Socio-Economic Impact Assessment of COVID-19 in Timor-Leste, Round 2, 2021

United Nations Timor-Leste

General Directorate of Statistics, Ministry of Finance, Timor-Leste

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Research Team

Acknowledgement

Contents

Abbreviation and acronyms

COVID-19	Novel Coronavirus 2019
CSOs	Civil society organizations
DHS	Demographic and Health Surveys
EAs	Enumeration areas
ERM	Economic Recovery Measures
FIES	Food Insecurity Experience Scale
GDS	General Directorate of Statistics, Ministry of Finance
GoTL	Government of Timor-Leste
HH or hh	Household
HBDA	Household and Building Damage Assessment
ICCM	Integrated Centre for Crisis Management
ILO	International Labour Organization
INGO	International NGO
IPV	Intimate partner violence
KII	Key informant interview
LGBTQI	Lesbian, gay, bisexual, transgender, queer, and intersex
MAF	Ministry of Agriculture and Fisheries
MCAE	Ministry for the Coordination of Economic Affairs
MoF	Ministry of Finance
MoH	Ministry of Health
MSSI	Ministry of Social Solidary and Inclusion
MSMEs	Micro, small, and medium enterprises
Oecusse or RAOEA	Special Administrative Region of Oecusse
PDHJ	Human Rights and Justice Ombudsman
PHC	Population and Housing Census 2015
PNTL	National Police of Timor-Leste
PPE	Personal protective equipment
PSUs	Primary sampling units

PWDs	Persons with disabilities
SDGs	Sustainable Development Goals
SEIA	Socio-Economic Impact Assessment (SEIA-1 refers to SEIA Round 1 in 2020, SEIA-2 refers to SEIA Round 2 in 2021)
SIDS	Small island developing state
SDGs	Sustainable Development Goals
SoE	State of Emergency
TLFN 2020	Timor-Leste Food and Nutrition Survey 2020
UN	United Nations
UNDP	United Nations Development Programme
VAWG	Violence against women and girls
WASH	Water, sanitation, and hygiene
WHO	World Health Organization

Executive summary

Background

The first positive case of COVID-19 emerged in Timor-Leste on 21 March 2020. A week later, 28 March 2020, the first national State of Emergency (SoE) was declared to prevent the spread of COVID-19, with an end date of 26 June 2020. The SoE, included actions such as domestic and international travel restrictions, closure of schools and physical distancing. Since the initial Decree, the SoE has been renewed monthly, and there have been sanitary fences and home confinements with varying degrees of restrictions and duration in different municipalities.

The nature of COVID-19 presented novel challenges for Timor-Leste. Restricting inter-municipality travel and the face-to-face interactions necessary for the large informal sector hit uniquely hard in a country with limited access to technological supports and relative geographic isolation. With 46 percent of the population being multidimensionally poor; and a significant majority of the population relying on small-scale subsistence farming, by the end of 2020, Timor-Leste's progress towards SDG 1 (No poverty) and SDG 8 (Decent work and economic growth) had slowed. Like in many other small-island developing states, the impact of COVID-19 has also been compounded with climate change effects. In particular, Timor-Leste was hit by large-scale floods in April 2021.

Aware of the precarious positions of most Timorese, the Government of Timor-Leste launched a relief package – one of the world's largest at 13 percent of GDP. Beginning in May 2020, the package included cash transfers, emergency food distributions, wage subsidies, a credit moratorium, and electricity and water utility subsidies. Early on relief planning, however, it became clear to government policy makers and the development community that there was a lack of accurate nationwide data on how and where to employ support packages most effectively, as well as the real impact such measures might be having.

In response, the United Nations conducted a rapid socio-economic impact assessment (SEIA-1) in June and July 2020 in five municipalities – Dili, Baucau, Bobonaro, Viqueque and RAOEA (Oecusse). The results of SEIA-1 helped policy makers, development partners and civil society, informing their pandemic responses and economic recovery plans. One year after the initial SoE was announced, the SEIA was scaled up to a nationwide household survey and a national micro, small and medium enterprises survey. The SEIA-2 was conducted by UN Timor-Leste in partnership with the General Directorate of Statistics (GDS) and the Ministry of Finance. It expands upon the SEIA-1 findings to provide a longer-term view of the pandemic's impacts and the effects of government economic stimulus and support measures.

The purpose of this study is to identify the impacts of COVID-19 on individuals, households, and communities, as well as MSMEs in Timor-Leste, and to develop recommendations to inform further recovery interventions. The specific objectives are to assess the social and economic impacts of the COVID-19 pandemic among the population, including poor and vulnerable households, and how individuals and households are coping with and managing risks; examine the gender dimension of the pandemic, particularly the extent to which women may be more affected than men; identify the measures needed to support the most vulnerable groups (including individuals living in poverty,

older persons, youth, people with disabilities, women, and children); and assess how responsive the COVID-19 prevention, protection, and recovery measures were to the diverse needs of groups.

Methodology

The SEIA-2 is a micro-level, mixed-method, and cross-sectional survey. The **sampling design** of the SEIA-2 survey aimed at results that are representative at the national level and covered all 13 municipalities. Between July and September 2021, data were collected face-to-face from 4,292 households representing 23,362 individuals (50.8 percent male and 49.1 percent female). **Qualitative interviews** with government agencies, NGOs, and members of vulnerable groups totalled 67.
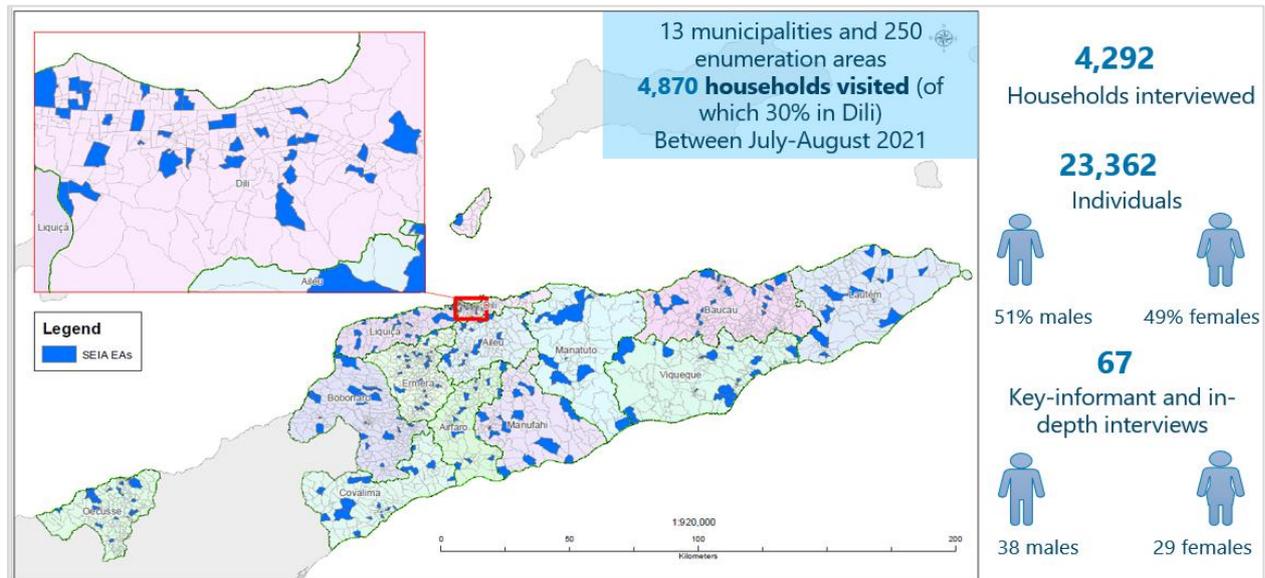
This report identifies the differential effect of COVID-19 on various socio-economic groups of Timor-Leste society, specifically the following inequalities:

- Analysing the economic vulnerability of households through the **wealth index** and making comparisons between the poorest (lowest wealth quintile) and relatively well-off (highest wealth quintiles) households.
- The team constructed and used a **social vulnerability index** measuring the number of characteristics of persons in the household that place them at higher risk of economic deprivation, exclusion, and social isolation. Households with members of older age, having a disability, female headship of the household and the number of children vis á vis persons in the working-age groups (the child dependency ratio) were measured. The social vulnerability index divided the households into three groups: 'less vulnerable'; 'more vulnerable'; and 'most vulnerable'.
- **Geographic inequalities** were identified by rural and urban, households and individuals in Dili and in other municipalities and by municipalities where possible.
- As the survey includes both households and individual levels, it enables understanding the **intra-household inequalities** and the gender dimension of the pandemic on domestic work, employment, migration, and access to education services.

SEIA-2 also covered disruptions on households and individuals caused by the floods that hit Timor-Leste in April 2021. This nationwide survey comes in a time where no nationwide household and MSME surveys were available.

Main results

The study shows how the COVID-19 situation has exacerbated underlying issues within the country, including large gaps in development between rural and urban settings, the effects of climate hazards, and limited access to education, health services, social protection programmes and markets. To cope with the confluence of the pandemic, Easter Flood and major difficulties, households have employed coping strategies that hinder further improvement in their lives. The study reveals that the negative impacts of the pandemic hit hardest the poorest households, households outside the capital municipality of Dili and households with high levels of social vulnerability, but that relatively well-off households also experienced losses and challenges, for example, in food insecurity. The existing inequalities and vulnerabilities increased the severity of COVID-19 economic and social impacts on the most marginalised, in part by preventing them from accessing much needed support from the government or other networks. However, the study also finds resilience among communities, the important role of the national government in social support, and continued efforts of various government and civil society organisations to reduce these negative impacts.

Pre-existing vulnerabilities in Timor-Leste exacerbate the COVID-19 effects

Wealth and social vulnerability are unevenly distributed among the 13 municipalities in the country. Wealth is concentrated in Dili, where, according to the SEIA-2, only 6.8 percent of all households are found in the two lowest wealth quintiles. The highest percentage of economically vulnerable households are found in Oecusse (69.4 percent). The highest levels of social vulnerability[1] were found in Lautém, Viqueque and Covalima, while the lowest percentage was in Dili. The social vulnerability status of the household was closely related to economic vulnerability; 52.1 percent of the most socially vulnerable households belong to the economically vulnerable group (the two lowest wealth quintiles).

Women were more likely than men to belong to a socially vulnerable category, and pregnant and breastfeeding women were more likely to be poor. Women comprised 56.3 percent of the most vulnerable household members versus 43.3 percent men. Respondents reported that 3.0 percent of all women in the age group 15 – 49 were pregnant at the time of the survey, and 12.0 percent were breastfeeding. Among those pregnant or breastfeeding at the time of the interview, only 11.8 percent formed part of the richest quintile, while this was the case for 20.2 percent of women not breastfeeding or pregnant.

Female heads of households were older on average and exhibited more economic vulnerabilities than male heads of households. Consistent with other recent national surveys, 16.8 percent of all households were headed by women. The highest percentage of female heads were found in Lautém and Baucau, where more than twenty percent of all households are headed by women.

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[1] Households with members of older age, having a disability, female headship of the household and the number of children vis á vis persons in the working-age groups (the child dependency ratio) were measured. The social vulnerability index divided the households into three groups: 'less vulnerable'; 'more vulnerable'; and 'most vulnerable.

Households with high dependency ratios (large number of children dependent on few working-age adults) are concentrated in the poorest quintiles. Among the four dependency ratio categories constructed[2], almost one-third of households (32.6 percent) in the poorest quintile had a very high dependency ratio of 133 percent or more, twice as high as the percentage of households in the richest quintile (16.8 percent). Among age groups, the younger (0 – 14 years) and the older (65+ years) people are likely to live the two poorest wealth quintiles.

Households with older persons have a higher chance of being poor. In the survey, 6.0 percent of the total population was 65 years of age or older. Among all households, 22.7 percent had at least one person older than 65 years old. Female headed households were more likely to have older persons (34.6 percent) than male headed households (20.3 percent). Among households without an older person, 18.4 percent belonged to the poorest quintile, against 24.9 percent of households with one older person and 25.8 percent of households with two or more older persons.

People with disabilities are overrepresented in the poorer segments of society: Respondents indicated that 1.7 percent of all persons 15 years of age and older had a disability, i.e., they had a lot of problems executing at least one of the four questions on walking, seeing, hearing, or remembering or they could not do them at all. 52.3 percent of people with a disability are found in the lowest two wealth quintiles, against 41.3 percent of people without a disability.

During the SoE, internal migration tended to be from urban-to-rural settings. Overall, 2.9 percent of all individuals had moved since the SoE in March 2020, more men (53.6 percent) than women (46.4 percent). Among those who moved, 39.9 percent moved from urban-to-rural, followed by those who moved between rural locations (27.1 percent). Most people who migrated for employment or education opportunities had moved to urban settings, whereas more people who moved due to threats of COVID-19 had moved to rural settings. Those who moved due to the Easter Flood were primarily from vulnerable and poor households.

Employment back to normal? However - vulnerable employment in an agricultural economy persists

Low participation in the labour market persists. The overall labour force participation rate (March 2021) was 51.3 percent. This represents the percentage of the working-age population that is working in the market economy or is looking for paid employment. The labour force participation of women was lower than that of men, respectively 46.7 and 55.8 percent, which represents a gender parity index[3] of 0.84.

The employment base of Timor-Leste is small and fragile. The percentage of the working-age population that was employed in the market economy as of March 2021 was 45.2 percent (48.6 percent of working age men and 35.3 percent of women). This indicates that relatively few people of working age are income earners.

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[2] The categories of household dependency ratio constructed are: below 33 percent, 33 to 69 percent, 70 to 132 percent and 133 percent or more (including households without persons in the working-age range.

