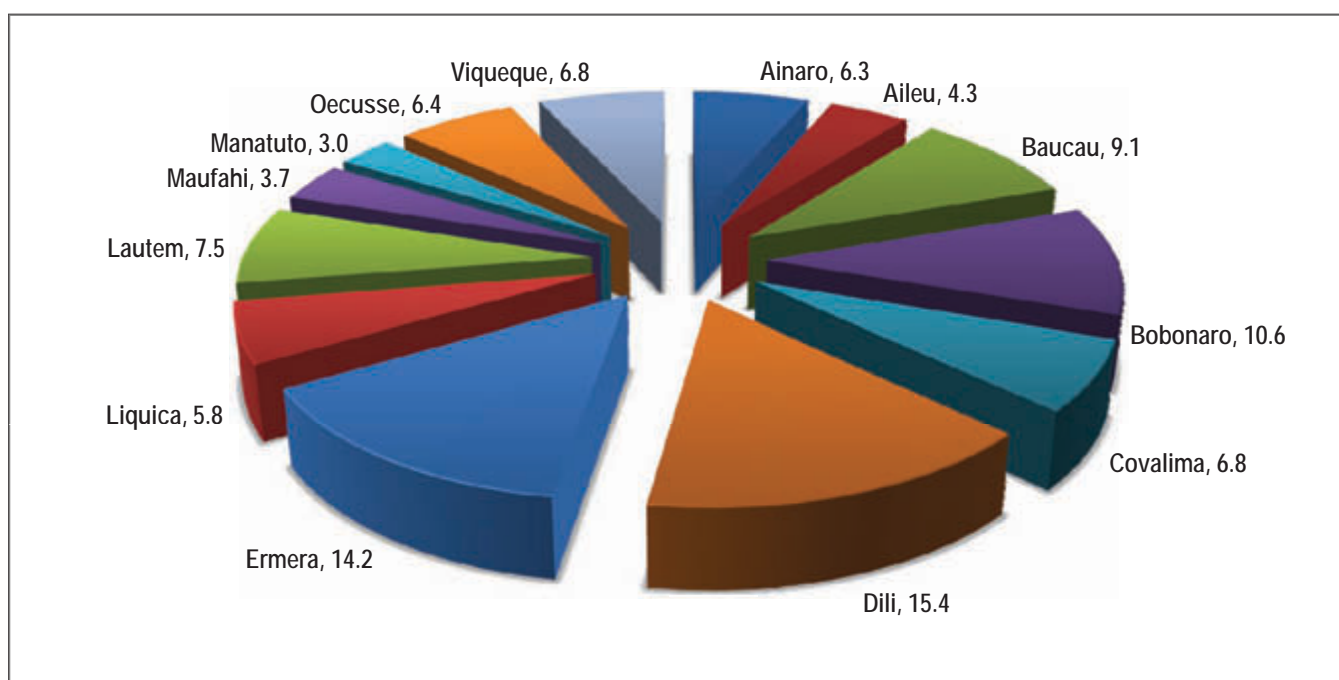
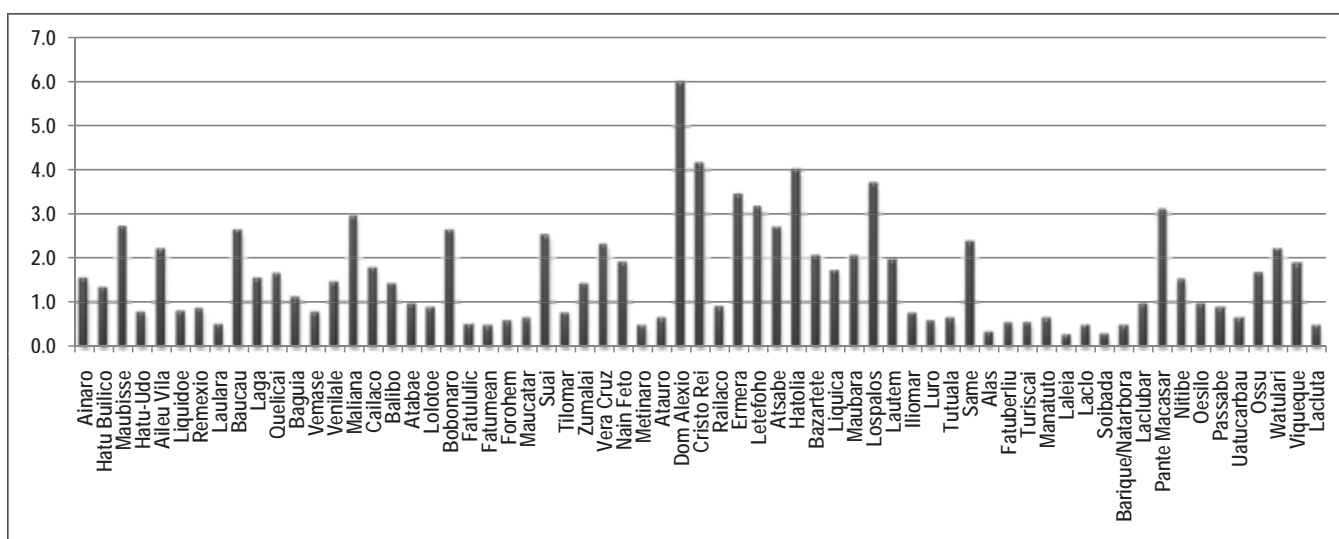


Figure 4.10: Percentage distribution of single parent household by sub-district: Timor-Leste, 2010 Population and Housing Census



CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

The results of the 2010 Timor-Leste Population and Housing Census show that on average a Timorese woman would have between five and six children at the end of their reproductive age. The total fertility rate is currently 5.9 children per woman, a decline from 7.2 children according to the 2004 Census. The total fertility rate estimated using the own-children method is considered as the total fertility rate that represents the fertility level in Timor-Leste. Although fertility is declining in the country, it is still high and it declined at a slow pace. The sign of a long-term fertility decline started in 2001-2002. Younger cohorts of women exhibit more significant fertility decline than the older women, indicating possible changes in reproductive behavior toward lower fertility among these women.

As Timor-Leste is experiencing profound political, economic and social development in the last decade, the patterns and norms of childbearing is becoming more diverse and differentials starting to appear. Women that live in rural areas, are illiterate in Tetun or Bahasa Indonesia, are less educated, are Catholics, Protestants/Evangelical or traditional religion followers, are married, are economically inactive, have less quality of housing, have some livestock, and have crops, have lower number of children than other women. Complete fertility is higher than current fertility, suggesting the on-going fertility decline in the country.

Results of fertility spatial distribution analysis show that fertility still varies from a relatively high to high fertility with a small variation across districts. The total fertility rate varies from a lowest of 4.5 children per woman in Dili and to a highest of 7.4 children per woman in Ainaro. Only the Districts of Dili and Covalima have a total fertility level of less than six children per woman, while other 11 districts have a total fertility rate of higher than six children per woman.

Sub-districts also exhibit relatively homogeneous distribution of fertility. The total fertility is lowest in Sub-district of Nain Feto (4.0 children per woman) and highest in Sub-district of Hatu Bulico (8.2 children per woman). Only eight sub-districts have a total fertility rate of less than six children, 16 sub-districts have a total fertility rate of between five and six children per women inclusive and other 41 sub-districts have a total fertility rate of higher than six children per woman.

Approximately six percent of the population aged 15-19 years in Timor-Leste has had a live birth. The majority of women aged 15-19 years who have had a live birth are aged 19 years, live in rural areas, live in Dili, are literate in Tetun or Bahasa Indonesia, have pre-secondary or lower education, are Catholic, are married, are economically inactive, live in worse or worst quality of housing, have no or one chicken, have six or more small animals, have no or one large animal, have temporary crops and have permanent crops.

The percentage of teenage motherhood varies according to background characteristics of the women. The percentage of teenage mothers increases as the age of the women increases. The figure is higher in rural areas than in urban areas, live in Oecusse district and among teenage women who are illiterate in Tetun or Bahasa Indonesia, have no, pre-primary or non-formal education, are traditional or other religion followers, are separated from their spouses, are employed, live in worst quality of housing, have six or more chickens, have two to five small animals, have two to five large animals, have temporary crops and have permanent crops.

Regarding nuptiality behavior, the majority of population aged 15 years and above in Timor-Leste is married (56.3%). Males aged 15 years and above are more likely to be in single/never married status than females aged 15 years and above (42.8% versus 31.8%). Females aged 15 years and above are more likely to be in married, widowed, divorced and separated status than males aged 15 years and above. The percentage of single/never married declines as the age increases. The percentage of single/never married is higher in urban areas than in rural areas, while the percentage of married, widowed, divorced and separated is higher in rural areas than in urban areas.

There is a great variation in marital status across districts and sub-districts. The percentage of single/never married among population aged 15 years and above is highest in Dili (54.2%) and lowest in Oecusse (30.9%). Meanwhile, married is least common in Nain Feto Sub-district (46.0%) and most prevalent in Passabe Sub-district (72.4%).

Age at first marriage is higher among males aged 15 years and above than among females aged 15 years and above. Urban dwellers aged 15 years and above get married two years later than rural dwellers aged 15 years and above. The singulate mean age at marriage is lowest in Viqueque (24.0 years) and highest in Dili (25.8 years). It is lowest in Passabe (22.9 years) and highest in Nain Feto (27.8 years).

Age at first marriage varies according to background characteristics. It is higher among those with better socioeconomic conditions. The singulate mean age at marriage is lower among population aged 15 years and above who are illiterate, with lower education, employed, with worst housing quality, with some livestock and with permanent and temporary crops.

The majority of single parent households in Timor-Leste are vulnerable socially and economically. A percentage of them are also at risk physically and mentally. Most heads of single parent households are aged 45-54 years, are female, live in rural areas, live in District Dili, live in Sub-district Dom Alexio, are widowed, are Catholics, are illiterate in Tetun and Bahasa Indonesia, have no education, work in informal sector, live in houses with worse housing quality and have less livestock. A significant percentage of heads of single parent households have five or more children. A fraction of them have some difficulties in walking, seeing/reading, hearing and intellectual/mental condition.

5.2. Recommendations

Political and socioeconomic development in the last decade is certainly bringing changes in fertility and nuptiality behavior in Timor-Leste. Exposure to these developments has contributed to the declining of fertility and increasing age at first marriage and to the emerging fertility and nuptiality differentials across socioeconomic groups. To promote further improvement in the people's welfare in particular through family planning, it is recommended to improve access to communication,

information and education services that help individuals to plan their marriage lives and help families to decide the number of children and how to achieve their reproductive goals that facilitates the country to alleviate poverty, reduce infant, child and maternal mortality and improve mother and child health. It is particularly more important for those who come from lower socio-economic groups, districts and sub-districts that have higher fertility and younger age at first marriage.

The existence of single parent households implies the need to develop and formulate policies aiming to improve the well-being of their members as the majority of them are vulnerable socially and economically. Improved access to development facilities in particular quality education and health facilities as well as productive employment are important to achieve development goals among these less fortunate groups of population. Further, specific policies should also be developed to support single parent household heads with physical and mental limitations.

It is recommended to improve the quality of age-reporting and the reporting of the number of children ever born to improve the estimation of fertility levels for the most recent years, lower administrative levels and for sub-populations. The future census should also include more fertility related information to allow more in-depth analyses of fertility as well as the estimation of other fertility-related indicators, such as the age at first birth, age first marriage and the pregnancy status among women of reproductive age.

The analyses of fertility and nuptiality in this monograph are limited to the analyses of levels, trends, patterns and differentials. It is recommended to further study the statistically significant influence of demographic, socioeconomic, cultural and regional factors in differentiating fertility and nuptiality behavior among Timorese. This information is important in the development of priority intervention programme to promote planned reproductive lives that enable Timorese to achieve specifically their family goals and generally poverty reduction, income rise and productivity improvement of the country.

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Appendices

Table A.1: Calculation of preference indexes for terminal digits by Meyers' blended method: Timor-Leste, 2010 Population and Housing Census

Both sexes

Terminal digit, a	Population with terminal digit a		Weights for		Blended population		Absolute deviation of percentage from 10.00 (7) - 10.00 =
	Starting at age 10 + a	Starting at age 20 + a	Column 2	Column 3	Number (2) × (4) and (3) × (5) =	Percentage distribution	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
0	114,074	80,858	1	9	841,796	13.41	3.41
1	71,556	46,563	2	8	515,616	8.22	1.78
2	85,389	56,437	3	7	651,226	10.38	0.38
3	68,152	44,372	4	6	538,840	8.59	1.41
4	70,164	46,293	5	5	582,285	9.28	0.72
5	85,916	60,630	6	4	758,016	12.08	2.08
6	66,219	43,624	7	3	594,405	9.47	0.53
7	62,968	40,117	8	2	583,978	9.31	0.69
8	68,997	45,000	9	1	665,973	10.61	0.61
9	54,302	34,727	10	0	543,020	8.65	1.35
Total					6,275,155	100.00	12.97
Summary index of age preference							6.49

Male

Terminal digit, a	Population with terminal digit a		Weights for		Blended population		Absolute deviation of percentage from 10.00 (7) - 10.00 =
	Starting at age 10 + a	Starting at age 20 + a	Column 2	Column 3	Number (2) × (4) and (3) × (5) =	Percentage distribution	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
0	57,245	39,841	1	9	415,814	13.16	3.16
1	36,598	23,546	2	8	261,564	8.28	1.72
2	43,262	28,029	3	7	325,989	10.31	0.31
3	34,404	22,081	4	6	270,102	8.55	1.45
4	35,500	23,286	5	5	293,930	9.30	0.70
5	43,506	30,707	6	4	383,864	12.14	2.14
6	33,552	22,359	7	3	301,941	9.55	0.45
7	32,119	20,603	8	2	298,158	9.43	0.57
8	34,780	22,730	9	1	335,750	10.62	0.62
9	27,365	17,526	10	0	273,650	8.66	1.34
Total					3,160,762	100.00	12.47
Summary index of age preference							6.24

Continued

Female

Terminal digit, a	Population with terminal digit a		Weights for		Blended population		Absolute deviation of percentage from 10.00 (7) - 10.00 =
	Starting at age 10 + a	Starting at age 20 + a	Column 2	Column 3	Number (2) × (4) and (3) × (5) =	Percentage distribution	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
0	56,829	41,017	1	9	425,982	13.68	3.68
1	34,958	23,017	2	8	254,052	8.16	1.84
2	42,127	28,408	3	7	325,237	10.44	0.44
3	33,748	22,291	4	6	268,738	8.63	1.37
4	34,664	23,007	5	5	288,355	9.26	0.74
5	42,410	29,923	6	4	374,152	12.01	2.01
6	32,667	21,265	7	3	292,464	9.39	0.61
7	30,849	19,514	8	2	285,820	9.18	0.82
8	34,217	22,270	9	1	330,223	10.60	0.60
9	26,937	17,201	10	0	269,370	8.65	1.35
Total					3,114,393	100.00	13.48
Summary index of age preference							6.74

**Table A.2a: Myer's index of terminal digit preference by district:
Timor-Leste, 2010 Population and Housing Census**

No.	District	Myer's index
1.	Bobonaro	6.2
2.	Covalima	6.6
3.	Baucau	6.8
4.	Aileu	6.8
5.	Ainaro	7.1
6.	Oecusse	8.4
7.	Lautem	10.3
8.	Dili	10.5
9.	Manufahi	10.8
10.	Manatuto	12.3
11.	Viqueque	15.3
12.	Liquica	15.5
13.	Ermera	20.0
Timor-Leste		6.5

**Table A.2b: Myer's index of terminal digit preference by sub-district:
Timor-Leste, 2010 Population and Housing Census**

No.	Sub-district	Myer's index		No.	Sub-district	Myer's index
1.	Lolotoe	4.0		34.	Laleia	10.5
2.	Atabae	4.3		35.	Cristo Rei	10.6
3.	Balibo	4.3		36.	Turiscail	10.7
4.	Baguia	4.4		37.	Metinaro	10.7
5.	Fatululic	4.8		38.	Lospalos	10.7
6.	Laulara	5.6		39.	Soibada	11.7
7.	Maliana	5.9		40.	Fatumean	11.8
8.	Venilale	6.1		41.	Dom Alexio	11.9
9.	Manatuto	6.2		42.	Same	12.1
10.	Hatu-Udo	6.4		43.	Fatuberliu	12.5
11.	Maucatar	6.4		44.	Nitibe	12.5
12.	Cailaco	6.6		45.	Railaco	13.1
13.	Liquidoe	6.7		46.	Zumalai	13.9
14.	Forohem	6.8		47.	Suai	14.0
15.	Remexio	6.9		48.	Uatucarbau	14.1
16.	Baucau	6.9		49.	Passabe	14.5
17.	Vemase	6.9		50.	Lacluta	14.7
18.	Ainaro	7.0		51.	Bazartete	14.8
19.	Pante Macasar	7.1		52.	Laclo	14.9
20.	Alas	7.5		53.	Liquica	15.2
21.	Maubisse	7.6		54.	Watulari	15.3
22.	Quelical	7.6		55.	Iliomar	15.6
23.	Oesilo	7.6		56.	Ossu	16.2
24.	Aileu Vila	7.7		57.	Hatolia	16.7
25.	Lautem	8.0		58.	Maubara	16.9
26.	Nain Feto	8.2		59.	Luro	17.0
27.	Hatu Bulico	8.3		60.	Viqueque	17.2
28.	Atauro	8.3		61.	Tilomar	17.5
29.	Tutuala	8.8		62.	Ermera	18.0
30.	Vera Cruz	9.4		63.	Letefoho	24.3
31.	Laga	9.4		64.	Laclubar	25.5
32.	Bobonaro	9.5		65.	Atsabe	29.1
33.	Barique/Natarbora	9.5				

Table A.3: Percentage distribution of women by number of children ever born, total number of children ever born and mean number of children ever born according to age groups of women: Timor-Leste, 2010 Population and Housing Census

Male children

Age of women	Children ever born											Total	Total number of women	Total number of children ever born	Mean number of children ever born
	0	1	2	3	4	5	6	7	8	9	10	11	12+		
15-19	96.1	2.8	0.7	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56,907	3,100	0.1
20-24	70.5	17.9	7.5	3.1	0.7	0.2	0.1	0.0	0.0	0.0	0.0	0.0	46,277	21,546	0.5
25-29	40.1	24.8	19.2	10.1	3.8	1.1	0.6	0.1	0.0	0.1	0.0	0.0	38,049	45,529	1.2
30-34	21.8	19.7	22.6	17.6	10.3	4.7	2.3	0.7	0.2	0.1	0.0	0.0	25,760	52,548	2.0
35-39	15.8	15.5	20.0	19.2	14.0	8.1	4.4	1.8	0.7	0.3	0.1	0.0	27,217	70,287	2.6
40-44	14.0	13.0	17.2	18.1	15.0	10.7	6.3	3.1	1.5	0.6	0.3	0.1	22,732	67,601	3.0
45-49	13.7	12.0	15.7	17.8	15.4	11.2	7.3	3.6	1.7	0.8	0.3	0.2	18,239	56,885	3.1
50-54	15.3	12.7	15.1	17.4	14.9	10.8	6.8	3.7	1.7	0.9	0.4	0.1	14,385	43,755	3.0
55+	23.4	15.6	14.4	14.7	11.8	8.5	5.6	3.1	1.5	0.8	0.3	0.1	55,641	144,370	2.6
Total	43.7	14.5	12.9	10.9	7.6	4.8	2.9	1.4	0.7	0.3	0.1	0.1	305,207	505,621	1.7