[3] The gender parity index for labour force participation is calculated as the rate for women divided by the rate for men. A value of 1 indicates exact gender equity, and the further from 1 the parity index, the greater the gender disparity.

- **Paid employment does not mean decent work.** Employment levels seem to have recovered, many jobs in which people work for pay or profit are characterised by informal work arrangements and insecure employment, unstable and inadequate earnings and low productivity. Most people working in the market economy are self-employed or contributing family workers (86.3 percent), who can be classified as working in 'vulnerable employment'.
- **High dependence on the agricultural sector.** More than 70 percent of the people working in the market economy are engaged in agricultural production and sale of agricultural products. Employment in other economic sectors with higher productivity, such as manufacturing and construction (3.7 percent), is sparse. The dependence on agriculture activities is further accentuated by the importance of subsistence agriculture in the country. If the agricultural subsistence workers were added to the population working in the market economy, the overall employment-to-population ratio would increase from 45.2 percent to 61.1 percent.
- **Gender and disability disparities.** Persons living with a disability have a particularly disadvantaged position in the labour market, as indicated by the employment-to-population ratio of this group (25.2 percent), compared to that of the population not living with a disability (45.5 percent). Gender-specific differences also show disadvantaged working conditions for women. Thus, women have a lower employment- to-population ratio than men (respectively, 41.7 and 48.6 percent), are less often working in economic sectors with more stable and productive employment and are more often than men engaged in vulnerable employment (90.0 percent compared to 83.2 percent).

Job loss and unemployment hit the young people the hardest. The overall unemployment rate (the percentage of the labour force that is unemployed) in March 2021 was 11.9 percent. The gender-specific rates suggest relatively small differences between women and men (respectively, 10.8 and 12.8 percent). However, the unemployment for the group of young people aged 25-29 years was double the national average (22.1 percent). This unusual pattern is likely related to the impact of COVID-19, as it was for the young adult age group that the highest level of job loss was recorded.

Impact of COVID-19 on work and employment. The COVID-19 pandemic and the SoE had various impacts on people's employment and non-market activities.
- **Job loss due to COVID-19.** Almost two in five (39.3 percent) persons working in the market economy in March 2020 reported having lost their job due to the COVID-19 pandemic, at least for some period. Losing a job affected men slightly more than women (respectively, 42.0 and 36.0 percent) and particularly affected the age group 25-39 (43.3 percent) and Dili residents (54.6 percent compared to 38.4 percent of non-Dili residents). The main reasons for job loss were imposed restrictions to activities (35.5 percent), the travel ban in the country (26.0 percent) and people's fear of infection (19.0 percent).
- **Other impacts on employment.** Other COVID-related employment impacts that were commonly mentioned referred to working from home (for 11.0 percent of the employed) and working less hours (5.9 percent).
- **Domestic work increased especially for women.** For around 22 percent of households, an increase in the time spent on various domestic chores (family care, water collection, shopping for food, cooking and cleaning) was mentioned. Women and adult household members in

the age groups 25-39 and 40-64 were the persons who were most affected by an increase in time spent on domestic chores.

Employment back to a new normal? Despite the large initial impacts of COVID-19, 90.1 percent of the persons who lost a job due to COVID-19 were again employed in March 2021. The level of the employment-to-population ratio in March 2021 (45.2 percent) compared to the figure for March 2020 (39.3 percent) suggests that in quantitative terms, employment has largely recovered. A possible explanation could be that after the first severe economic impact from the COVID-19 pandemic, the economy reached a new normal, in which people have returned to work. It is also possible that other external factors – for instance, the stabilization of the political environment – may have led to these unexpected changes.

The poorest households struggled to cope with increased food insecurity and difficulties due to the twin shocks of COVID-19 and Easter flood

Household sources of income are somewhat restored to pre-pandemic level. The results from SEIA-2 suggest that the dramatic decrease in the sources of income for households that occurred during the first months of the pandemic have come to an end. The various sources of income for households seem to have been restored to the pre-pandemic level. However, this does not mean that the level of income is back at the same level as before.

However, the coverage of social protection programmes[4] remains low and does not fully reach vulnerable and poor groups. Although vulnerable households are receiving social protection, the coverage is relatively low and needs to be expanded for those who deserve to participate in these programmes.

- 65.7 percent of households with older persons reported that **old-age pension** is one of their sources of income. It reaches more households with persons with disabilities, female headed households, the vulnerable, and poor households.
- Only 4.0 percent of households with persons with disabilities reported **disability benefits** as one of their income sources.
- 11.4 percent of the poorest households (versus 4.2 percent of the wealthiest quintile) had an income from ***Bolsa de Mãe***.
- **Veteran benefits** constituted part of household income for more of the wealthiest households (9.5 percent of the wealthiest quintile versus 4.2 percent of the poorest).

There are different patterns on household expenditures in urban and rural areas and between rich and poor. A higher proportion of poor households and households in rural areas saw their expenditures decrease (45.5 percent and 44.9 percent) while the wealthiest quintile households and those in Dili saw their expenses increase (34.4 against 34.8 percent, respectively). One of the coping strategies to mitigate difficulties was to reduce health and education costs among the poorest households.

The wealthiest households had more savings than the poorest households: About 31.8 percent of all households reported having some savings. Households belonging to the lowest quintile had

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[4] Short-term emergency measures such as Uma Kain cash transfer are not covered here.

the lowest percentage of savings (16.1 percent), while households belonging to the highest quintile had the highest percentage (46.6 percent). In times of major difficulties, 'spending savings' was the most prominent livelihood coping strategy (20.7 percent) among the wealthiest households.

The Easter flood also had a severe impact on household income and livelihoods. SEIA-2 clearly showed the two-pronged effect of COVID-19 and the Easter flood on the livelihoods of households.

- Almost two out of three persons saw their income change due to the Easter flood: 44.6 percent of households witnessed a moderate decrease in the level of their income, 23.0 percent saw a significant decline in their income, and 3.9 percent lost all income. The municipalities that saw the most significant change in income were Ermera, Alieu and Manufahi, while Oecusse endured the lowest impact on household income.
- The impact of the flood on houses and crops was devastating: 20.3 percent of all households reported that their home had been damaged or destroyed, 58.8 percent of all agricultural households had standing crops or harvests destroyed, and 9.2 percent lost livestock.

In total, 52.1 percent of households had faced at least one major difficulty in their lives during the SoE since March 2020. Households residing outside of Dili (56.3 percent versus 41.9 percent in Dili) and the poorest households (59.3 percent versus 40.1 percent of wealthiest quintile) were more likely to have experienced major difficulties in their lives. The most-cited difficulty households faced was serious illness and catastrophic health expenditure, especially for the most vulnerable households, followed by poor harvest and death of household members.

Coping strategies employed by households. Because of the economic stress placed on households by the pandemic, the flooding, and other major difficulties, 58.5 percent of households were forced to use at least one form of livelihood coping strategies.

- **A higher proportion of the poorest households (70.6 percent) had to use coping mechanisms than the wealthiest households (36.7 percent)**. The most common coping mechanisms used by the poorest households were selling livestock (51.5 percent), spending savings (34.3 percent), and borrowing money (32.7 percent).
- Worryingly, **3.7 percent of households had to beg** to put food on the table. An important observation was also that about **one-fifth of all households had to reduce education and health costs**, to cope with the consequences of the pandemic and the flooding.
- There were significant variations by municipality as well. Municipalities outside Dili were more vulnerable to external shocks and had to use coping strategies. Liquiçá had the largest proportion of households using coping strategies (90 percent) followed by Ermera, Aileu, Oecusse and Manatuto, where around 75 percent of households had to use one of the coping strategies (in contrast to Dili with 44 percent).

Of the population in Timor-Leste, 41.1 percent was affected by moderate or severe food insecurity during the 30 days preceding the survey. This corresponds to individuals living in households where at least one household member has likely been forced at times during the last month to reduce the quality of their diet, due of lack of money or other resources. This higher proportion of moderate and severe food insecurity could be due to several compounded factors, including COVID-19 restrictions, increased food prices and significant damage and loss caused by Easter floods on farmlands.

- **19.3 percent of the population was estimated to be affected by severe food insecurity**, which means that household members have reduced the quantity of food consumed. As the results suggest, the impact of the measures to contain the COVID-19 pandemic (especially those restricting people and goods' transport) have amplified these pre-existing conditions.
- **The prevalence of food insecurity was directly related to the wealth of households**, that is, 51.1 percent of the poorest wealth quintiles had moderate or severe food insecurity versus 23.8 percent of the wealthiest wealth quintile. Agricultural households were more affected by moderate and severe food insecurity.

Trust and support in community was strong, yet individual well-being is lower among people experiencing livelihood difficulties

Social cohesion and community resilience play a critical role in overcoming or recovering from difficulties. **Trust in community was generally high** (75.1 percent trusted and 14.5 percent strongly trusted), and most people (72.6 percent), regardless of their socio-economic status, considered it to be improved since the SoE (more people in Dili considered trust to have improved than outside Dili).

The majority of households had received help of some kind, but the most vulnerable and poorest households were less likely to receive help. Since the SoE was declared, 68.4 percent of all households had received help of some kind. Nearly all households in Dili had received help (95.0 percent), whereas over half of households in other municipalities had received help (56.5 percent). The most vulnerable and poorest households were less likely and the wealthiest households more likely to receive help. Of the households that received help, 96.0 percent had received food support and 48.0 percent received cash support.

1. **The national government was the primary source of support**, among all groups (68.3 percent of those who received help received it from the national government)[5]. Community-led support was not significant; however, this may be due to the way the question was interpreted. The church was a more common provider of support in Dili and for the highest wealth quintile. For the poorest wealth quintile and those living outside Dili, relatives were the main support provider after the national government. Friends and neighbours accounted for 6.9 percent of support providers for households that received help, more commonly for those in Dili and in the highest wealth quintile.

Overall, 78.2 percent of respondents said they felt happy the day before the interview while over 20 percent said they felt unhappy. The majority (62.8 percent) of respondents had felt tired, and around one third had felt sad (29.4 percent) or worried and stressed (31.3 percent). Respondents from flood-affected households and households that encountered major difficulties during the SoE experienced more negative feelings, indicating the psychological burden of the natural disaster on communities.

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[5] The support provided by the national government does not include household subsidy or the Cesta Básica programme.

Over a third of students stopped studying or studied irregularly, due to the scarcity of printed learning materials

Continuity of education was severely impacted by COVID-19. 62.6 percent of students ages 4 to 25 who attended school before the COVID-19 SoE indicated they continued studying on a daily basis, 23.5 percent continued studying but irregularly, and 13.9 percent did not continue studying during the SoE.

The learning material used to study varied by setting and wealth. Students in rural areas and those in the lowest wealth quintile tended to use offline sources such as student workbooks, and students in urban areas (40.0 percent versus 11.5 percent in rural areas) and those in the highest wealth quintile tended to use online resources (41.9 percent versus 7.2 percent of the poorest households). Internet penetration is still low in Timor-Leste compared to other countries in the region, and geographical gaps in access to internet service remain large between urban and rural areas.

The main reasons students did not continue studying or studied irregularly were related to scarcity of learning materials. A lack of printed learning materials at home accounted for 52.1 percent of discontinuation of studying, and scarcity of information on available TV/radio/online resources for 8.9 percent. The proportion of students who stopped studying because they did not want to study (17.8 percent) during the SoE was high.

Students living outside of Dili were more likely to continue studying because schools were open. There were no significant differences in home study or return to school based on age group, gender, gender of household head, or social vulnerability index, but there was a statistically significant difference based on students' location. Students from other municipalities were more likely to report they continued studying than students in Dili (41.2 percent of students in Dili continued studying on a daily basis versus 67.5 percent of students outside Dili; 28.2 percent of students in Dili did not continue studying at all versus 10.5 percent outside Dili).

People were least satisfied with the response of schools during the SoE (66.2 percent satisfied with schools) compared to other institutions such as health centres, police, media, and the government.

COVID-19 resulted in missed vaccination for a sizable share of children, and missed reproductive health services for over half of women

A common reason that households were not able to access medical services when needed during the SoE was related to COVID-19 (42.3 percent). During the SoE, 60.9 percent of all households had a member that needed medical treatment; of those, 44.3 percent were able to access medical treatment only sometimes, and 1.6 percent were not able to access services at all. The reasons for not being able to access services when needed included fear of getting infected with COVID-19, travel ban/movement restrictions, and fear of getting tested. Among those who reported a decrease in service utilization, the most common reason was not directly related to COVID-19, but hinder access to health, 'health facility too far' constituted 41.1 percent.

COVID-19 symptoms were widespread, reported among 62.7 percent of all households (although not directly comparable, this is higher than in SEIA-1, which was 40 percent). The poorest

wealth quintile and the most socially vulnerable were more likely to report a household member having one or more symptoms than the highest quintile and the less socially vulnerable. In addition, households that were not observed to have water or soap for handwashing were more likely to report that a household member had one or more symptoms.

Knowledge of the COVID-19 vaccine is high but not universal. Nationally, 91.7 percent of respondents said they had heard of the vaccine yet **half (50.4 percent) of respondents had concerns about receiving the vaccine.** Respondents with concerns about health side effects and death or serious illness from the vaccine were disproportionately high outside Dili, in the lowest wealth quintile, and in the most vulnerable category.

A significant proportion of households missed health services for child immunization and reproductive health because of the SoE:
- Among households with children who needed scheduled vaccinations during the SoE, **37.0 percent said one or more children missed vaccinations**, while 63.0 percent said all children received vaccinations as planned during the SoE. Among those who missed scheduled vaccinations, 71.3 percent said it was due to the COVID-19 SoE, and 11.4 percent said it was partly due to the SoE. Children in the lowest wealth quintile were more likely to have missed vaccinations than children in the highest quintile.
- Among women who needed reproductive health services during the SoE (representing 29.3 percent of households with women of reproductive age), **51.8 percent were reported to have missed reproductive health services**, and 80.4 percent of those attributed it in part or wholly due to the COVID-19 SoE. A higher proportion of households in Dili, those in the most socially vulnerable category, and those with dwellings damaged in the Easter Flood reported missing reproductive health services. Per qualitative interviews, there is also an increase in adolescent pregnancies and marriages.

Nearly **90 percent of respondents were satisfied with the response of health facilities** during the SoE, making it the institution that satisfied the most people.

Violence against children has more than doubled.

Data from MSSI shows that the number of reported cases of child physical abuse, sexual abuse, and rape **was 2-4 times higher in 2020 and 2021 compared to 2019**. Physical abuse cases rose from 36 in 2019 to 80 in 2020 and 143 for the first nine months of 2021; children affected are now more likely to be girls than boys, a reversal of the pre-COVID pattern. Reported sexual abuse, rape, and incest continue to be experienced only by girls. In interviews, service providers attributed the increase in sexual abuse to the fact that families were more isolated at home together.

Violence against women may be underreported. MSSI recorded fewer cases of gender-based violence (domestic violence, rape, and sexual assault) in 2020 and 2021 than 2019. Nonetheless, in interviews, frontline protection service providers such as Uma Mahon and PNTL staff were nearly unanimous in saying that domestic violence, including against women, was more common than before. Given that referral systems appear to have functioned during the pandemic, it is likely that women experiencing intimate partner violence were less likely to report it, perhaps due to their

relative isolation with abusers during home confinements and fear of contracting COVID-19 at shelters. Several other factors are likely involved as well.

There is an overall acceptance and satisfaction in the government response and recovery measures

Depending on household wealth, timeliness and usefulness of COVID-19 related information (i.e., government support and restrictions measures and health information) **varied.** Less than half of (44.9 percent) of the respondents said they received information in a timely manner (in SEIA-1, the proportion of those who received timely information was 64.2 percent), whereas the rest said they received information that was somewhat timely (36.8 percent) or too late (15.4 percent), or they did not receive information at all (2.9 percent).

- There are inequalities in access to diverse sources of information among households. Households outside Dili, the most socially vulnerable and the poorest households lag in terms of getting information from television and internet/social media; in contrast, they rely on word of mouth more than those in Dili, the least vulnerable and wealthier groups.
- Health centres were also an important source of information for different groups, especially those outside Dili.

Coverage of the Uma Kain household subsidy ($200) and Cesta Básica was high: 95 percent of all households had received the household subsidy and Cesta Básica during the SoE while 2.3 percent received neither of these supports. For half of these households, the primary reason for not receiving the supports were 'household was not registered'. These universal support programmes benefit all segments of society.

- **56.4 percent of the households received the electricity subsidy**, the majority of which were in Dili (78.0 percent versus 51.7 percent outside Dili) and from the wealthiest quintile (90.0 percent versus 40.0 percent of the poorest quintile).
- **Participation in other employee and micro-business support programmes was low** – only 3.9 percent and 3.0 percent of households had members that benefitted from these programmes. According to the UNDP's SEIA-2 MSME survey, the awareness of these programmes among small businesses was low and the requirements and conditions made it difficult to apply, likely reducing participation.
- **The Uma Kain household subsidy was spent for basic necessities:** food and non-alcoholic drinks (96.9 percent), clothing and shoes (27.6 percent), and health and education purposes (16.9 percent). Among the households living outside Dili, 10.7 percent spent it on housing and utilities and 6.4 percent on phone and internet credit. The poorest households were more likely to spend the subsidy on health and education, housing utilities and clothing and shoes compared to the wealthiest households.
- Overall satisfaction with **Cesta Básica** was high with 8.9 percent very satisfied, and 70.1 percent satisfied. The respondents were most satisfied with the quantity of items in the basket or the voucher allowance.

Satisfaction with government response on COVID-19 was relatively high (11.1 percent were very satisfied and 65.8 percent satisfied). Men were overall slightly more satisfied than women with government, and respondents in the poorest households were less satisfied than those in the

wealthiest quintile, except with regards to school. Those aged 15-24 were less satisfied with schools compared to other age groups.

Recommendations

During the entire COVID-19 pandemic period, the Government of Timor-Leste has taken proactive measures to protect the population from spread of the virus and has implemented concrete steps to counteract the worst socio-economic consequences of twin shocks. While the COVID-19 crisis has exposed stark inequities that existed before the pandemic, it has also provided an opportunity for the Government of Timor-Leste to reconsider and re-prioritize resilience to climate, health, and economic shock in the framework of the economic recovery plan. The Government of Timor-Leste implemented an unprecedented package of interventions through its Economic Recovery Plan. Using the SEIA-2 findings, a series of recommendations[6] for policymakers to consider in developing strategy for a robust socio-economic recovery from the COVID-19 pandemic are proposed below.

1. *Implement a variety of household livelihoods schemes*

- **Direct injection of cash such as Uma Kain household subsidy is the most popular and needed emergency support.** Using existing social protection schemes could be an effective way to reach the most vulnerable groups. The Government should continue implementing modalities such as short-time work schemes (cash for work) and establish unemployment benefits. Consideration should be made to ensure inclusion of different groups and reduce unintended consequences of exclusion. For example, women are at a disadvantage in receiving these financial supports. Because of their higher rates of informal sector work, own-account employment, and contributing family member employment, women are less likely to receive the support for workers.

- **Ensure accessibility of markets and establish temporary marketplaces between municipalities when a sanitary fence is enforced.** Because about 80 percent of economic activity takes place in or near Dili, exchanges between the capital and rural areas are important and must be weighed against the risk of spreading COVID-19 by people traveling from Dili to other municipalities. It is important that access to the local and regional markets is completely restored for small farmers in the rural areas.

  o As the effect of the virus on people's livelihood is disproportional between municipalities and between socio-economic groups, special attention should be paid to those regions where the effect of the pandemic is most severe and to the most vulnerable groups in society, that have been most seriously affected by COVID-19.

- **Invest in climate-resilient infrastructure:** irrigation, rural roads, reliable and affordable electricity, as well as storage facilities, are essential for pro-poor growth and improving rural livelihoods. Inadequate rural infrastructure leaves communities isolated, holds back food

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[6] These recommendations are complementary with those of the SEIA-2 MSME survey and therefore, do not focus on business development and MSME support.

value-chain development, contributes to postharvest food losses, and is significantly associated with poverty and poor nutrition.

2. *Expand employment opportunities and promote decent work for all*

- **The labour market needs to prepare for a rapid increase in demand for employment,** in view of the current age composition of the population of Timor-Leste. In the years to come, the young age cohorts that become part of the working-age population (15-59 years) will be more than five times as large as the old age cohorts that move out of the working-age population.

- **Access to employment particularly needs to be improved for specific population groups** – persons with disabilities, women, and young adults. Special efforts should be made to provide paid, decent employment for young persons. The study showed that the paid employment to population ratio is very low in the age-groups below age 30.

- **Recognize, reduce, and redistribute unpaid domestic and care work**. The Secretary of State for Equality and Inclusion and relevant government agencies should provide technical support to line ministries in integrating policies to recognize the value of domestic work as part of the National Employment Strategy (2017-2030). Gender-transformative social norms and equitable sharing of unpaid care and domestic work between men and women should be promoted.

- **Prepare skilled labour force for the modern markets:** Rural entrepreneurship and employment diversification, especially for women and youth, should be promoted through development of general skills, such as those related to running a business, accessing market information, and using information, communications and technologies. A more skilled labour force enhances agricultural productivity, creates better paid jobs and stimulates the growth of high-productive off-farm services industries.

- **The economy of Timor-Leste needs to be diversified**. At present, the labour market is dominated by employment in the agricultural sector with generally low productivity and poorly paid employment. Economic activities in the industry sector should be expanded to enhance job creation, especially for women, and the national product.

- **Employment opportunities need to be improved**. According to the SEIA-2021, only 45 percent of the working-age population is engaged in paid employment, whereas an additional 16 percent is engaged in subsistence activities. The quality of employment – in terms of level of remuneration and productivity – needs to be improved.

3. *Expand social protection to target the vulnerable and poor individuals and households*

- **The implementation mechanisms of the General Social Security Scheme need to be further strengthened.** Social protection schemes, especially the old-age pension currently reaches vulnerable and poor individuals more than wealthiest households, but its coverage should be increased. Disability benefits should be significantly widened to reach eligible

individuals who are currently left out from the benefits. Other schemes for supporting vulnerable groups' needs should also be widened and improved for effective recovery.

- **Promoting social cohesion and investing in community-led resilience and response systems:** Social protection initiatives should be designed from the perspective of a bottom-up/community-based approach using local networks to respond to immediate COVID-19 impact at the national and sub-national levels.

- **People with disabilities:** Ratify the Convention on the Rights of Persons with Disabilities (CRPD) and involve people with disabilities in development and economic recovery planning. Increase technical and financial investment in social inclusion initiatives and policies targeting the needs and rights of people with disabilities.

- **Social protection and closing the loops in local economies:** Social protection in the forms of food aid, cash transfers and inputs is crucial to smallholders' risk management during emergencies and rural transformation and for building resilient rural livelihoods. In a recent positive trend, social protection programmes link social transfers to the promotion of rural employment and agricultural production.

4. *Transform climate-resilient food systems and agriculture services*

- **Food and agriculture related services should be considered essential services under the SoE**. This will help reduce the disruption to agricultural markets and value chains throughout sanitary fences and mandatory home confinements.

- **Disparities between regions** and the important role played by subnational stakeholders during the crisis may accelerate the decentralization process and give more consideration to territorial approaches and local agri-food value chains.

- **The COVID-19 crisis has the potential to play a catalytic role in accelerating agri-food systems' transformation in Timor-Leste**. In the short term, this transition may be based on green value chains development, rural livelihoods' diversification, universal access to basic services (including water, sanitation and hygiene), and enhanced agricultural practice (e.g., adapted mechanization, sustainable plants and livestock protection).

- **Climate resilient and green food value chains:** Any sustainable and long-lasting recovery efforts in Timor-Leste need to be intrinsically linked with climate resilience. Stimulate investments for greener and climate resilient food value chains to address the short-term disruptions to food systems caused by COVID-19, while laying the foundation for an inclusive, green and resilient post-crisis recovery, including by introducing sustainability conditions to financial stimulus packages and financial products and by reducing high levels of risk.

5. *Strengthen equitable education services*

- **Prepositioning of education materials for future emergencies should be undertaken.** For future emergencies, educational materials can be prepositioned in strategic locations such as the municipal education directorate, which enables speedy delivery to households with students.

- **The communications strategy also needs to be revisited** as "no information on available TV/radio/online resources" was one of the main reasons for discontinuing study at home

despite the sensitization efforts of Escola Ba Uma by the Ministry of Education, Youth and Sports (MoEYS) and UNICEF.

- **Technology can be a game-changer,** as the MoEYS offers an online platform (Learning Passport) for distance learning. MoEYS should explore the use of online devices to share the digital learning resources that have been developed during the closure of schools. These materials can and should be used as teaching-learning resources during face-to-face teaching. It is important to make sure that phone credit/pulsa reaches all students as part of the emergency response to enable them to use the internet, while conducting training on the use of technology.
- Improve the production and distribution of printed learning materials in Tetum across the country, reaching the poorest households, and remote locations. One of the main reasons students were not able to continue studying during the SoE was lack of materials. Whilst focusing on improving digital learning, the Government should also support different platforms and methods of distance learning.
- **Support or guide materials for households in 'home schooling' should be strengthened**. The fact that nearly one fifth of all students who ceased studying did so simply because they did not want to study shows a need for the formal education system to encourage and monitor the progress of home schooling in communities. Messages for parents and caregivers on how they can support their children during home schooling should be strengthened as well.

6. *Increase access to quality health services*

- **Increase the number of health facilities, especially in rural and remote areas, and continue funding for mobile clinics.** The Ministry of Health has been conducting outreach services in mobile clinics integrated with community health services. Outreach services are critical to ensure the delivery of health services continues during the pandemic, especially in very remote areas with unreliable transport services to reach health facilities, as the most frequent reason for the decrease in healthcare service utilization was "no health facility nearby."
- **Continuation of efforts to raise awareness of COVID-19 related information.** A high proportion of households still have concerns about taking the COVID-19 vaccines. Advocacy and sensitization should target municipalities with a higher proportion of households with concerns and lower coverage of the vaccine. It is also important for health facilities to have a backup plan when health workers test positive for COVID-19 to ensure no disruption of the healthcare services during the pandemic.
- **Community leaders, including village (Suku) and sub-village (Aldeia) chiefs, faith-based organizations (e.g., church), and community health volunteers** are essential partners and key to ensuring that messages about the importance of seeking healthcare when sick and receiving COVID-19 vaccines reach communities. As they are knowledgeable about the local context, messages can be tailored to each community to address the concerns and questions raised by households, including fears of health side effects and death or serious illness.