Continued

Female children

Age of women	Children ever born												Total	Total number of women	Total number of children ever born	Mean number of children ever born
	0	1	2	3	4	5	6	7	8	9	10	11	12+			
15-19	96.2	2.5	0.9	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56,907	3,186	0.1
20-24	71.7	17.3	7.2	2.9	0.6	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	46,277	20,730	0.4
25-29	42.3	25.2	17.8	9.7	3.3	1.0	0.7	0.1	0.0	0.0	0.0	0.0	0.0	38,049	43,062	1.1
30-34	23.9	21.2	22.0	16.7	9.0	4.2	2.0	0.5	0.2	0.2	0.1	0.0	0.0	25,760	49,401	1.9
35-39	17.5	16.9	20.3	19.2	12.9	6.9	3.7	1.4	0.5	0.4	0.1	0.0	0.1	27,217	66,258	2.4
40-44	15.4	14.1	18.6	18.3	14.3	9.5	5.3	2.5	1.1	0.6	0.2	0.1	0.1	22,732	63,187	2.8
45-49	15.0	13.9	17.4	18.0	15.0	9.5	5.8	2.9	1.3	0.8	0.2	0.1	0.1	18,239	52,431	2.9
50-54	16.6	14.3	16.9	17.8	13.6	9.6	5.8	2.7	1.3	0.8	0.2	0.1	0.2	14,385	40,472	2.8
55+	25.9	15.9	15.0	14.7	11.1	7.8	5.0	2.3	1.2	0.6	0.2	0.1	0.2	55,641	133,679	2.4
Total	45.2	15.0	13.1	10.8	7.1	4.3	2.5	1.1	0.5	0.3	0.1	0.0	0.1	305,207	472,406	1.5

Table A.4: The age specific fertility rates (ASFRs) and total fertility rates (TFRs) from children ever born and reported births, adjusting factors and adjusted ASFRs based on age group using Arriaga's technique: Timor-Leste, 2004 Population and Housing Census

Age group	ASFR from CEB		Reported ASFR		Adjusting factors	Adjusted ASFRs based on age group		
	ASFR	Cumulative	ASFR	Cumulative		20-29	25-29	20-29
15-19	0.082	0.082	0.056	0.056	1.458	0.054	0.051	0.050
20-24	0.253	0.335	0.269	0.325	1.031	0.259	0.242	0.239
25-29	0.255	0.590	0.330	0.655	0.901	0.319	0.297	0.294
30-34	0.252	0.842	0.302	0.957	0.879	0.292	0.272	0.269
35-39	0.188	1.029	0.222	1.179	0.873	0.214	0.200	0.197
40-44	0.095	1.124	0.115	1.294	0.869	0.111	0.103	0.102
45-49	0.031	1.156	0.045	1.338	0.863	0.043	0.040	0.040
TFR	5.8		6.7			6.5	6.0	6.0

Table A.5: The age specific fertility rates (ASFRs) and total fertility rates (TFRs) from children ever born and reported births, adjusting factors and adjusted ASFRs based on age group using Arriaga's technique: Timor-Leste, 2010 Population and Housing Census

Age group	ASFR from CEB		Reported ASFR		Adjusting factors	Adjusted ASFRs based on age group		
	ASFR	Cumulative	ASFR	Cumulative		20-29	25-29	25-34
15-19	0.078	0.078	0.030	0.030	2.574	0.043	0.041	0.042
20-24	0.215	0.293	0.167	0.197	1.488	0.237	0.226	0.229
25-29	0.283	0.577	0.227	0.424	1.359	0.324	0.309	0.312
30-34	0.292	0.868	0.201	0.625	1.389	0.286	0.273	0.276
35-39	0.178	1.046	0.157	0.782	1.339	0.223	0.213	0.215
40-44	0.118	1.164	0.082	0.864	1.348	0.116	0.111	0.112
45-49	0.043	1.207	0.033	0.897	1.346	0.048	0.045	0.046
TFR	6.0		4.5			6.4	6.1	6.2

Table A.6: The age specific fertility rates (ASFRs) and total fertility rates (TFRs) from children ever born and reported births, adjusting factors and adjusted ASFRs based on age group using P/F ratio technique: Timor-Leste, 2004 Population and Housing Census

Age group	Reported ASFR f(i)	Average CEB P(i)	Cumulative fertility Phi(i)	F(i)	P/F ratio	Corrected reported ASFR	Adjusted ASFRs			
							P2/F2 1.712	P3/F3 1.492	P4/F4 1.501	Average (P2/F2, P3/F3) 1.497
15-19	0.043	0.112	0.213	0.077	1.453	0.055	0.064	0.058	0.052	0.061
20-24	0.249	1.042	1.459	0.901	1.156	0.268	0.309	0.281	0.254	0.295
25-29	0.328	2.551	3.100	2.433	1.048	0.331	0.382	0.347	0.314	0.365
30-34	0.310	3.843	4.648	4.055	0.948	0.304	0.351	0.318	0.288	0.335
35-39	0.230	4.893	5.799	5.366	0.912	0.222	0.257	0.233	0.211	0.245
40-44	0.126	5.414	6.431	6.157	0.879	0.116	0.134	0.121	0.110	0.127
45-49	0.052	5.315	6.692	6.631	0.801	0.043	0.050	0.045	0.041	0.048
TFR	6.7					6.7	7.7	7.0	6.3	7.4

Table A.7: The age specific fertility rates (ASFRs) and total fertility rates (TFRs) from children ever born and reported births, adjusting factors and adjusted ASFRs based on age group using P/F ratio technique: Timor-Leste, 2010 Population and Housing Census

Age group	Reported ASFR f(i)	Average CEB P(i)	Cumulative fertility Phi(i)	F(i)	P/F ratio	Corrected reported ASFR	Adjusted ASFRs			
							P2/F2 1.712	P3/F3 1.492	P4/F4 1.501	Average (P2/F2, P3/F3) 1.602
15-19	0.024	0.110	0.119	0.042	2.639	0.031	0.053	0.046	0.047	0.050
20-24	0.154	0.914	0.890	0.534	1.712	0.167	0.286	0.250	0.251	0.268
25-29	0.225	2.328	2.013	1.561	1.492	0.227	0.388	0.338	0.341	0.363
30-34	0.204	3.958	3.031	2.636	1.501	0.200	0.342	0.298	0.300	0.320
35-39	0.162	5.017	3.840	3.536	1.419	0.156	0.268	0.233	0.235	0.251
40-44	0.088	5.753	4.282	4.080	1.410	0.081	0.138	0.120	0.121	0.129
45-49	0.041	5.994	4.485	4.438	1.351	0.035	0.059	0.052	0.052	0.056
TFR	4.5					4.5	7.7	6.7	6.7	7.2

Figure A.1: The total fertility rate (children per woman): Timor-Leste, 1991-2008

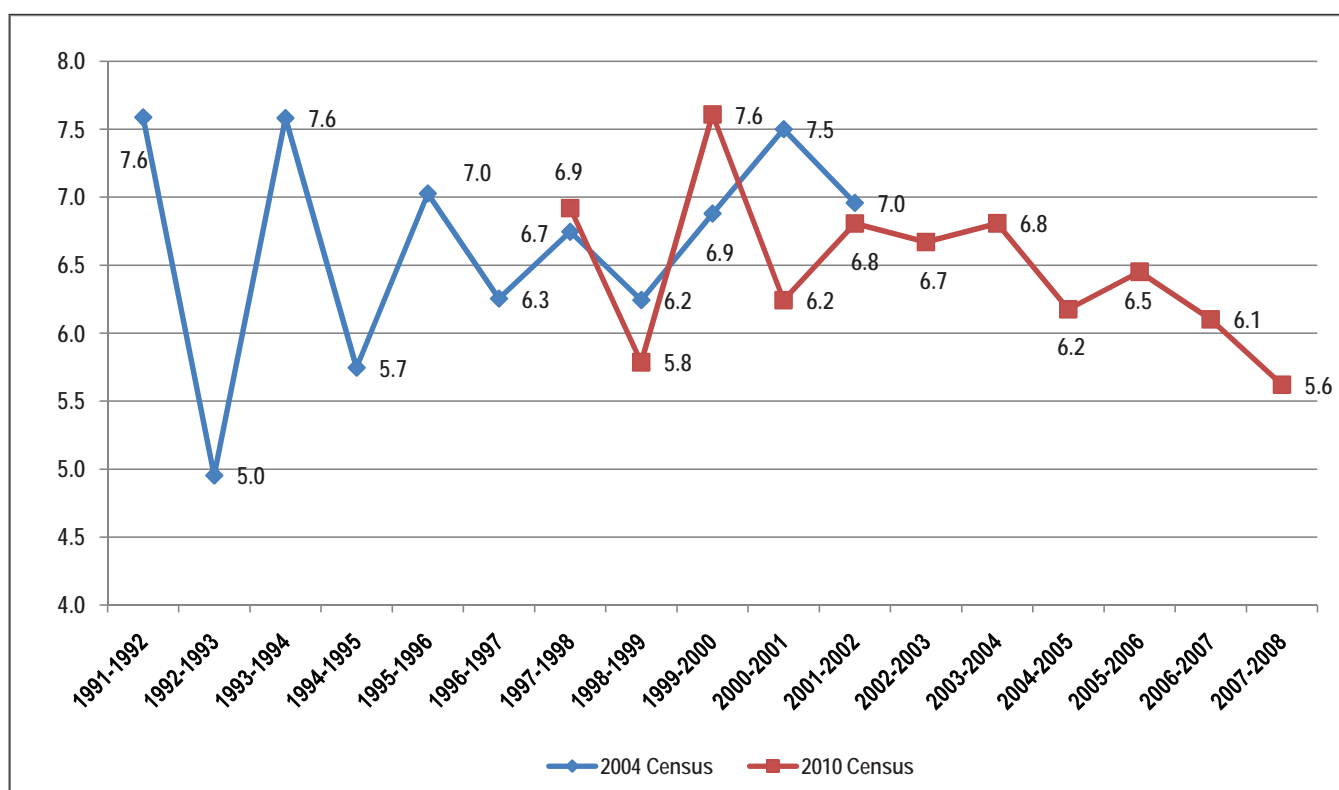


Figure A.2: The age specific fertility rate (births per 1,000 women at specific age): Timor-Leste, 1989-2004

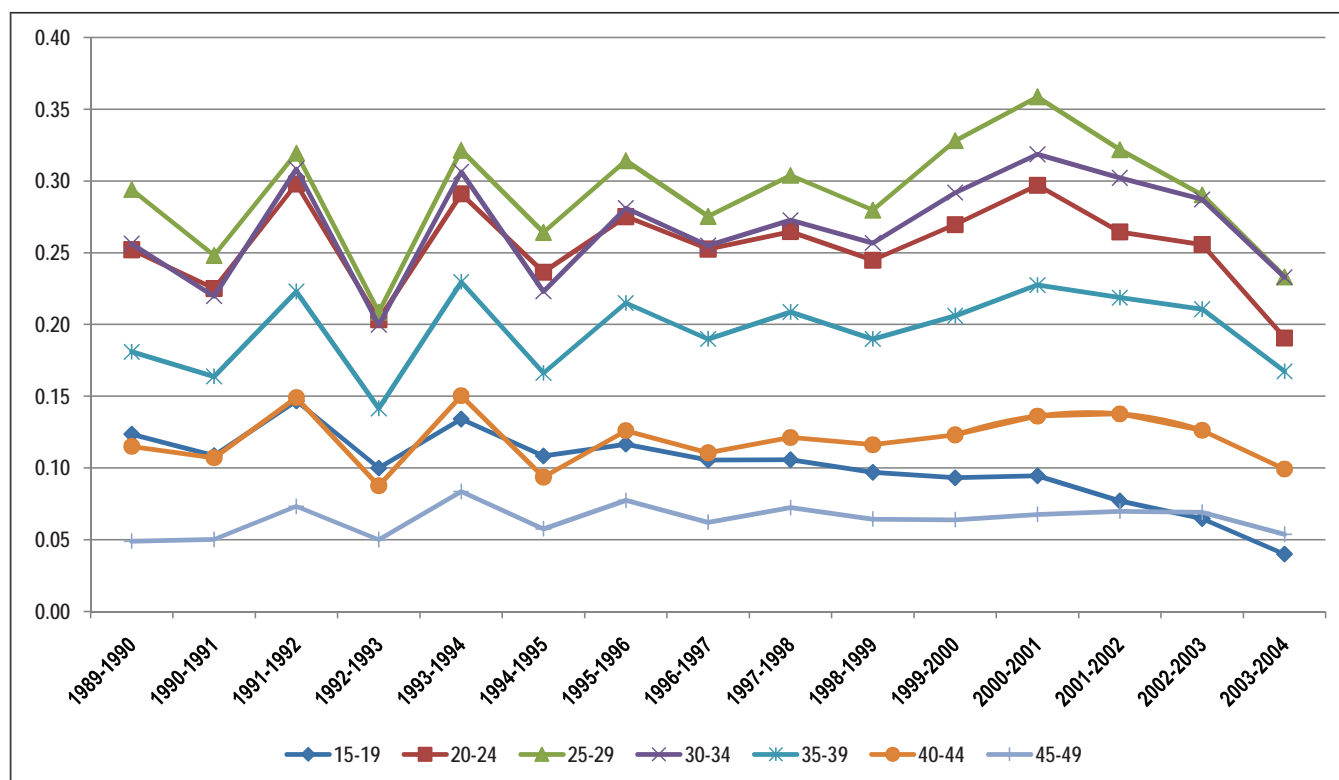


Table A.8: The age-specific fertility rates (births per 1,000 women): Timor-Leste, 1989-2004

Year	Age specific fertility rate						
	15-19	20-24	25-29	30-34	35-39	40-44	45-49
1989-1990	124	252	294	256	181	115	49
1990-1991	109	225	248	220	164	107	50
1991-1992	147	298	319	308	223	149	73
1992-1993	100	203	209	200	141	88	50
1993-1994	134	291	321	306	230	150	83
1994-1995	108	236	264	223	166	94	57
1995-1996	117	275	314	281	215	126	77
1996-1997	105	253	275	255	190	111	62
1997-1998	106	265	304	273	209	121	72
1998-1999	97	245	280	257	190	116	64
1999-2000	93	270	328	292	206	123	64
2000-2001	95	297	359	319	227	136	68
2001-2002	77	264	322	302	219	138	70
2002-2003	65	256	290	287	211	126	69
2003-2004	40	191	233	233	167	99	54

Table A.9: The adjusted total fertility rate (children per woman) and the mean number of children ever born from women age 45-49 by districts: Timor-Leste, 2010
Population and Housing Census

No.	District	Total fertility rate (children per woman)	Mean number of children ever born from women aged 45-49 years
1.	Dili	4.5	5.7
2.	Covalima	5.2	5.7
3.	Bobonaro	6.1	6.1
4.	Liquica	6.1	6.5
5.	Baucau	6.1	6.0
6.	Manatuto	6.2	5.7
7.	Viqueque	6.3	5.3
8.	Manufahi	6.4	5.9
9.	Lautem	6.4	6.2
10.	Aileu	6.5	6.6
11.	Ermera	6.6	6.8
12.	Oecusse	6.7	5.2
13.	Ainaro	7.4	6.4
	Mean	6.2	6.0
	Standard deviation	0.70	0.49
	Coefficient of variation	11.4	8.1
	Coefficient of correlation		0.31

**Table A.10: The adjusted total fertility rate (children per woman) and the mean number of children ever born from women age 45-49 by sub-districts:
Timor-Leste, 2010 Population and Housing Census**

No.	Sub-district	Adjusted TFR	Mean number of children ever born from women age 45-49	No.	Sub-district	Adjusted TFR	Mean number of children ever born from women age 45-49
1.	Nain Feto	4.0	5.5	34.	Quelicaí	6.3	5.7
2.	Vera Cruz	4.2	5.7	35.	Pante Macasar	6.4	5.3
3.	Fatululic	4.4	7.0	36.	Vemase	6.4	6.7
4.	Dom Alexio	4.5	5.4	37.	Ossu	6.4	5.7
5.	Laleia	4.8	4.7	38.	Laga	6.5	6.1
6.	Atauro	4.9	6.1	39.	Laclubar	6.6	5.7
7.	Suai	4.9	6.0	40.	Oesilo	6.6	5.2
8.	Cristo Rei	4.9	5.9	41.	Lautem	6.6	6.1
9.	Forohem	5.0	5.1	42.	Tutuala	6.6	7.3
10.	Zumalai	5.1	5.3	43.	Venilale	6.6	6.1
11.	Maucatar	5.3	6.2	44.	Laulara	6.7	6.6
12.	Barique/Natarbora	5.3	5.4	45.	Ermera	6.7	7.0
13.	Maliana	5.4	6.0	46.	Fatumean	6.8	5.6
14.	Baucau	5.4	5.9	47.	Watulari	6.8	5.0
15.	Lacluta	5.7	5.1	48.	Alas	6.9	6.1
16.	Letefoho	5.7	6.8	49.	Uatucarbau	6.9	6.2
17.	Manatuto	5.7	5.4	50.	Luro	6.9	6.1
18.	Liquica	5.8	7.0	51.	Remexio	7.0	7.1
19.	Viqueque	5.8	4.8	52.	Railaco	7.0	6.7
20.	Tilomar	5.8	5.3	53.	Hatolia	7.0	7.1
21.	Lolotoe	5.9	6.9	54.	Liquidoe	7.1	5.7
22.	Lospalos	5.9	6.2	55.	Baguia	7.1	6.1
23.	Aileu Vila	6.0	6.6	56.	Turiscái	7.2	7.2
24.	Balibo	6.0	5.7	57.	Laclo	7.2	6.7
25.	Hatu-Udo	6.1	5.3	58.	Nitibe	7.2	5.1
26.	Atsabe	6.1	6.1	59.	Atabae	7.3	6.2
27.	Cailaco	6.2	5.5	60.	Ainaro	7.4	6.7
28.	Bobonaro	6.2	6.5	61.	Passabe	7.5	5.0
29.	Fatuberliu	6.3	6.3	62.	Iliomar	7.6	5.7
30.	Same	6.3	5.5	63.	Maubisse	7.7	6.3
31.	Maubara	6.3	5.1	64.	Soibada	8.1	6.0
32.	Metinaro	6.3	6.7	65.	Hatu Builico	8.2	7.1
33.	Bazartete	6.3	6.8				
	Mean	6.2	6.0				
	Standard deviation	0.93	0.67				
	Coefficient of variation	14.9	11.2				
	Coefficient of correlation	0.27					