- **Sustaining and investing in Open Defecation Free communities returning to open defecation.** Due to limitations in water supply and affordability of improved sanitation during the SoE, there may be communities that have returned to open defecation, as 2.3 percent of households reported deteriorated or disrupted/stopped sanitation services. A study will identify communities in need of regaining Open Defecation Free status.
- **Ensure functionality of WASH facilities in schools, health facilities, and other public locations.** During the SoE, the Government of Timor-Leste and development partners donated and installed tanks and handwashing stations at various locations. Observation during data collection revealed that 68 percent of areas observed did not have washing facilities with water, and 72 percent of observation areas did not have soap. Assessment of the WASH facilities should be conducted to ensure water and soap availability.
- **Ensure continuous hand hygiene promotion.** During the COVID-19 response, hand hygiene has been promoted as a lifesaving behaviour. This has been a gain for conventional hygiene promotion in WASH with the target of preventing certain communicable diseases. Moreover, much investment has been done in providing hardware and supplies to facilitate hand washing with soap. Hence, resources should be allocated to continue hand hygiene promotion without losing momentum, along with regular follow up.

7. *Improve protection and reproductive health services*

- **Continue to ensure that protection services that respond to violence against children and gender-based violence are treated as essential services that must be funded continuously**. This includes staff salaries, as the staff are the backbone of response systems.
- **Work with Uma Mahons to find solutions to ongoing transportation issues**. The need to protect survivors' privacy and prevent their exposure to COVID-19, along with interruptions to public transportation, means that government and/or private vehicles and fuel should be made available for staff.
- **Investigate the decrease in reported cases of gender-based violence** to address any bottlenecks in the monitoring system and understand the reasons why, if any, women are less likely to report abuse during the pandemic.
- **Strengthen the capacity of healthcare providers, local leaders, and faith leaders** to recognise violence against women and children and refer survivors. Providers should be prepared to adapt referral systems during emergencies.
- **Monitor health system information for a probable increase in pregnancies**, particularly among adolescents, and prepare health services accordingly. Supplement adolescents' access to health information during school closures. Ensure that adolescents can access family planning and receive comprehensive sexuality education to prevent unplanned pregnancies.

8. *Improve the longer term sustainability and effectiveness of government response measures*

- **Ensure timely information reaches all segments of society and improve quality of communication**. The poorest and vulnerable households disproportionately lack access to timely information and communication, and outreach significantly varies by municipalities. Future government interventions should develop special strategies to reach these disadvantaged groups and municipalities, including through methods tailored for people with a variety of disabilities.

- **Strengthen community-based systems to help identify and meet the needs of the most isolated citizens** during sanitary fences and confinement periods, particularly the elderly and people with disabilities. Secure support to people with disabilities who might encounter difficulties in accessing information about government assistance programmes or registering for government support.

- **Emergency support and social protection programmes should be improved by considering the effectiveness of the government's subsidies** during the SoE. The social protection programmes rely on local officials to interpret programme parameters and determine eligibility, leading to ad hoc or subjective decisions and targeting errors. Monitoring tends to be weakly enforced. COVID-19 emergency cash transfers present an opportunity to improve the reach of benefits to those most in need but must be designed with target stakeholder input and with attention to addressing intra-household disparities.

- **The claiming and registration process of universal income support or other in-kind support should be improved**. In the context of the current pandemic crisis, it may be time to scale up minimum-income benefit programmes. It is important to ensure better accessibility than before the crisis for poor and vulnerable groups, women, persons with disabilities and others. The GoTL should explore the feasibility of implementing short-term universal income schemes in future emergencies.

9. *Promote national data systems and capacities and digital technologies*

- **Build national data and statistical systems and capacities to inform decision-making, planning and investment**. A national programme or a strategic plan dedicated to strengthening national data systems and capacities should be developed and implemented by the Government. This will clarify and strengthen the institutional structure and ensure adequate funding to support data systems and capacity building, regular and coordinated processes of data production and collection (ensuring sex, age, and disability-disaggregated data), quality assurance, dissemination, and use.

- **Accelerate digital transformation**. This could be done through:
  - Promoting public and private stakeholders to build a more equitable and inclusive digital economy, through tax policies, licensing requirements and investments.
  - Supporting digital education of the population to ensure meaningful use of the Internet.

o   Extending digital technologies to remote areas, which can be a cost-effective way to connect rural-urban supply chains and redress pockets of informality and poverty in rural areas.

o   Support the Government in using ICT solutions to increase efficiency and improve coordination, reduce time spent in accessing government services and build infrastructure for national data systems. Continue initiatives such as 'Portal Municipal' to support data literacy and citizens' participation at local level.

o   A systemic change is required to fight disinformation and reduce the risks of disinformation (as the case of COVID-19 vaccine disinformation shows).

Finally, it is important to emphasize that one-off measures and quick fixes will only provide temporary relief. The worst effects of COVID-19 can be minimized if the country leadership commits to a new social contract and implements forward looking and comprehensive programmes to tackle critical tipping points to lift the population from multi-dimensional poverty traps.

I. Background, methodology and context

1. Background

The first positive case of COVID-19 emerged in Timor-Leste on 21 March 2020. A week later, 28 March 2020, the first national State of Emergency (SoE) was declared to prevent the spread of COVID-19, with an end date of 26 June 2020. Accordingly, the implementation measures of the SoE, including actions such as domestic and international travel restrictions, closure of schools and physical distancing, were listed in Government Decree No. 3/2020 (Government of Timor-Leste 2020). Since the initial Decree, the SoE has been renewed monthly, and there have been sanitary fences and home confinements with varying degrees of restrictions and duration in different municipalities.

As of 27 October 2021, there have been 19,785 confirmed cases of COVID-19 with 56 active cases, reaching 532 positive cases at the peak and a total of 121 deaths (World Health Organization 2021). On 12 July 2021, the Government announced that the Delta variant of COVID-19 had been detected among communities (the Secretariat of State for Civil Protection cited in UN RCO 2021). The nationwide vaccination programme against COVID-19 started on 7 April 2021 with a goal of vaccinating the total population by the end of 2021. As of 28 October 2021, a total of 907,943 vaccine doses had been administered and 47.4 percent of the adult population nationwide were fully vaccinated (Ministry of Health 2021). Between 29 March 2021 and 4 April 2021, in the midst of this nationwide SoE and mandatory confinements in Dili, flash floods and landslides caused by tropical cyclone Seroja resulted in at least 34 fatalities and affected over 30,000 households and 2,660 hectares of agricultural land (UN RCO 2021). This natural disaster caused significant damage to critical infrastructure in Dili and many other parts of the country (UN RCO 2021) making the negative effects of COVID-19 restrictions even more pronounced.

To reduce the negative impact of health-related restrictions, the GoTL introduced an economic stimulus package through the dedicated COVID-19 Fund to support living standards, preserve jobs and protect businesses. Households have been supported through various measures, including cash transfers (May-July 2020) and emergency food distribution (December 2020 – July 2021), wage subsidy, a credit moratorium, and electricity and water utility subsidies. Overall, $195 million was spent through the COVID-19 Fund in 2020 – about 17 percent of total public spending. This was one of the largest relief packages in the world – representing 13 percent of Timor-Leste's non-oil GDP in 2020 (World Bank Group 2021). The Fund has been further increased to 17.7 percent of non-oil GDP in 2021, breaking the previous record of largest relief package.

To understand the impact of the pandemic and government measures on people's lives and inform the country's recovery policies, United Nations Timor-Leste with technical lead from UNDP conducted a rapid socio-economic impact assessment in 2020 (herein after referred to as SEIA-1). The fieldwork for SEIA-1 was implemented between 22 June 2020 and 14 July 2020 in five municipalities, namely Dili, Baucau, Bobonaro, Viqueque and RAOEA. SEIA-1 identified changes in livelihood, employment, food security, health care, education, and other basic services, including social protection and gender equality for individuals, as well as shifts in supply, demand, income, and

employment for MSMEs as a result of the measures. The assessment found that COVID-19 restrictions severely affected vulnerable households, communities and MSMEs, especially individuals and households living in poverty and those facing particular vulnerabilities[7]. These results were disseminated among policy makers, development partners and civil society and broadly welcomed as beneficial to guiding their work in pandemic responses, including the economic recovery plan of the country.

Weighing the trade-offs between COVID-19 prevention and easing containment measures and restrictions to reduce negative socio-economic impact is an important task for the GoTL that requires considerable information about the wellbeing of the population. Between 2020 and 2021, due to budget limitations and COVID movement restrictions, there was a lack of nationwide household and business surveys to help decision makers assess the impact of government policies on households and understand how communities are coping. Furthermore, given that the socio-economic effects of the COVID-19 crisis may take time to develop, and a series of additional restrictions and government support measures had been implemented since SEIA-1, stakeholders expressed the need for nationally representative data that can be disaggregated by different socio-economic groups.

Therefore, the UN Timor-Leste decided to conduct a nationwide SEIA in 2021 (hereinafter referred to as SEIA-2) in partnership with the Ministry of Finance, General Directorate of Statistics (GDS). Beginning more than one year after the initial SoE was announced, SEIA-2 fieldwork was conducted between July and September 2021 in 13 municipalities. SEIA-2 expands upon the SEIA-1 findings to provide a longer-term view of the pandemic's impacts and the effects of government economic stimulus and support measures, with comprehensive coverage of every municipality in Timor-Leste.

Figure 1 Key stages of the State of Emergency and SEIA-1 and SEIA-2 surveys

The purpose of this study is to identify the impacts of COVID-19 on individuals, households, communities, as well as MSMEs in Timor-Leste and to develop recommendations to inform further recovery interventions. The specific objectives are to:

[7]The final report can be accessed online here:
https://www.tl.undp.org/content/timor_leste/en/home/library/poverty/socio-economic-impact-assessment-of-covid-19-in-timor-leste.html

1. Assess the social and economic impacts of the COVID-19 pandemic among the population including poor and vulnerable households, with attention to intra-household inequalities;
2. Examine the gender dimension of the pandemic, particularly the extent to which women may be more affected than men;
3. Identify the measures needed to support the most vulnerable groups (including individuals living in poverty, informal workers, older persons, youth, people with disabilities, women and children) and MSMEs;
4. Develop recommendations with attention to closing inequalities and building back better.

This report presents findings related to the impact of COVID-19 on individuals, households, and communities as well as government response and recovery measures. The findings related to MSMEs and the impact of economic recovery measures on businesses are presented in a complementary and separate report.

2. Methodology

2.1. Assessment framework

The SEIA-2 research questions and indicators largely rely on the SEIA-1 framework, which was in turn informed by multiple sources and additional sources:

- The 'UN framework for the immediate socio-economic response to COVID-19' published in April 2020 (United Nations 2020a) and the 'UN Comprehensive Response to COVID-19: Saving Lives, Protecting Societies, Recovering Better' (United Nations 2020b).
- It also draws on identified good practises in rapid gender analysis identified in the 'IASC Gender Handbook for Humanitarian Action,' and 'How to Integrate Gender in COVID-19 Socio-Economic Assessments' guide (UNDP 2020). Gender considerations and a human-rights based approach were integrated throughout the survey tools development, analysis and report writing stages as cross-cutting themes.

The research questions in SEIA-2 include:

1. Who is currently and likely to be impacted? What are the barriers they face?
2. What are the social and economic impacts of the pandemic on individuals, households, and communities (with particular attention to poor and vulnerable groups)?
3. What are the impacts on women and the possible implications on gender and social norms, as they relate to unemployment, changes in earnings, trends in unpaid domestic and care work, the maternal and reproductive health of women, and protection needs?
4. What are the livelihoods, healthcare and other essential services needs of the population?
5. How are individuals, households and communities coping with and managing risks? What supports their resilience?
6. How responsive are the current COVID-19 prevention, protection, and recovery measures to the diverse needs of groups?
7. Which targeted support and recovery measures will be appropriate to minimize long-term impact?

Table 1 Assessment framework on population

Category	Sub-category
Household and individual information	1. Individual demographic indicators (including migration status) 2. Household characteristics (before and after flood) 3. Household resources (income, assets before and after flood)
Income, livelihood, and employment	1. Change in individuals' and household sources of income 2. Change in household income and expenditure (COVID-related and flood related) 3. Change in employment and employment status of individuals 4. Change in domestic work
Coping strategies	1. Food security coping mechanisms 2. Coping mechanisms to keep livelihood 3. Change in agricultural production (and impact of flood)
Health and other services	1. Individual measures taken to prevent themselves from COVID-19 2. Access to health services – including child vaccination and reproductive health services 3. Attitudes towards COVID-19 vaccinations 4. Change in other essential services including legal services,
Social cohesion and subjective well-being	1. Trust in community 2. Helping others and receiving help 3. Affect (feelings) 4. Satisfaction in life domains
Domestic violence	1. Risk environment 2. Intimate partner violence 3. Response and protection services
COVID-19 prevention measures	1. Knowledge about and information sources of COVID-19 measures 2. Access to and satisfaction with Cesta Básica and other social protection and economic recovery programmes 3. Suggestions for future government measures 4. Coordination and enforcement at the local level 5. Adherence to human rights

2.2. Sampling methodology

The sampling design of the SEIA-2 aimed at results that are representative at the national level. The main challenge of the sampling design was the construction of the sampling frame, as the household listing of geo-coded enumeration areas (EAs) produced by the Population and Housing Census (PHC) 2015 showed serious flaws. Therefore, the more reliable listing of buildings by EA was used. In addition, the 2020 map update of the municipality of Dili in preparation of the PHC-2021 provided an up-to-date listing of buildings. As this listing is more up-to-date and very likely more complete than the PHC-2015 building listing, this map-update information is used for the sample frame for Dili, whereas for other municipalities[8] the PHC-2015 building information is used. A household listing was produced by applying a municipality-specific building-to-household conversion rate and a municipality-specific growth rate based on official population projections to produce a consolidated household listing for 2020.

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[8] Including the special administrative region of Oecusse.