Table A.11: The crude birth rate (births per 1,000 population) and child woman ratio (children aged 0-4 years per 1,000 women aged 15-49 years) by district: Timor-Leste, 2010 Population and Housing Census

No.	District	Crude birth rate	Child woman ratio
1.	Dili	33	494
2.	Covalima	29	595
3.	Aileu	30	631
4.	Liquica	36	662
5.	Bobonaro	36	682
6.	Baucau	33	684
7.	Manufahi	33	702
8.	Ermera	40	711
9.	Manatuto	35	718
10.	Lautem	37	721
11.	Viqueque	37	748
12.	Oecusse	40	754
13.	Ainaro	37	845

Table A.12: The child woman ratio (children aged 0-4 years per 1,000 women aged 15-49 years) by sub-district: Timor-Leste, 2010
Population and Housing Census

No.	Sub-district	Child woman ratio		No.	Sub-district	Child woman ratio
1.	Nain Feto	436		34.	Laga	712
2.	Vera Cruz	438		35.	Atsabe	712
3.	Dom Alexio	502		36.	Lacluta	714
4.	Suai	519		37.	Maubara	717
5.	Cristo Rei	520		38.	Vemase	718
6.	Laleia	560		39.	Balibo	721
7.	Aileu Vila	560		40.	Remexio	726
8.	Atauro	568		41.	Turisciai	729
9.	Maliana	571		42.	Tutuala	733
10.	Maucatar	592		43.	Venilale	742
11.	Barique/Natarbora	600		44.	Quelicaí	743
12.	Baucau	615		45.	Bobonaro	745
13.	Liquica	619		46.	Ossu	756
14.	Forohem	622		47.	Laclubar	773
15.	Letefoho	628		48.	Watulari	783
16.	Lospalos	634		49.	Lautem	785
17.	Zumalai	638		50.	Oesilo	788
18.	Fatuberliu	639		51.	Ainaro	789
19.	Lolotoe	648		52.	Hatolia	792
20.	Manatuto	653		53.	Fatumean	799
21.	Liquidoe	655		54.	Atabae	803
22.	Bazartete	663		55.	Baguia	807
23.	Metinaro	669		56.	Uatucarbau	810
24.	Fatululic	674		57.	Nitibe	814
25.	Same	679		58.	Soibada	830
26.	Cailaco	684		59.	Alas	833
27.	Ermera	689		60.	Luro	836
28.	Railaco	694		61.	Maubisse	842
29.	Laulara	700		62.	Laclo	847
30.	Hatu-Udo	702		63.	Passabe	874
31.	Tilomar	702		64.	Iliomar	925
32.	Pante Macasar	705		65.	Hatu Bulico	1058
33.	Viqueque	711				
	Mean	704				
	Standard deviation	112				
	Coefficient of variation	15,9				

Table A.13: Percentage distribution of population aged 15 years and above by age and marital status: Timor-Leste, 2010 Population and Housing Census

Both Sexes

Age group	Marital status					Total	Population
	Single	Married	Widowed	Divorced	Separated		
15-19	95.0	4.7	0.2	0.1	0.0	100.0	114,304
20-24	69.5	29.6	0.5	0.3	0.2	100.0	91,997
25-29	37.0	61.4	0.9	0.5	0.3	100.0	75,312
30-34	16.8	80.6	1.7	0.5	0.3	100.0	50,939
35-39	10.6	86.0	2.5	0.5	0.3	100.0	56,502
40-44	7.5	87.3	4.3	0.6	0.3	100.0	47,605
45-49	5.7	87.3	6.2	0.5	0.3	100.0	38,194
50-54	4.8	84.6	9.6	0.6	0.4	100.0	29,628
55-59	3.8	83.1	12.2	0.6	0.3	100.0	22,078
60-64	4.0	74.9	20.1	0.5	0.5	100.0	37,142
65-69	4.0	69.0	26.0	0.6	0.5	100.0	23,026
70-74	4.6	60.9	33.5	0.5	0.5	100.0	12,667
75+	4.9	52.7	41.4	0.5	0.5	100.0	14,385
Total	36.9	56.3	6.0	0.4	0.3	100.0	613,779

Male

Age group	Marital status					Total	Population
	Single	Married	Widowed	Divorced	Separated		
15-19	98.1	1.8	0.1	0.0	0.0	100.0	57,397
20-24	83.9	15.9	0.2	0.1	0.0	100.0	45,720
25-29	50.2	49.2	0.3	0.2	0.1	100.0	37,263
30-34	22.7	76.1	0.8	0.2	0.2	100.0	25,180
35-39	13.3	84.8	1.3	0.4	0.2	100.0	29,285
40-44	8.8	88.4	2.2	0.4	0.2	100.0	24,873
45-49	6.4	89.9	3.1	0.3	0.3	100.0	19,955
50-54	5.5	89.2	4.6	0.4	0.3	100.0	15,243
55-59	4.2	88.9	6.1	0.4	0.3	100.0	11,621
60-64	4.4	84.4	10.4	0.4	0.3	100.0	17,312
65-69	3.9	81.8	13.4	0.5	0.4	100.0	11,523
70-74	4.6	76.1	18.4	0.4	0.4	100.0	6,262
75+	5.2	68.1	25.7	0.5	0.5	100.0	6,940
Total	42.0	54.4	3.1	0.2	0.2	100.0	308,574

Continued

Female

Age group	Marital status					Total	Population
	Single	Married	Widowed	Divorced	Separated		
15-19	91.9	7.7	0.2	0.1	0.1	100.0	56,907
20-24	55.2	43.1	0.8	0.5	0.4	100.0	46,277
25-29	24.1	73.3	1.4	0.7	0.4	100.0	38,049
30-34	11.1	84.9	2.7	0.8	0.5	100.0	25,759
35-39	7.7	87.3	3.8	0.7	0.5	100.0	27,217
40-44	6.2	86.1	6.5	0.8	0.4	100.0	22,732
45-49	5.0	84.4	9.6	0.7	0.4	100.0	18,239
50-54	4.1	79.7	14.9	0.7	0.6	100.0	14,385
55-59	3.4	76.6	18.9	0.8	0.3	100.0	10,457
60-64	3.7	66.7	28.5	0.6	0.6	100.0	19,830
65-69	4.1	56.1	38.5	0.6	0.6	100.0	11,503
70-74	4.5	46.1	48.3	0.6	0.6	100.0	6,405
75+	4.7	38.3	56.0	0.4	0.6	100.0	7,445
Total	31.8	58.2	9.0	0.6	0.4	100.0	305,205

Table A.14: Percentage distribution of population aged 15 years and above by marital status and sub-district: Timor-Leste, 2010 Population and Housing Census

Both Sexes

No.	District	Marital status					Total
		Single	Married	Widowed	Divorced	Separated	
1.	Ainaro	33.7	58.3	7.3	0.5	0.3	100.0
2.	Aileu	38.7	54.0	6.8	0.3	0.2	100.0
3.	Baucau	33.0	59.1	7.0	0.5	0.4	100.0
4.	Bobonaro	32.1	59.4	7.7	0.5	0.3	100.0
5.	Covalima	30.5	61.5	7.3	0.5	0.3	100.0
6.	Dili	49.3	47.5	2.8	0.3	0.2	100.0
7.	Ermera	36.7	55.4	7.3	0.4	0.3	100.0
8.	Liquica	37.2	56.1	6.1	0.3	0.2	100.0
9.	Lautem	32.6	58.9	7.5	0.5	0.4	100.0
10.	Manufahi	34.9	57.8	6.7	0.3	0.3	100.0
11.	Manatuto	31.9	60.7	6.8	0.4	0.3	100.0
12.	Oecusse	26.9	67.1	5.3	0.4	0.3	100.0
13.	Viqueque	28.1	62.5	8.3	0.6	0.5	100.0
Timor-Leste		36.9	56.3	6.0	0.4	0.3	100.0

Male

No.	District	Marital status					Total
		Single	Married	Widowed	Divorced	Separated	
1.	Ainaro	38.7	56.8	4.0	0.3	0.2	100.0
2.	Aileu	43.8	51.3	4.5	0.3	0.1	100.0
3.	Baucau	36.9	58.1	4.5	0.3	0.2	100.0
4.	Bobonaro	36.6	59.3	3.6	0.3	0.2	100.0
5.	Covalima	35.6	60.7	3.2	0.3	0.1	100.0
6.	Dili	54.2	44.3	1.2	0.2	0.1	100.0
7.	Ermera	41.5	53.8	4.2	0.2	0.2	100.0
8.	Liquica	41.8	54.3	3.6	0.2	0.2	100.0
9.	Lautem	38.6	57.9	3.1	0.3	0.2	100.0
10.	Manufahi	40.3	55.4	3.9	0.2	0.2	100.0
11.	Manatuto	37.7	58.5	3.4	0.2	0.2	100.0
12.	Oecusse	30.9	67.0	1.8	0.2	0.2	100.0
13.	Viqueque	32.0	62.3	5.0	0.3	0.3	100.0
Timor-Leste		42.0	54.4	3.1	0.2	0.2	100.0

Continued

Female

No.	District	Marital status					Total
		Single	Married	Widowed	Divorced	Separated	
1.	Ainaro	28.8	59.8	10.5	0.6	0.3	100.0
2.	Aileu	33.3	56.7	9.3	0.3	0.3	100.0
3.	Baucau	29.2	60.1	9.5	0.6	0.5	100.0
4.	Bobonaro	27.8	59.6	11.6	0.7	0.3	100.0
5.	Covalima	25.5	62.2	11.2	0.7	0.4	100.0
6.	Dili	43.6	51.1	4.6	0.4	0.2	100.0
7.	Ermera	31.8	56.9	10.3	0.5	0.4	100.0
8.	Liquica	32.5	58.0	8.7	0.4	0.3	100.0
9.	Lautem	27.3	59.8	11.5	0.7	0.7	100.0
10.	Manufahi	29.3	60.3	9.5	0.5	0.3	100.0
11.	Manatuto	26.0	62.9	10.2	0.6	0.3	100.0
12.	Oecusse	23.2	67.2	8.6	0.5	0.4	100.0
13.	Viqueque	24.4	62.6	11.4	0.8	0.7	100.0
Timor-Leste		31.8	58.2	9.0	0.6	0.4	100.0

Table A.15: Percentage distribution of population aged 15 years and above by marital status and sub-district: Timor-Leste, 2010 Population and Housing Census

Both Sexes

No.	Sub-district	Marital status					Total
		Single	Married	Widowed	Divorced	Separated	
1.	Ainaro	35.0	57.6	6.5	0.6	0.3	100.0
2.	Hatu Builico	28.1	62.3	8.8	0.5	0.3	100.0
3.	Maubisse	36.1	55.1	8.3	0.3	0.2	100.0
4.	Hatu-Udo	33.1	61.7	4.4	0.5	0.3	100.0
5.	Aileu Vila	42.8	50.1	6.7	0.3	0.1	100.0
6.	Liquidoe	33.3	57.7	8.2	0.4	0.5	100.0
7.	Remexio	34.4	58.1	6.8	0.4	0.3	100.0
8.	Laulara	37.2	56.3	6.1	0.2	0.1	100.0
9.	Baucau	39.0	55.2	5.1	0.5	0.3	100.0
10.	Laga	28.7	60.7	9.9	0.5	0.3	100.0
11.	Quelicaí	26.5	63.6	9.0	0.5	0.4	100.0
12.	Baguia	24.7	63.5	10.7	0.6	0.5	100.0
13.	Vemase	31.1	61.2	6.6	0.6	0.5	100.0
14.	Venilale	32.0	60.9	6.2	0.5	0.4	100.0
15.	Maliana	38.1	54.8	6.2	0.7	0.2	100.0
16.	Cailaco	33.5	58.2	7.8	0.4	0.2	100.0
17.	Balibo	31.1	58.5	9.8	0.4	0.3	100.0
18.	Atabae	28.7	62.8	7.9	0.3	0.2	100.0
19.	Lolotoe	26.4	62.9	9.6	0.8	0.3	100.0
20.	Bobonaro	28.6	63.2	7.4	0.5	0.3	100.0
21.	Fatululic	22.9	63.4	12.4	1.3	0.1	100.0
22.	Fatumean	19.7	65.6	13.2	0.9	0.5	100.0
23.	Forohem	23.5	63.7	11.5	0.5	0.8	100.0
24.	Maucatar	29.3	61.3	8.1	0.8	0.4	100.0
25.	Suai	37.0	56.8	5.5	0.5	0.2	100.0
26.	Tilomar	25.7	67.0	6.8	0.4	0.1	100.0
27.	Zumalai	26.0	66.3	7.1	0.3	0.2	100.0
28.	Vera Cruz	50.0	46.9	2.7	0.2	0.1	100.0
29.	Nain Feto	50.6	46.0	3.0	0.2	0.3	100.0
30.	Metinaro	40.2	53.6	5.7	0.4	0.2	100.0
31.	Atauro	34.7	57.2	7.4	0.4	0.3	100.0
32.	Dom Alexio	50.4	47.1	2.2	0.3	0.1	100.0
33.	Cristo Rei	48.9	47.5	3.1	0.4	0.1	100.0
34.	Railaco	40.1	53.7	5.4	0.4	0.5	100.0
35.	Ermera	40.8	52.7	5.8	0.4	0.3	100.0
36.	Letefoho	37.9	53.5	8.1	0.4	0.1	100.0

Continued

No.	Sub-district	Marital status					Total
		Single	Married	Widowed	Divorced	Separated	
37.	Atsabe	31.8	56.3	10.8	0.6	0.5	100.0
38.	Hatolia	33.3	59.2	6.9	0.3	0.4	100.0
39.	Bazartete	36.4	57.5	5.5	0.3	0.2	100.0
40.	Liquica	40.7	54.5	4.3	0.3	0.2	100.0
41.	Maubara	34.2	56.1	8.9	0.4	0.3	100.0
42.	Lospalos	40.0	53.6	5.6	0.4	0.4	100.0
43.	Lautem	26.8	64.2	7.9	0.6	0.4	100.0
44.	Iliomar	21.2	65.1	12.9	0.5	0.4	100.0
45.	Luro	25.9	64.8	8.2	0.5	0.6	100.0
46.	Tutuala	26.2	61.9	10.5	0.6	0.7	100.0
47.	Same	35.9	56.6	6.7	0.4	0.3	100.0
48.	Alas	27.3	65.0	7.2	0.4	0.1	100.0
49.	Fatuberliu	35.1	57.5	6.9	0.3	0.2	100.0
50.	Turiscai	38.1	55.7	5.6	0.3	0.3	100.0
51.	Manatuto	36.1	59.3	4.0	0.3	0.2	100.0
52.	Laleia	29.4	65.1	5.1	0.3	0.2	100.0
53.	Laclo	26.9	67.3	5.3	0.2	0.3	100.0
54.	Soibada	33.1	57.1	9.2	0.3	0.3	100.0
55.	Barique/Natarbora	35.7	55.5	7.4	0.9	0.6	100.0
56.	Laclubar	29.2	59.9	10.2	0.4	0.2	100.0
57.	Pante Macasar	31.0	63.9	4.6	0.3	0.2	100.0
58.	Nitibe	21.4	70.4	7.3	0.4	0.4	100.0
59.	Oesilo	22.4	71.2	5.6	0.3	0.4	100.0
60.	Passabe	21.2	72.4	5.5	0.5	0.3	100.0
61.	Uatucarbau	25.8	65.8	7.1	0.7	0.6	100.0
62.	Ossu	29.5	60.9	8.8	0.4	0.5	100.0
63.	Watulari	26.0	63.3	8.8	0.8	1.0	100.0
64.	Viqueque	29.8	62.2	7.2	0.5	0.2	100.0
65.	Lacluta	26.1	61.2	11.8	0.4	0.5	100.0
Timor-Leste		36.9	56.3	6.0	0.4	0.3	100.0

Continued

Male

No.	Sub-district	Marital status					Total
		Single	Married	Widowed	Divorced	Separated	
1.	Ainaro	40.6	55.7	3.1	0.5	0.2	100.0
2.	Hatu Bulico	33.8	61.1	4.5	0.4	0.2	100.0
3.	Maubisse	40.8	53.7	5.2	0.1	0.1	100.0
4.	Hatu-Udo	37.0	60.2	2.2	0.4	0.2	100.0
5.	Aileu Vila	47.5	48.4	3.9	0.2	0.0	100.0
6.	Liquidoe	39.1	54.2	5.9	0.4	0.3	100.0
7.	Remexio	39.0	55.1	5.1	0.6	0.2	100.0
8.	Laulara	43.6	52.3	3.9	0.1	0.1	100.0
9.	Baucau	42.8	53.4	3.5	0.3	0.1	100.0
10.	Laga	32.7	60.5	6.4	0.3	0.2	100.0
11.	Quelicaí	29.9	64.1	5.6	0.2	0.2	100.0
12.	Baguia	28.5	64.4	6.2	0.6	0.3	100.0
13.	Vemase	37.3	58.3	4.0	0.2	0.2	100.0
14.	Venilale	35.0	60.4	4.0	0.3	0.3	100.0
15.	Maliana	43.3	53.9	2.3	0.3	0.2	100.0
16.	Cailaco	37.0	59.1	3.6	0.3	0.0	100.0
17.	Balibo	37.2	57.0	5.3	0.3	0.2	100.0
18.	Atabae	33.0	62.1	4.7	0.1	0.1	100.0
19.	Lolotoe	28.3	66.6	4.4	0.5	0.2	100.0
20.	Bobonaro	32.5	63.7	3.2	0.3	0.2	100.0
21.	Fatululic	28.0	66.7	4.1	1.0	0.2	100.0
22.	Fatumean	24.5	66.9	7.9	0.6	0.1	100.0
23.	Forohem	28.1	65.0	6.2	0.2	0.5	100.0
24.	Maucatar	34.7	61.3	3.2	0.6	0.2	100.0
25.	Suai	42.4	54.4	2.9	0.3	0.0	100.0
26.	Tilomar	31.1	66.1	2.6	0.1	0.1	100.0
27.	Zumalai	29.9	67.6	2.2	0.3	0.1	100.0
28.	Vera Cruz	54.4	44.3	1.0	0.2	0.1	100.0
29.	Nain Feto	55.1	43.5	1.2	0.1	0.1	100.0
30.	Metinaro	47.7	49.0	3.0	0.1	0.2	100.0
31.	Atauro	39.4	57.0	3.3	0.1	0.2	100.0
32.	Dom Alexio	55.3	43.6	0.9	0.2	0.1	100.0
33.	Cristo Rei	54.1	44.2	1.5	0.2	0.1	100.0
34.	Railaco	44.8	51.5	3.2	0.2	0.3	100.0
35.	Ermera	46.0	50.5	3.2	0.2	0.1	100.0
36.	Letefoho	42.7	51.8	5.2	0.2	0.1	100.0