For the SEIA-2 a stratified, two-stage cluster sample was applied. Strata in which samples were drawn independently from one another consisted of the 13 municipalities and of urban and rural areas, effectively resulting in 26 strata. In the first sampling stage, primary sampling units (PSUs) consisted of aldeias for Dili and EAs for other municipalities. The PSUs were selected with probability proportionate to size. In the second sampling stage, 20 households were randomly selected from each of the sampled PSUs, using systematic sampling to optimise intra-cluster variance of the sample.

To determine the SEIA-2 sample size, tests were performed on several key indicators, taking into account the expected indicator value and associated design effect, the required confidence level and allowed margin of error, the size and proportion of the target population, and the expected level of non-response. The analysis showed that a total sample size of around 5,000 households would suffice to produce statistically representative results at national level for eight out of nine of these indicators, with a 95-percent confidence level. With a cluster size of 20 households, this translated into a selection of 250 PSUs. For the sample allocation, a Kish power value of 0.5 was chosen, to assure sufficient observations in the smallest municipalities, while maintaining reliable survey results at the national level. Figure 2 shows the areas selected for the survey. For the survey analysis, sample weights were calculated to address the unequal household selection probabilities, non-response and under-coverage. Separate weights were calculated for household-level data, individual-level data and respondent-level data.

Figure 2 Distribution of enumeration areas
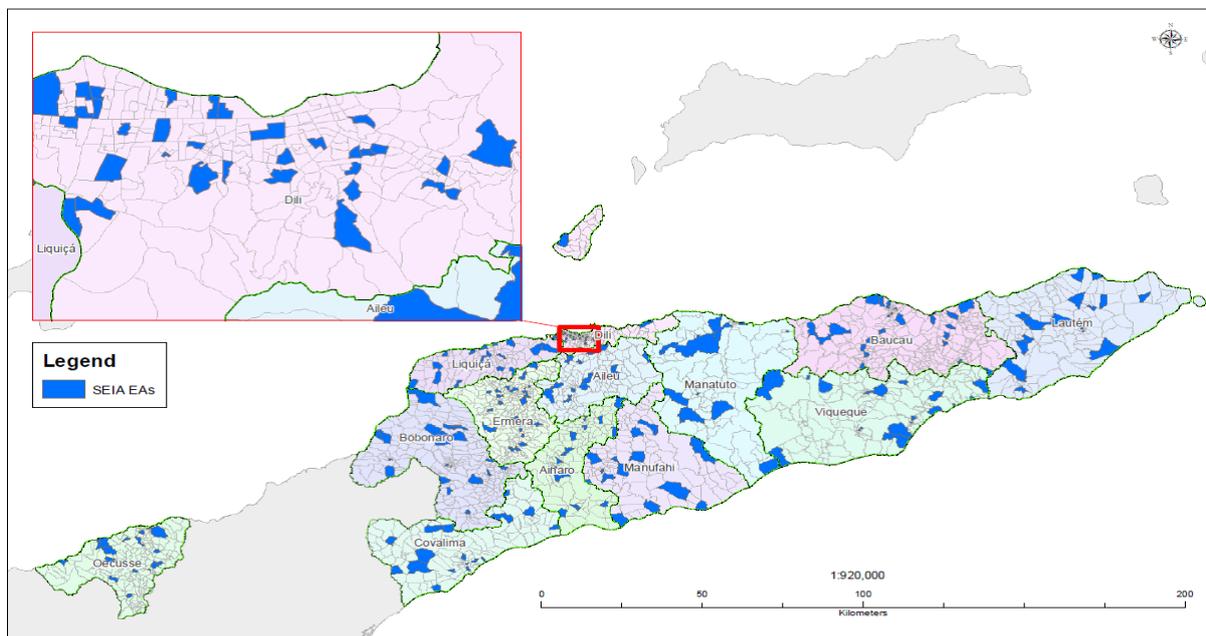
2.3.   Data collection methods

The SEIA-2 is a micro-level, mixed-method, and cross-sectional survey. The data for the study was collected between 2 July 2021 and 3 September 2021. This SEIA-2 includes 4292 completed interviews with households (of which 16.8 percent are female headed) including 23,812 individuals (of which 50.8 percent male and 49.1 percent female). Disaggregated information on the survey population by age, location, and gender, see Annex 2.

Questionnaires. The assessment used the computer assisted personal interview (CAPI) method to collect survey data in the field to improve quality assurance, allow for real-time data monitoring, reduce time to undertake each survey and obtain more reliable databases. All questionnaires were administered face-to-face by 70 trained interviewers (out of which 34 were female) and 18 supervisors (out of which 8 were female). The interviews were conducted directly when the household members were adults of 18 years or above and were available during the interview; otherwise answers were provided by the person selected as the household respondent.

Key informant interviews (KIIs). A total of 50 KIIs, involving 20 women and 30 men, were conducted from service providers, government stakeholders, CSOs, development partners and community leaders. Through this method, we aimed to identify impacts of COVID-19, internal and external factors influencing social and economic domains, gather information on existing resource gaps, and identify potential changes and measures needed for improved response and recovery. The interviewees were from various sectors and fields including health, education, agriculture, social protection, state administration, justice, gender equality and finance at national and sub-national level. Approximately four KIIs were conducted per municipality.

Table 2 Number of interviewees participated in KIIs

Types of KIIs	Male	Female
Representatives of the government	22	4
International NGOs	1	4
Local NGOs and CSOs	7	12
Total	**30**	**20**

In-depth interviews. Seventeen in-depth interviews (with 9 women and 8 men) were conducted in the target municipalities with members from a household with a vulnerability, as defined for the purposes of the SEIA-2.

Desk review. A review of similar SEIAs conducted in similar contexts were consulted to inform the design of the SEIA. Government decrees and regulations on COVID-19 measures, reports on recommendations and responses undertaken by development partners and national NGOs are also included in the desk review.

Observation checklist. In SEIA-2, a new complementary tool, an 'observation checklist', was used to provide data on COVID-19 mitigation behaviours and adherence to public health messages including observance of using masks whilst walking in public, presence of hand washing facilities outside of shops and government facilities, etc. The observation checklists were collected using KoboCollect from 208 observation points in the EAs where interviews took place. Throughout data collection in the field, the supervisors conducted 15-minute observations in different locations such as government buildings, outside shops, markets, roads, and streets.

2.4. Data analysis

As information was gathered using tablets, the quality of the raw data set was satisfactory with only a minimal amount of structural and consistency errors. Two databases were constructed in SPSS, one with variables related to household characteristics and one with data related to individual characteristics. After the construction of the databases, a quality assessment was made to identify possible problem areas. In many cases, 'other, specify' was indicated, when one of the pre-coded categories could have been chosen and these 'other' responses were coded and integrated in the analysis. To enable cross-tabulations between individual and household variables, the two databases were merged in SPSS software.

Descriptive statistics. During tabulation in SPSS, confidence intervals were added at the 95 percent level. However, for the sake of readability of the analysis, confidence intervals are not included in the text.

Multivariate statistical techniques. Chi-squared tests, t-tests and ANOVA were used to look at difference between age groups, men and women, people with disabilities, municipalities and in identifying variation between groups – through a household wealth index, food insecurity index, household social vulnerability index.

Qualitative data (transcripts from KIIs and IDIs) were analysed using QDA Miner software. Emergent, iterative coding was applied to allow themes to emerge from the data. The resulting codebook included respondents' insights and opinions on prevention measures; the impact of movement restrictions and school closures; changes in the markets, costs of goods, and institutional funding; government aid measures; interagency and interdepartmental cooperation and connectivity technology; health services; human rights issues; social cohesion and other social impacts; food security and agricultural production; the availability of information on COVID-19; loss of income or jobs; and the Easter Floods. In addition, KIIs were the principal source of primary data on domestic violence, sexual abuse, and protection services. Patterns in the data were summarised to validate, explain, or illustrate quantitative findings.

2.5. Limitations and challenges encountered

There are several limitations to this study, due to specific constraints related to COVID-19 including available time, restricted travel and contact conditions and general constraints such as data gaps in national statistics. The readers should bear in mind the following limitations:

- **Non-experimental design** – Although the survey population includes groups that are differently exposed to the COVID-19 measures, the survey setting does not allow a-priori identifying these groups. The survey assesses the situation of households before and after the COVID-19 SoE but cannot control for other factors influencing the present situation.

- This is a **micro-level socioeconomic impact assessment**. The study focuses on people (including vulnerable groups), their needs and responsiveness to their needs. As such, it is not the aim of this study to conduct macroeconomic modelling of the COVID-19 impact and political effects. Also, the SEIA-2 does not measure long-term impact of COVID-19.

- **Sampling.** The study does not include persons in institutions, such as in prison, shelters, and mental health centres. LGBTQI members or other members marginalised by laws and social norms in the household survey might be underrepresented. To overcome this, we conducted target KIIs with representatives of these institutions.

- **The Easter Floods** presented a methodological challenge to SEIA-2 design. As the SEIA-2 field survey was implemented after the Easter Floods, the questionnaire needed to be substantially revised to allow understanding of the different impacts of COVID-19 and the Easter Floods, especially in Dili where the impact of the flood was significant.

- **Recall bias.** To identify the baseline situation for employment, education and livelihoods, reference periods prior to the first SoE in March 2020 were used. Also to differentiate the impact of the Easter Floods from COVID-19 impact, the reference period of March 2021 was used in some indicators. These references may create recall bias in the responses although they were limited to few numbers of questions that are relatively easier to recall.

- **Availability of secondary data was limited**. This constrains the triangulation and contextualization of the survey findings.

3. Context

3.1. Development context

Timor-Leste, as a young small island developing state (SIDS), has made remarkable progress in human and economic development. With a population of approximately 1.3 million people, around 23 percent lives in the capital, Dili. The Timor-Leste Human Development Index value increased from 0.505 to 0.626 between 2000 and 2018, with life expectancy growing by 20.8 years and expected years of schooling by 2.6 years. Because of these gains, the country has achieved a medium human development status, in position 131 out of 189 countries (UNDP 2019). The country's economy has been one of the fastest growing in the world since its independence in 2002, with GDP per capita increasing from $453 in 2004 to $1,381 in 2020 (World Bank 2021).

However, like many other SIDSs, Timor-Leste faces threats to its development compounded by climate change effects and relative geographic isolation.

Poverty. As of 2014, the headcount poverty rate based on the national poverty line based on the was 42 percent[9] (MoF and World Bank 2014) whereas the headcount poverty rate based on the $1.90 international poverty line was 22 percent in 2014 but increased to 27 percent in 2020 according to the World Bank estimates (World Bank Group 2021). The Human Development Report 2018 indicates nearly 46 percent of the population (594 thousand people) are multidimensionally poor, while an additional 26 percent are classified as vulnerable to multidimensional poverty (338 thousand people). The inequality-adjusted Human Development Index falls by 28 percent from 0.626 to 0.450 when inequalities in income, schooling, and life expectancy are taken into account (UNDP 2019).

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[9] The national poverty line, which represents the average cost of meeting basic needs was $46.37 per person per month in 2014.

There are significant discrepancies in the poverty rate between income groups, geographic locations, and demographic groups; 47.3 percent of the poor population are children aged under 15 and the poverty rate is higher in rural areas (47.1 percent) compared to urban areas (28.3 percent) (World Bank 2019). Eighty percent of the country's poor and 90 percent of the rural poor depend on subsistence rain-fed agriculture for their livelihood.

Gender. The Gender Development Index for Timor-Leste in 2019 (0.899) places it slightly above the average for all medium human development countries (0.845), meaning that the gap between men and women in Timor-Leste is smaller than expected, but still falls short of parity (UNDP 2019). On women's leadership in decision-making, in 2020, 40 percent of national parliament seats were held by women, achieving SDG target 5.5, but at local levels, women represent only 4.6 percent of Chiefs in *Suco* (village) Councils. On women's empowerment, Timor-Leste scores below two-thirds of peer nations on most SDG indicators of reproductive health and family planning, and overall experiences of violence against women and girls, and socio-economic empowerment of women (UNDP 2019). Social norms grant women and girls lower status than men and boys, a power imbalance that perpetuates itself in both public and private life.

Violence against women and girls (VAWG) remains one of the most widespread human rights violations and public health concerns for the country. More than a third (38 percent) of women experienced physical/sexual intimate partner violence (IPV) during their lifetime, with 37 percent experiencing VAWG in the previous 12 months, more than double the average of 18 percent across 106 countries (GDS, MoH and ICF 2018). Lifetime experiences of partner violence sit at 59 percent, while over 80 percent of men and women in Timor-Leste believe domestic violence is justifiable (The Asia Foundation and the DHS 2016 2015). Other countries experiencing COVID-19 have seen 20-30 percent increases in domestic violence due to economic stressors and isolation during lockdowns (UN Women 2020).

Climate change and natural disasters. Timor-Leste experiences frequent floods, droughts, storms, landslides, sea-level rise and higher temperatures triggered by existing natural climate variability including La Niña and El Niño[10] as well as climate change (IFRC 2021). Unusual or extreme weather has been cited as the cause for low crop yields in many surveys[11]. The dependence of nearly 70 percent of citizens on climate-sensitive livelihoods and agricultural production such as rainfed farming, fishing, and forest-based livelihoods increases households' vulnerability, while low income/poverty limits households' ability to overcome climate impacts. Women, children, people with disabilities and older people face a disproportionate burden as they depend comparatively more on climate-sensitive livelihoods and face malnutrition, water scarcity, heat impacts, limited mobility, and often reduced capacity to overcome shocks (IFRC 2021, 13).