Continued

No.	Sub-district	Marital status					Total
		Single	Married	Widowed	Divorced	Separated	
37.	Atsabe	36.3	56.7	6.1	0.4	0.5	100.0
38.	Hatolia	37.8	57.8	3.9	0.2	0.3	100.0
39.	Bazartete	41.1	55.8	2.8	0.2	0.1	100.0
40.	Liquica	44.1	52.9	2.7	0.2	0.2	100.0
41.	Maubara	40.1	54.0	5.4	0.2	0.3	100.0
42.	Lospalos	46.2	51.7	1.8	0.1	0.2	100.0
43.	Lautem	33.8	62.3	3.4	0.4	0.1	100.0
44.	Iliomar	24.8	68.9	5.6	0.5	0.2	100.0
45.	Luro	30.3	63.9	5.3	0.4	0.2	100.0
46.	Tutuala	32.4	62.7	4.3	0.4	0.2	100.0
47.	Same	41.2	54.1	4.1	0.3	0.2	100.0
48.	Alas	33.2	63.0	3.6	0.2	0.1	100.0
49.	Fatuberliu	40.2	55.8	3.7	0.1	0.1	100.0
50.	Turiscai	43.5	52.5	3.7	0.0	0.2	100.0
51.	Manatuto	41.9	55.8	2.1	0.1	0.1	100.0
52.	Laleia	33.8	62.5	3.4	0.2	0.1	100.0
53.	Laclo	32.0	64.5	3.2	0.1	0.2	100.0
54.	Soibada	38.9	55.0	5.3	0.1	0.6	100.0
55.	Barique/Natarbora	45.8	50.5	3.1	0.2	0.4	100.0
56.	Laclubar	33.8	61.3	4.5	0.2	0.2	100.0
57.	Pante Macasar	35.3	62.7	1.7	0.1	0.2	100.0
58.	Nitibe	25.2	71.6	2.8	0.3	0.2	100.0
59.	Oesilo	25.3	73.2	1.4	0.1	0.1	100.0
60.	Passabe	24.5	73.7	1.3	0.3	0.2	100.0
61.	Uatucarbau	28.4	66.4	4.3	0.6	0.3	100.0
62.	Ossu	32.3	61.9	5.3	0.2	0.3	100.0
63.	Watulari	28.9	64.8	5.1	0.4	0.8	100.0
64.	Viqueque	34.9	60.5	4.2	0.3	0.1	100.0
65.	Lacluta	31.8	59.8	8.1	0.1	0.2	100.0
Timor-Leste		42.0	54.4	3.1	0.2	0.2	100.0

Continued

Female

No.	Sub-district	Marital status					Total
		Single	Married	Widowed	Divorced	Separated	
1.	Ainaro	29.4	59.3	9.9	0.8	0.5	100.0
2.	Hatu Bulico	22.6	63.4	12.9	0.7	0.4	100.0
3.	Maubisse	31.4	56.5	11.4	0.5	0.2	100.0
4.	Hatu-Udo	29.2	63.1	6.7	0.7	0.4	100.0
5.	Aileu Vila	37.9	52.0	9.5	0.3	0.2	100.0
6.	Liquidoe	27.2	61.3	10.6	0.3	0.6	100.0
7.	Remexio	29.5	61.3	8.5	0.2	0.5	100.0
8.	Laulara	30.2	60.8	8.5	0.3	0.2	100.0
9.	Baucau	35.2	56.9	6.8	0.6	0.5	100.0
10.	Laga	25.0	60.9	13.1	0.6	0.4	100.0
11.	Quelicaí	23.5	63.3	12.0	0.7	0.5	100.0
12.	Baguia	21.2	62.7	14.8	0.6	0.8	100.0
13.	Vemase	24.8	64.2	9.3	0.9	0.8	100.0
14.	Venilale	29.1	61.4	8.3	0.7	0.5	100.0
15.	Maliana	33.0	55.7	10.0	1.0	0.3	100.0
16.	Cailaco	30.4	57.4	11.6	0.4	0.3	100.0
17.	Balibo	24.9	60.0	14.3	0.4	0.4	100.0
18.	Atabae	24.6	63.4	11.1	0.5	0.4	100.0
19.	Lolotoe	24.7	59.7	14.2	1.0	0.4	100.0
20.	Bobonaro	25.2	62.8	11.0	0.7	0.3	100.0
21.	Fatululic	18.4	60.4	19.7	1.5	0.0	100.0
22.	Fatumean	15.2	64.3	18.3	1.2	0.9	100.0
23.	Forohem	19.1	62.6	16.5	0.8	1.0	100.0
24.	Maucatar	24.2	61.3	12.8	1.0	0.6	100.0
25.	Suai	31.5	59.3	8.2	0.7	0.4	100.0
26.	Tilomar	20.4	67.8	10.9	0.7	0.2	100.0
27.	Zumalai	22.5	65.2	11.7	0.3	0.3	100.0
28.	Vera Cruz	45.1	49.8	4.5	0.3	0.2	100.0
29.	Nain Feto	45.6	48.6	5.0	0.3	0.5	100.0
30.	Metinaro	31.8	58.7	8.6	0.6	0.3	100.0
31.	Atauro	30.4	57.3	11.2	0.6	0.4	100.0
32.	Dom Alexio	44.4	51.3	3.7	0.4	0.2	100.0
33.	Cristo Rei	43.2	51.2	4.9	0.6	0.2	100.0
34.	Railaco	35.0	56.0	7.7	0.5	0.7	100.0
35.	Ermera	35.4	55.0	8.6	0.6	0.4	100.0
36.	Letefoho	32.9	55.3	11.0	0.6	0.2	100.0

Continued

No.	Sub-district	Marital status					Total
		Single	Married	Widowed	Divorced	Separated	
37.	Atsabe	27.5	56.0	15.1	0.9	0.6	100.0
38.	Hatolia	28.9	60.5	9.9	0.3	0.4	100.0
39.	Bazartete	31.7	59.4	8.3	0.4	0.3	100.0
40.	Liquica	37.2	56.2	6.0	0.3	0.3	100.0
41.	Maubara	28.3	58.3	12.3	0.6	0.4	100.0
42.	Lospalos	34.4	55.2	9.0	0.7	0.6	100.0
43.	Lautem	20.5	65.9	12.1	0.9	0.7	100.0
44.	Iliomar	18.1	61.8	19.0	0.5	0.5	100.0
45.	Luro	21.9	65.6	10.9	0.5	1.0	100.0
46.	Tutuala	20.9	61.3	15.9	0.8	1.2	100.0
47.	Same	30.5	59.2	9.4	0.5	0.3	100.0
48.	Alas	21.0	67.1	11.1	0.6	0.2	100.0
49.	Fatuberliu	29.8	59.2	10.2	0.5	0.2	100.0
50.	Turiscai	32.2	59.3	7.7	0.5	0.3	100.0
51.	Manatuto	30.2	63.0	6.1	0.5	0.2	100.0
52.	Laleia	25.0	67.7	6.8	0.3	0.2	100.0
53.	Laclo	21.7	70.2	7.5	0.2	0.4	100.0
54.	Soibada	27.2	59.2	13.1	0.5	0.0	100.0
55.	Barique/Natarbora	24.3	61.1	12.3	1.6	0.7	100.0
56.	Laclubar	25.0	58.7	15.5	0.6	0.2	100.0
57.	Pante Macasar	26.9	65.0	7.4	0.5	0.2	100.0
58.	Nitibe	17.9	69.4	11.5	0.5	0.7	100.0
59.	Oesilo	19.9	69.5	9.4	0.6	0.6	100.0
60.	Passabe	18.4	71.3	9.1	0.7	0.5	100.0
61.	Uatucarbau	23.3	65.3	9.7	0.8	0.9	100.0
62.	Ossu	27.0	60.1	11.8	0.5	0.6	100.0
63.	Watulari	23.4	61.9	12.2	1.2	1.3	100.0
64.	Viqueque	24.9	63.9	10.1	0.7	0.4	100.0
65.	Lacluta	20.4	62.6	15.5	0.7	0.8	100.0
Timor-Leste		31.8	58.2	9.0	0.6	0.4	100.0

Table A.16: The percentage distribution of population aged 15 years and above by marital status and background characteristics: Timor-Leste, 2010 Population and Housing Census