During the COVID-19 crisis, the country has faced several natural disasters requiring immediate humanitarian assistance. On 13 March 2020, two weeks before the SoE was declared, Timor-Leste was hit by severe flooding affecting over 9,000 people (1,664 households) in several parts of the country, with Dili the worst hit (Floodlist News in Asia 2020).

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[10] The western Pacific monsoon climatic events

[11] For example, 25% decrease in rice in 2009 and 20% decrease in maize, cited in FAO 2010 Agricultural Census conducted in 2019, and SEIA 1 rapid assessment in UN Timor-Leste, 2020.

Easter Floods. Then between 29 March 2021 and 4 April 2021, Timor-Leste was hit by tropical cyclone Seroja. Heavy rains resulting in flash floods and landslides affecting 30,564 households, 82 percent of which resided in Dili, although impacts were felt across all 13 municipalities (UN RCO 2021). A total of 34 fatalities (including 14 missing and presumed dead) were recorded. On 8 April 2021, the Government declared a state of National Calamity in Dili for a period of 30 days and requested international assistance. Flash floods caused landslides and damage to houses, buildings and public infrastructure including sections of city roads, water supply infrastructure, schools, and health facilities, and impacted rural areas and agricultural assets. As of 8 April 2021, there were 13,554 temporarily displaced people in Dili and other municipalities (UN RCO 2021).

Political and budget uncertainty. The COVID-19 period also coincided with political uncertainty ongoing since 2017 due to political factions. Parliament was dissolved in March 2018 without approving a budget for 2018, and in 2020 the Parliament also failed to approve the state budget for that year. As such, for the first half of 2018 and full year of 2020, the Government operated under a regime of monthly duodecimal budgets[12]. These political and budget uncertainties limited the formation of the Cabinet, passing of key laws and policies and implementing government functions (ADB 2019, 322).

Sustainable Development Goals (SDGs). By the end of 2020, Timor-Leste was moderately improving or on track to achieve most goals[13]. However, progress towards SDG 1 (No poverty) and SDG 8 (Decent work and economic growth) had slowed, whereas progress towards SDGs 5 (Gender equality), SDG 9 (Industry, innovation, and infrastructure) and SDG 15 (Life on land) had stagnated (UN ESCAP 2021).

Further information on the development context before the COVID-19 pandemic will be described in each chapter where relevant.

3.2. COVID-19 response and recovery measures in Timor-Leste

To understand the socio-economic impact of COVID-19, it is crucial to understand what types of restrictions and socio-economic measures the GoTL has been implementing. This section summarises key policies made. The GoTL's COVID-19 measures between February 2020 and August 2020 were listed in the SEIA-1 report. Therefore, in this report, we focus on the measures taken between September 2020 and August 2021.

3.2.1. Restrictions/containment measures

The first positive case of COVID-19 was registered in Timor-Leste on 21 March 2020. A week later, 28 March 2020, the first national State of Emergency[14] (SoE) was declared to prevent the spread of COVID-19, with an end date of 26 June 2020. Accordingly, the implementation measures of the SoE, including actions such as domestic and international travel restrictions, closure of schools and physical distancing, were listed in Government Decree No. 3/2020 (Government of Timor-Leste

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[12] This regime allows monthly budget appropriations of up to one-twelfth of the previous year's state budget.
[13] On track or maintaining SDG achievement: SDG 4 (Quality education), SDG 11 (Sustainable cities and communities), SDG 16 (Peace, justice and strong institutions); Moderately improving – SDG 3, SDG 6, SDG 7, SDG 14 and SDG 17.
[14] Law No. 1/2020 of March 27 – 1st State of Emergency Authorization

2020). As of 26 October 2020, Timor-Leste had recorded 26 positive cases with no community transmission identified and no fatalities. Because the number of COVID-19 cases was low, movement restrictions were eased, and schools were reopened on 26 June 2020. This marks the first phase of lockdown.

On 4 April 2021, in the midst of this nationwide SoE and mandatory confinements in Dili, flash floods and landslides caused by tropical cyclone Seroja resulted in at least 34 fatalities and significant damage to critical infrastructure in Dili and many other parts of the country. The flash flood, commonly referred to as the Easter Flood, affected over 30,000 households and 2,163 hectares of agricultural land (UN RCO 2021). This led the GoTL to declare a state of National Calamity[15] from 8 April 2021 to 4 August 2021 to allow humanitarian aid to reach the flood victims, and mandatory confinement was eased during this period (UN RCO 2021). Although the mandatory confinements were eased during the national calamity, a new surge of positive cases throughout the country resulted in the third phase of lockdown in September 2021[16]. This included sanitary fences and home confinements with varying degrees of restrictions and duration in different municipalities. Since the initial Decree, the SoE has been renewed monthly, 20 times.

With the first SoE in March 2020, the GoTL applied a series of restrictions and protective measures with the objective to prevent and control the spread of the COVID-19 outbreak that stayed in force during most of the SoE (Figure 3). The measures[17] included a prohibition on the entry of foreign nationals; restriction of movements in and out of each region to essential transport such as for public health and humanitarian purposes (sanitary fencing); home confinement of all people; the prohibition of gatherings, demonstrations and religious activities; the suspension of collective passenger transport activities; and the use of personal protective equipment (PPE) to enter market, commercial and services premises. In addition, public administration was limited to minimum services and in-person classroom activities were suspended. To help police tighten control, especially in preventing small gatherings in neighbourhoods and forcing people to stay at home, military forces were deployed in Dili.

At the end of May 2020, the Government decided to extend the SoE[18] with less restrictive measures, focusing more on international travel, travel within the country, and in quarantine and voluntary isolation. These restrictive measures were applied all over the territory; however, due to the increased number of cases during the year, the Government imposed more restrictive measures like sanitary fences and mandatory confinement in some Municipalities, starting with Oecusse in December 2020, followed by Aileu, Ainaro, Bobonaro and Covalima in February of 2021, Baucau and Dili in March 2021, and Dili and Ermera between August and September 2021. Timor-Leste recorded its first death of COVID-19 on 6 April 2021. By September 2021, all Municipalities, with the exception of Manatuto, had a sanitary fence imposed on their borders, with Baucau and Dili being the municipalities (Figure 3 and Figure 4) with the longest sanitary fence periods. This marks the second phase of lockdown

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[15] Government Resolution No. 32/2021 of 9 April – Declares calamity situation due to the occurrence of floods in the municipality of Dili, at April 4 of 2021
[16] Government Resolution No. 115/2021 of 26 August - Imposes the General Mandatory Confinement of the Population of the Municipality of Dili
[17] Government Decree No. 3/2020 of March 28 – Implementing Measures of the State of Emergency Declaration carried out by the President of Republic Decree N0.29/2020 of March 27
[18] Law No. 4/2020 of May 27 – Renewal of the State of Emergency Declaration

and restrictions[19]. According to the Oxford COVID-19 Government Response Tracker which measures the overall strictness of government response and policies in terms of restricting people's behaviour, Timor-Leste scores 69.91 out of 100 (strictest) as of October 10, 2021. The type of containment measures has varied through time depending on the epidemiological situation and political situation (including people's economic needs).

Figure 3 – Measures Severity
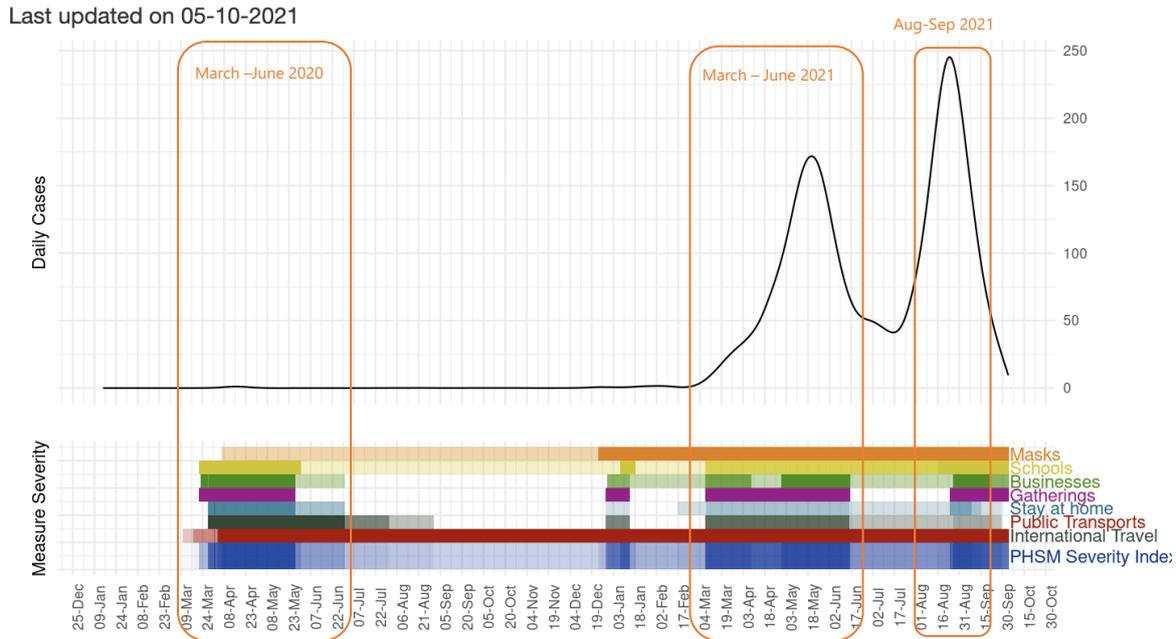
Source: WHO, Regional Office for South-East Asia website – https://experience.arcgis.com (18/10/2021)

Figure 4 – Duration of sanitary Fences by municipality*

	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21
Aileu				▓								
Ainaro				▓		▓	▓					
Baucau					▓	▓	▓	▓	▓	▓	▓	
Bobonaro				▓				▓				
Covalima				▓					▓	▓	▓	
Dili					▓	▓	▓	▓	▓	▓		
Ermera							▓			▓		
Lautém							▓					
Liquiçá							▓					
Manatuto												
Manufahi							▓				▓	
Viqueque					▓	▓	▓	▓				
RAEOA		▓	▓							▓		
	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21

In grey – municipalities that had sanitary fence in the given month. If there is no highlight, means there was no sanitary fence for the municipality in the given month. Source: http://www.mj.gov.tl/jornal/ (02/10/2021)

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[19] Sanitary fence and home confinement were imposed in Covalima and Bobonaro on the 16 February, in Dili on the 8 March and in Baucau on the 15 March.

3.2.2. Policies to address socio-economic impact of COVID-19

Policies for reducing the negative economic impact and economic recovery consequential to the COVID-19 Pandemic. To prevent negative impacts on the Timorese economy resulting from the pandemic and the necessary preventive measures to control the pandemic, the GoTL adopted strategic measures to support the population, their jobs and local business.

These strategic measures were mentioned and analysed in more detail in the SEIA-1 report. Approved in April 2020, they included: the implementation of a $200 universal money transfer system to all households in Timor-Leste; a subsidized payment of salaries (with the Government contributing up to 60 percent of the cost of salary) for employees in the formal sector who stayed in quarantine or home during confinement; emergency rice stock purchase to compensate for possible shortages during the pandemic; continuation of Air North flights to guarantee medical and other emergency transportation to Darwin; and subsidized maritime transport of goods from and to Ataúro and Oe-cusse. The government also gave a partial exemption from paying electricity and water bills, social security contributions (both workers and employers) and rents on state properties. The measures included a credit program at reduced rates; a credit guarantee for essential goods importers; and emergency loans to prevent bankruptcy, keep businesses open and support families to resolve their financial difficulties. Additionally, the GoTL also implemented a programme to increase food supply, scholarships for Timorese students living abroad and internet grants for students to study online.

Short-term economic recovery measures. In August 2020[20,] the GoTL approved a package of four short-term economic recovery measures under the first phase of the economic recovery plan, lasting until the end of the year. These measures included an allocation of a basic food basket (Cesta Básica), the creation of a cash subsidy and contributory exemption to employers and individual entrepreneurs, and special support for informal workers.

The first measure approved was 'Cesta Básica', which had the objective to deliver a basic basket containing a specific set of essential food and personal hygiene goods or a shopping voucher, to be granted to all citizens or residents in Timor-Leste. The value of the total products inside the basket was $50 US dollars and aimed to satisfy the needs of the person who received it for two months. The distribution of the Cesta Básica started on November of 2020 and was extended until July of 2021 to all Timorese residing in the country. The distribution had two main objectives: one, ensure that families consume the necessary nutrients for their well-being and meet their basic needs; and two, support farmers in local and national production. The government intended to stimulate the local economic dynamics through the circulation of financial resources necessary for the increase of national production, aiming to reduce the impacts of the economic crisis; create conditions to increase the income of farmers, agricultural producers in general, and local traders; support families' basic needs and contribute to the fight against hunger; and contribute to the improvement of the food and nutritional status of Timorese families affected by a decrease in income.

The other two measures - "Recovery Subsidy" and "Contributory Exemption" - aimed to support employers and individual entrepreneurs to resume economic activity and increase the immediate liquidity of the beneficiary entities. These measures were applied between July and December 2020

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[20] Government Resolution No. 28/2020 of August 19 – Approval of short-term measures for mitigation of Economic Crisis Impacts Resulting from the Pandemic of COVID-19 under the Economic Recovery Plan

and provided a subsidy to employers and individual entrepreneurs calculated by the number of employees and the loss of turnover, providing a social security contribution exemption (of 6 percent) as well for all workers.

Regarding the "special support for informal workers" measure, it was applied between October to December 2020 and had the objective to support informal sector workers or the self-employed who lacked social protection and encourage them to join the formal sector and register their work. To be eligible to receive a subsidy these workers had to register for social security and contribute over the three months following the last instalment of the subsidy.

On 23 April 2021, the National Parliament approved an amendment[21] to the 2021 General State Budget to respond to the Easter floods and the impacts of COVID-19, which was subsequently promulgated by the President on 4 May 2021. It was made available a total of $182.4 million from the 2021 Budget to redirect money to COVID-19 mitigation measures and to support the recovery from cyclone Seroja. This change in the 2021 General State Budget also intended to approve socio-economic measures, such as the employment support, credit moratoria, student support and food safety measures.

4. Contextualising vulnerability

COVID-19 and its subsequent containment measures exacerbate pre-existing vulnerabilities in exposing vulnerable households to increased risks. These aspects are discussed throughout this report. However, we need to define what we mean by vulnerable households and vulnerable people and who are the vulnerable households in our study to understand the differing impact of COVID-19 on highly vulnerable and less vulnerable households.

4.1. Defining vulnerability

Vulnerability is a multidisciplinary phenomenon, and the definition of vulnerable groups depends on the context. As vulnerability is related to the resilience of a household against external shocks, the operationalization of vulnerability in research heavily depends on the type of these shocks. In this assessment, vulnerability to examine the impact of COVID-19 is used as a relative term in comparison to the general population, and in a pragmatic manner. Special attention should be directed towards persons with pre-existing marginalization, inequalities and vulnerabilities which could be further exacerbated by the COVID-19 pandemic, as stipulated in the 'UN Framework for the Immediate Socio-Economic Response to COVID-19'.

Applying the classification in the Framework mentioned above to the Timor-Leste context means nearly the whole population would be classified as vulnerable. Moreover, some of the vulnerable groups mentioned in the UN Framework were not covered in the SEIA questionnaire. For instance, no information was gathered about indigenous peoples, people with HIV/AIDS, LGBTQI people, and

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[21] Law No. 8/2021 of May 3 – First Amendment to Law No. 14/2020 Of 29 December, General State Budget and Approval of Supporting Socioeconomic Measures

persons living in detention or institutionalized settings. The KIIs and in-depth interviews attempted to understand these groups, whom may be marginalised.

In this report, the vulnerability of persons and households is based on social and economic aspects. To measure the economic vulnerability of households, a wealth index was calculated. Social vulnerability was measured by a simple, practical index. Both indices are relative measures, i.e., for each household its position in the population was determined and quantified. Then, households were placed together in groups with similar characteristics. Throughout the report, both indices are presented. Table 3 summarises the composition of both the wealth index (economic vulnerability) and the social vulnerability index.

Table 3 Components of vulnerability of households used in the SEIA-2

Vulnerable households	Indicator	Description
Economic vulnerability		
Households that can be considered poor	Wealth index	Household belonging to the lowest two wealth quintiles, i.e., those that fall within the bottom 40 percent of the wealth index or considered to be most deprived and most vulnerable if serious problems arise.
Social vulnerability		
Number of persons with a disability in the household	Social vulnerability index	A household member was considered as living with a disability if it was indicated that he/she had a 'a lot of difficulty' or 'cannot do at all' one or more of the four questions on functioning, as proposed by the Washington Group.
Single-female-headed households		Female-headed households are extra vulnerable if there is no man or woman of working age in the household, if the female head is a single income earner in the household or if she is a single parent.
Number of older persons in the household		Persons 65 years of age and older were considered to belong to the older age group. Older persons are more vulnerable if no persons in the working age groups live in the household or if one or more older persons have a disability.
Large proportion of household members are children		A person under age 15 was considered to be a child. The higher the proportion of children among household members, the higher the vulnerability of the household in situations that stress the household's resources. The child dependency ratio was used as an indicator of a high presence of children in the household.

4.1.1. Wealth index

Calculating the wealth index is based on a well-established methodology that is frequently used in the Demographic and Health Surveys (DHS) and other population studies. The general idea of a wealth index is that households are given scores based on the possession of items, the construction material of their dwelling and the availability of utilities. The SEIA wealth index was based on the following characteristics:

- <u>Ownership</u>: television, refrigerator, computer, fan, chair, sofa, cupboard, bed, sewing machine, loom for weaving tais, laptop, mobile phone, bicycle, motorcycle/scooter, animal-drawn cart, car/truck, boat with motor, bank account.
- <u>Utilities:</u> method of cooking, toilet facilities, source of drinking water, electricity.
- <u>Dwelling characteristics</u>: material of walls, floor, roof.

The methodology that was used in this report is identical to the way the wealth index is calculated in the DHS, fully explained in a technical DHS Working Paper[22]. The methodology uses a Principal Component Analysis (PCA), which summarizes the characteristics of the variables into weights based on their impact on the overall variability. Next to a PCA for the whole country, separate PCAs are used for rural and urban areas, as some of the variables are unique for rural areas. The PCA calculates principal components from which the first can be taken as an index of wealth. The principal components scores for households in urban and rural areas were then used as independent variables in two linear regressions, where the national score was the dependent variable. Based on the estimated regression coefficients, wealth scores could be calculated for each household. These scores were ranked and then used to divide the survey population in five equal groups (shown in Table 4), numbered one to five and grouping households from poorest to wealthiest. The results will often refer to the lowest two quintiles as the poorest section of society.

Table 4 Categories of household wealth quintiles

Wealth quintiles				
Lowest quintile	Second quintile	Middle quintile	Fourth quintile	Highest quintile
(Poorest)	*(Second poorest)*	*(Middle)*	*(Second wealthiest)*	*(Wealthiest)*

4.1.2. Social vulnerability index

To calculate the social vulnerability index, a pragmatic, simple method was designed. The index is based on the principle that the vulnerability of a household is determined by the number of persons in the household who have one or more characteristics that places them at higher risk of economic deprivation, exclusion, and social isolation. It is important to note that the number of vulnerabilities was counted and not the number of persons having one or more vulnerabilities. For instance, if an older person also had a disability, the person was counted twice, once for each vulnerability. This was done because the vulnerability of an older person with a disability was considered higher than if the person was only at an older age or only with a disability.

Especially during the pandemic, persons and households who are vulnerable run the risk of suffering a higher economic and social burden and are at a higher health risk. After some testing, it was decided to include four types of vulnerabilities: older person, having a disability, female headship of the household and the number of children vis á vis persons in the working-age groups. These four variables were operationalized as follows:

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[22] Rutstein, S.O. (2008). The DHS Wealth Index: Approaches for Rural and Urban Areas. DHS Working Papers, no. 60, Demographic and Health Research. Retrieved from https://www.researchgate.net/publication/238706094

- <u>Number of older persons</u>: a person 65 years of age or older.
- <u>People with disabilities (PWDs)</u>: in the SEIA survey the Washington Group questions were used. The Washington Group questions normally consist of a group of six questions on self-reported difficulties of household members to perform functional activities of daily living: seeing, hearing, walking, or climbing steps, remembering or concentrating, self-care and communicating. In the SEIA-2, only four questions were asked. No questions about self-care and communicating were included. This is an acceptable practice and recommended by the UN Statistical Commission[23]. The answer categories for the Washington Group questions are: (a) No difficulty, (b) Some difficulty, (c) A lot of difficulty and (d) Cannot do at all. A person was considered to have a disability if he/she was having a lot of difficulty or could not do one or more of the functional categories at all.
- <u>Female headed household</u>: for each household a question was asked who the head of the household was and how the other members of the household were related to the head. If the head of the household was a woman, it counted as a vulnerability for the household.
- <u>Number of children vis á vis persons in the working age groups</u>. Children under the age of 15 were considered to be dependent and a possible source of vulnerability. However, the absolute number of children could not be used, as this would place too much weight on this variable. For instance, a household with 3 children under 15 would weigh three times heavier than one person with a disability. To circumvent this problem, the child dependency ratio was calculated for each household[24]. If the child dependency ratio was larger than one, i.e., more children under fifteen were present than persons 15 – 64 years old, then one extra burden was added to the overall vulnerability index.

The vulnerability score for the household was then simply calculated as the sum of all the vulnerabilities observed among all members of the household. After close examination of the scores, it was decided to divide the scores in three categories: a) households with a zero vulnerability score, b) households that scored below the median for all non-zero scores and c) those that scored equal or above the median for all non-zero scores. The group with zero vulnerabilities was labelled 'less vulnerable', the second group was labelled 'more vulnerable' and the third group 'most vulnerable'. The first group was not called 'non-vulnerable' as other factors may make a household vulnerable that may not have been included in the applied methodology.

4.2. Vulnerability in the study

Wealth is unevenly distributed among the 13 municipalities in the country. Figure 5 shows the percentage of households that belong to the two lowest wealth quintiles per municipality. If all municipalities had the same distribution of wealth as the country as a whole, then the sum of the values for both the poorest and second poorest quintile would be equal to 40 percent for all municipalities. The bar chart shows that this is definitely not the case, and that wealth seems to be concentrated in Dili, where, according to the SEIA-2, only 6.8 percent of all households are found in

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[23] United Nations (UN) (2017). *Principles and Recommendations for Population and Housing Censuses. Revision 3,* Department of Economic and Social Affairs, Statistics Division. ST/ESA/STAT/SER.M/67/Rev.3, New York.
[24] Child dependency ratio = (number of children under age 15 in the household)/(Total number of persons in the household in the ag group 15 – 64 years).

the two lowest wealth quintiles. The highest percentage of people in the two lowest wealth quintiles (69.4 percent) are found in Oecusse. In this municipality, almost 50 percent of all households belong to the lowest quintile. Other municipalities that have a percentage of households of around 60 percent in the lower quintiles are: Viqueque, Manufahi, Liquiçá, Ermera and Ainaro. On the other hand, two other municipalities (Lautém and Covalima) have percentages below 40, which means they are doing better than the country as a whole.

Figure 5 Percentage of households in the lowest two wealth quintiles by municipality
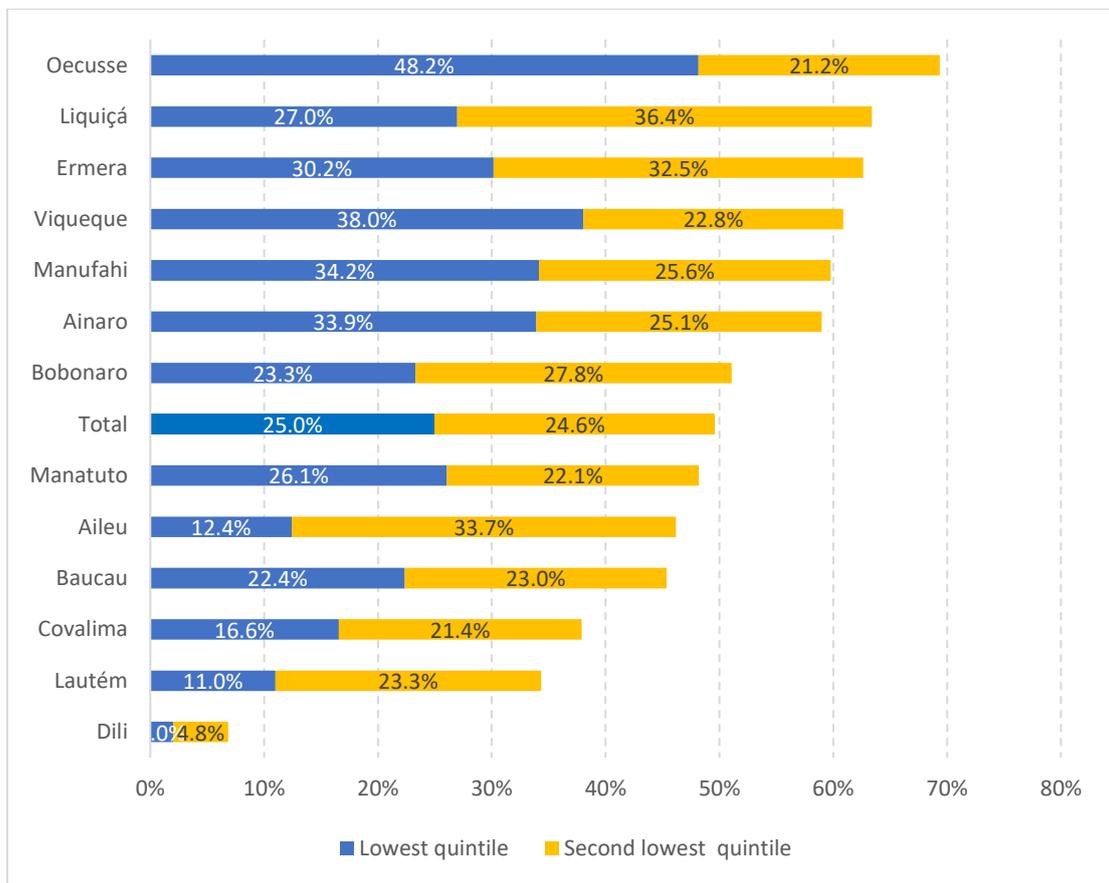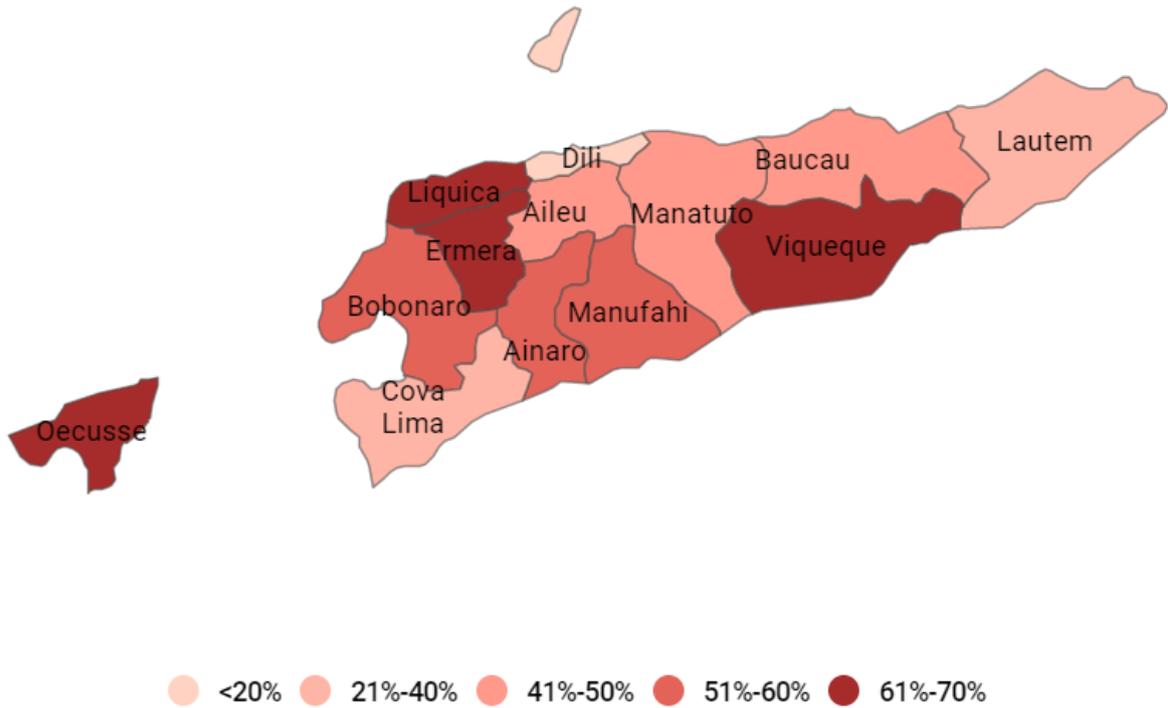
Figure 5b Map of percentage of households in the lowest two wealth quintiles by municipality