Male

Background characteristics	Marital status					Total
	Single	Married	Widowed	Divorced	Separated	
Religion						
Catholic	42.2	54.3	3.1	0.2	0.2	100.0
Protestant/Evangelical	39.5	55.4	4.4	0.3	0.3	100.0
Islam	34.8	62.8	2.0	0.1	0.2	100.0
Buddha	29.2	68.1	1.7	0.7	0.3	100.0
Hindu	30.6	68.5	0.9	0.0	0.0	100.0
Traditional	17.2	62.9	19.3	0.2	0.4	100.0
Other	34.0	63.5	1.9	0.0	0.7	100.0
Literacy in Tetun or Bahasa Indonesia						
Literate	52.0	46.8	1.0	0.2	0.1	100.0
Illiterate	25.2	67.4	6.8	0.4	0.3	100.0
Educational attainment						
None	22.8	69.2	7.3	0.4	0.3	100.0
Pre-primary	35.3	61.4	2.9	0.3	0.1	100.0
Primary	39.8	58.0	1.9	0.2	0.1	100.0
Pre-secondary	64.1	35.0	0.6	0.1	0.1	100.0
Secondary or higher	55.3	44.0	0.4	0.1	0.1	100.0
Non-formal	44.9	52.4	2.4	0.2	0.1	100.0
Economic activity						
Employed	22.6	73.8	3.2	0.3	0.2	100.0
Unemployed	65.7	31.4	2.4	0.3	0.2	100.0
Inactive	83.7	12.8	3.3	0.1	0.1	100.0
Housing quality						
Rank 1 (best)	50.7	48.1	0.9	0.2	0.1	100.0
Rank 2 (good)	53.4	45.1	1.3	0.2	0.1	100.0
Rank 3 (medium)	45.4	51.6	2.6	0.2	0.2	100.0
Rank 4 (worse)	34.8	60.4	4.4	0.3	0.2	100.0
Rank 5 (worst)	29.3	65.1	5.1	0.3	0.2	100.0
Ownership of chickens						
None	47.5	49.5	2.6	0.2	0.2	100.0
1	38.3	58.0	3.3	0.3	0.2	100.0
2-5	38.8	57.2	3.6	0.2	0.2	100.0
6-20	40.1	56.3	3.2	0.2	0.2	100.0
21 or more	43.0	53.6	3.1	0.3	0.1	100.0

Continued

Background characteristics	Marital status					Total
	Single	Married	Widowed	Divorced	Separated	
Ownership of small animals						
None	47.9	49.0	2.7	0.3	0.2	100.0
1-5	18.3	78.2	3.1	0.2	0.1	100.0
6-20	57.4	39.2	3.1	0.2	0.1	100.0
21 or more	68.3	26.5	4.7	0.3	0.2	100.0
Ownership of large animals						100.0
None	44.9	51.9	2.8	0.2	0.2	
1-5	17.9	78.4	3.3	0.2	0.1	100.0
6-20	53.1	42.5	3.9	0.3	0.2	100.0
21 or more	63.5	30.7	5.2	0.4	0.3	100.0
Ownership of permanent crops						
Yes	38.2	57.7	3.7	0.3	0.2	100.0
No	46.6	50.6	2.4	0.2	0.1	100.0
Ownership of temporary crops						
Yes	38.2	57.6	3.7	0.3	0.2	100.0
No	47.3	50.0	2.4	0.2	0.1	100.0
Timor-Leste	42.0	54.4	3.1	0.2	0.2	100.0

Female

Background characteristics	Marital status					Total
	Single	Married	Widowed	Divorced	Separated	
Religion						
Catholic	32.0	58.1	8.9	0.6	0.4	100.0
Protestant/Evangelical	28.2	60.3	10.5	0.6	0.3	100.0
Islam	22.1	70.9	5.4	1.2	0.5	100.0
Buddha	21.3	73.0	2.8	1.1	1.7	100.0
Hindu	30.8	65.4	1.9	1.9	0.0	100.0
Traditional	5.2	59.5	34.6	0.3	0.4	100.0
Other	28.7	58.4	11.3	0.3	1.4	100.0
Literacy in Tetun or Bahasa Indonesia						
Literate	46.4	50.7	2.2	0.5	0.3	100.0
Illiterate	15.9	66.5	16.4	0.7	0.5	100.0
Educational attainment						
None	14.6	66.9	17.4	0.7	0.5	100.0
Pre-primary	30.3	62.3	6.5	0.8	0.2	100.0
Primary	32.8	62.5	3.7	0.6	0.4	100.0
Pre-secondary	53.4	44.5	1.4	0.4	0.3	100.0
Secondary or higher	52.0	46.2	1.1	0.4	0.3	100.0
Non-formal	27.5	64.7	6.6	0.6	0.5	100.0
Economic activity						
Employed	22.0	63.3	13.1	1.0	0.6	100.0
Unemployed	55.8	33.3	9.6	0.9	0.4	100.0
Inactive	35.3	57.2	6.9	0.3	0.3	100.0
Housing quality						
Rank 1 (best)	47.5	48.5	3.5	0.3	0.3	100.0
Rank 2 (good)	43.7	50.7	5.0	0.4	0.3	100.0
Rank 3 (medium)	34.6	56.4	8.0	0.6	0.4	100.0
Rank 4 (worse)	25.3	62.2	11.4	0.7	0.5	100.0
Rank 5 (worst)	21.0	66.1	11.8	0.6	0.5	100.0
Ownership of chickens						
None	36.7	54.4	8.0	0.6	0.4	100.0
1	28.6	59.5	10.9	0.5	0.5	100.0
2-5	29.2	60.2	9.7	0.6	0.4	100.0
6-20	30.4	60.2	8.5	0.6	0.4	100.0
21 or more	33.0	58.9	6.9	0.7	0.4	100.0

Continued

Background characteristics	Marital status					Total
	Single	Married	Widowed	Divorced	Separated	
Ownership of small animals						
None	37.1	54.0	8.0	0.6	0.4	100.0
1-5	16.6	70.6	11.7	0.6	0.5	100.0
6-20	34.9	57.7	6.7	0.5	0.3	100.0
21 or more	46.2	41.5	11.4	0.7	0.4	100.0
Ownership of large animals						100.0
None	34.1	55.9	9.0	0.6	0.4	
1-5	16.5	73.4	9.3	0.5	0.3	100.0
6-20	33.0	58.9	7.4	0.4	0.3	100.0
21 or more	40.2	46.9	11.7	0.6	0.5	100.0
Ownership of permanent crops						
Yes	28.4	60.8	9.8	0.6	0.4	100.0
No	36.0	55.1	7.9	0.6	0.4	100.0
Ownership of temporary crops						
Yes	28.4	60.8	9.8	0.6	0.4	100.0
No	36.8	54.5	7.7	0.5	0.4	100.0
Timor-Leste	31.8	58.2	9.0	0.6	0.4	100.0

**Table A.17: Singulate mean age at marriage by sub-district:
Timor-Leste, 2010 Population and Housing Census**

No.	Sub-district	Singulate mean age at marriage		
		Male	Female	Both sexes
1.	Ainaro	27.6	23.3	25.4
2.	Hatu Builico	27.3	22.3	24.7
3.	Maubisse	27.4	24.2	25.7
4.	Hatu-Udo	26.9	22.7	24.7
5.	Aileu Vila	28.3	24.2	26.2
6.	Liquidoe	26.7	22.7	24.5
7.	Remexio	26.7	22.3	24.4
8.	Laulara	28.0	23.9	25.9
9.	Baucau	27.8	24.2	25.9
10.	Laga	26.5	23.2	24.7
11.	Quelicaí	27.0	22.9	24.7
12.	Baguia	26.4	22.9	24.5
13.	Vemase	27.3	22.8	25.1
14.	Venilale	27.3	24.1	25.7
15.	Maliana	27.9	23.7	25.7
16.	Cailaco	28.2	24.5	26.1
17.	Balibo	27.8	23.1	25.4
18.	Atabae	26.1	22.1	24.0
19.	Lolotoe	26.3	23.5	24.7
20.	Bobonaro	27.2	23.2	24.9
21.	Fatululic	25.5	21.8	23.3
22.	Fatumean	26.3	21.4	23.6
23.	Forohem	26.5	22.3	24.3
24.	Maucatar	26.2	21.6	23.7
25.	Suai	27.3	23.2	25.2
26.	Tilomar	26.2	22.0	23.9
27.	Zumalai	25.0	21.6	23.2
28.	Vera Cruz	29.3	26.0	27.8
29.	Nain Feto	29.7	25.8	27.8
30.	Metinaro	28.5	23.4	26.1
31.	Atauro	28.5	24.9	26.6
32.	Dom Alexio	28.8	24.9	27.0
33.	Cristo Rei	28.8	25.3	27.1
34.	Railaco	27.3	23.6	25.5
35.	Ermera	28.2	24.0	26.1
36.	Letefoho	28.7	24.7	26.7

Continued

No.	Sub-district	Singulate mean age at marriage		
		Male	Female	Both sexes
37.	Atsabe	28.3	23.8	25.8
38.	Hatolia	26.5	23.2	24.8
39.	Bazartete	27.1	23.7	25.4
40.	Liquica	27.2	24.5	25.8
41.	Maubara	28.2	22.8	25.4
42.	Lospalos	28.7	24.7	26.5
43.	Lautem	27.5	23.0	25.1
44.	Iliomar	27.0	21.5	23.6
45.	Luro	27.9	22.5	25.0
46.	Tutuala	28.7	23.4	25.9
47.	Same	27.7	22.5	25.1
48.	Alas	26.3	22.2	24.1
49.	Fatuberliu	26.3	22.7	24.4
50.	Turiscari	28.1	23.4	25.9
51.	Manatuto	28.0	23.6	25.8
52.	Laleia	26.1	23.7	24.9
53.	Laclo	25.7	21.7	23.7
54.	Soibada	27.1	23.6	25.2
55.	Barique/Natarbora	27.5	21.2	24.5
56.	Laclubar	26.8	22.5	24.6
57.	Pante Macassar	26.7	23.1	24.8
58.	Nitibe	25.4	21.5	23.3
59.	Oesilo	25.5	22.4	23.8
60.	Passabe	24.8	21.4	22.9
61.	Uatucarbau	26.6	22.5	24.4
62.	Ossu	26.2	23.6	24.7
63.	Watulari	25.9	22.2	24.0
64.	Viqueque	25.8	21.6	23.6
65.	Lacluta	25.2	22.3	23.7
Timor-Leste		27,8	23,9	25,8

Annex 2

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