The social vulnerability status of the household is closely related to economic vulnerability. Figure 6 shows the percentage of households in the two lowest wealth quintiles by the calculated vulnerability of the household. The graph clearly shows that a larger proportion of households which scored in the most vulnerable category can be found in the lowest and second lowest wealth quintiles. Among the most vulnerable households, 29.1 percent can be found in the lowest wealth quintile and 23.0 percent in the second lowest wealth quintile. This means that 52.1 percent of all socially vulnerable households belong to the poorest sections in society. Among less vulnerable households, this is 34.4 percent, and, among more vulnerable households, it is 39.1 percent.

Figure 6 Percentage of households who belong to the lowest two wealth quintiles by vulnerability status of the household
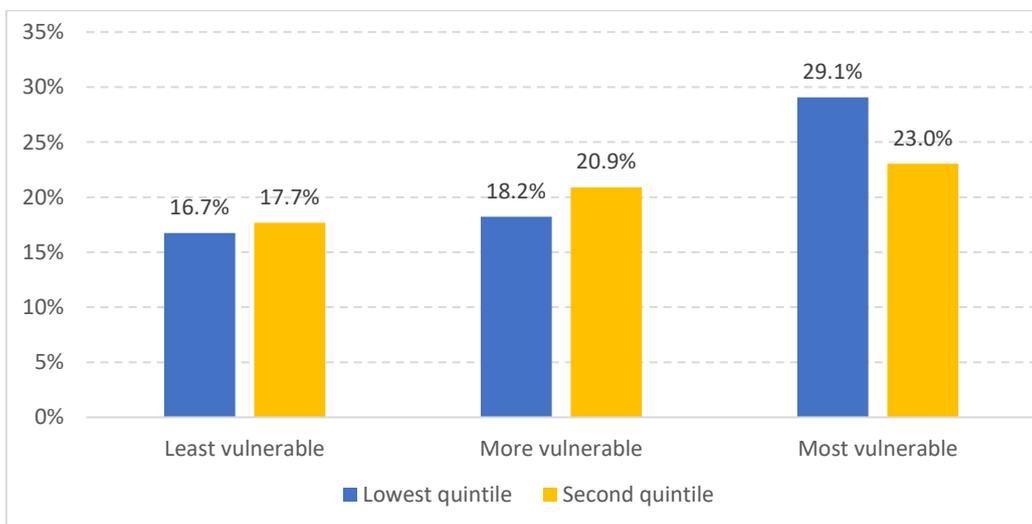
Looking at the composition of households, namely how many men and women belong to households in different social vulnerability categories, 56.3 percent of the most vulnerable household members were women, versus 43.3 percent men, whereas the less vulnerable households had more male members (53.7 percent) than women (43.3 percent) (Figure 7).

Figure 7 Percentage of men and women belonging to the households by vulnerability index
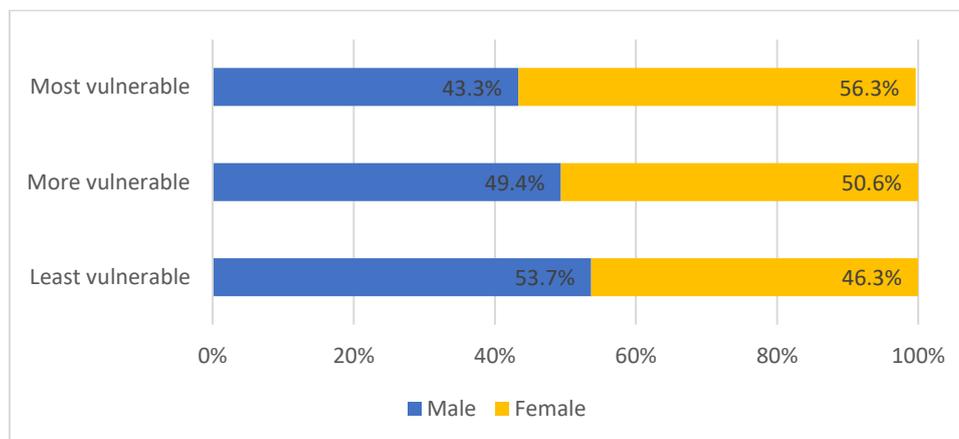
Not only does Dili contain the lowest percentage of poor households, it also has the lowest percentage of vulnerable households. Figure 8 depicts the percentage in each municipality that belong to the most vulnerable category. While 11.1 percent of all households in Dili are categorized as most vulnerable, in Lautém this is more than three times higher (34.5 percent). In three municipalities, more than 30 percent of all households were categorized as most vulnerable: Lautém, Viqueque (32.6 percent) and Covalima (30.3 percent). The percentage of households in the whole country that belong to the most vulnerable group is 21.7 percent. Next to Dili, only three municipalities score below the national percentage: Ermera (18.3 percent), Ainaro (20.6 percent) and Aileu (20.7 percent).

Figure 9 shows the vulnerability of children and older persons by broad age categories who are members of households belonging to the poorest and second poorest wealth quintiles. Fifty percent of all persons 65 years of age and older belong to the two poorest quintiles, while 44.3 percent of children live in the poorest and second poorest wealth quintile. Youth (15 – 24 years old) and younger adults (25 – 39 years old) belong to the age groups that are relatively better off, with 36.4 and 38.4 percent in the lower quintiles, respectively.

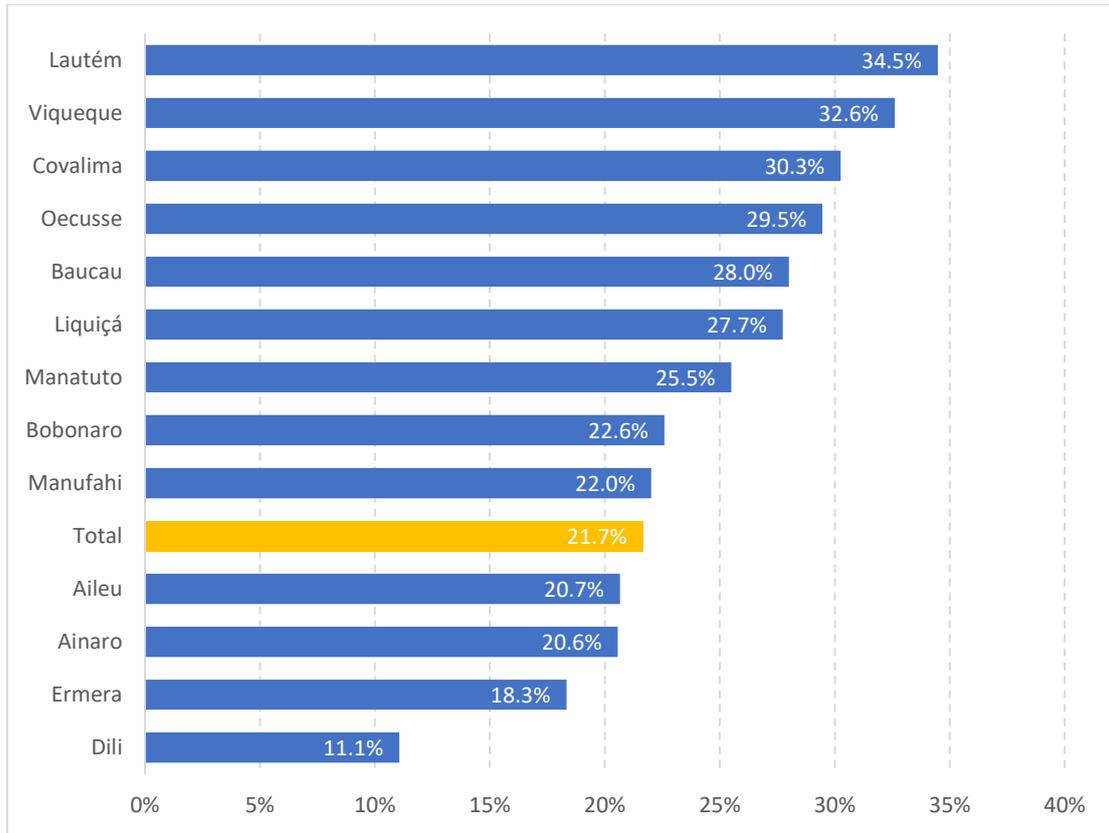**Figure 8 Percentage of households belonging to the most vulnerable category by municipality**
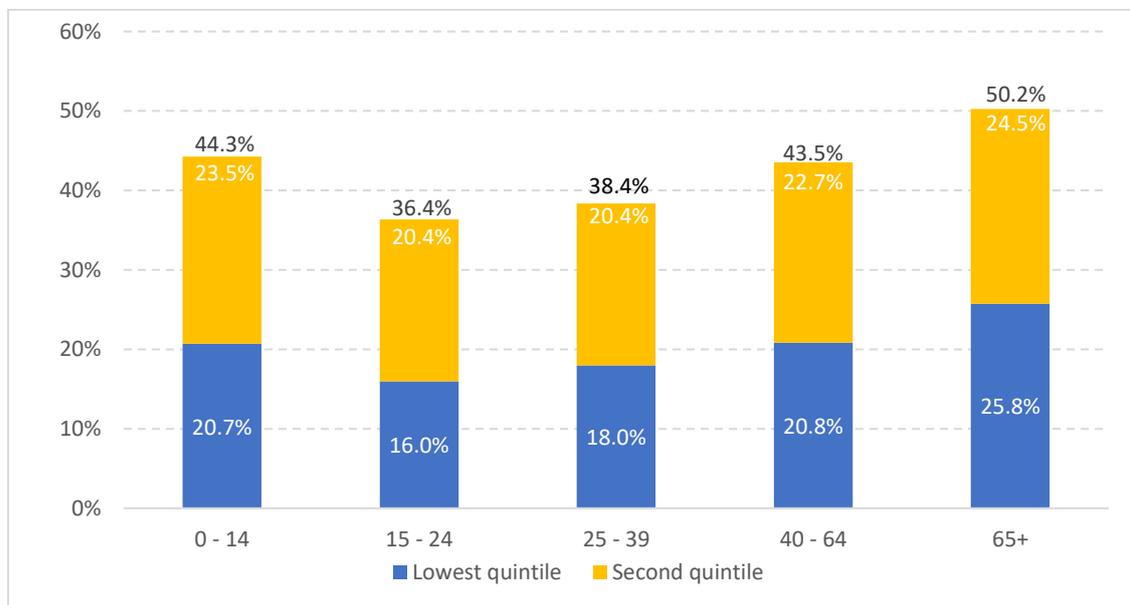

Figure 9 Percentage of persons belonging to the two lowest wealth quintiles, by broad age groups


4.2.1. Female headed households

It has been shown that female headed households are often in a more vulnerable position than male headed households. An OECD study in Thailand and Vietnam showed that female headed households faced greater difficulties in accessing land, education, labour, healthcare services and credit (OECD 2011). According to the SEIA-2, 16.8 percent of all households are headed by women.

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This percentage is consistent with the results from the 2016 Timor-Leste DHS, where it was found that 18 percent of households were headed by women (GDS, MoH and ICF 2018). The PHC-2015 found that 16 percent of household heads were women (GDS and UNFPA 2018).

The municipality with the lowest percentage of female headed households is Oecusse, where 13.7 percent of households are female headed, closely followed by Covalima where 13.8 percent of households have a woman as head. The highest percentage of female heads can be found in Lautém and Baucau, where more than twenty percent of all households are headed by women. In Dili, the percentage of female headed households is slightly below the national average (15.4 percent).

Figure 10 Percentage of all households headed by women, by municipality
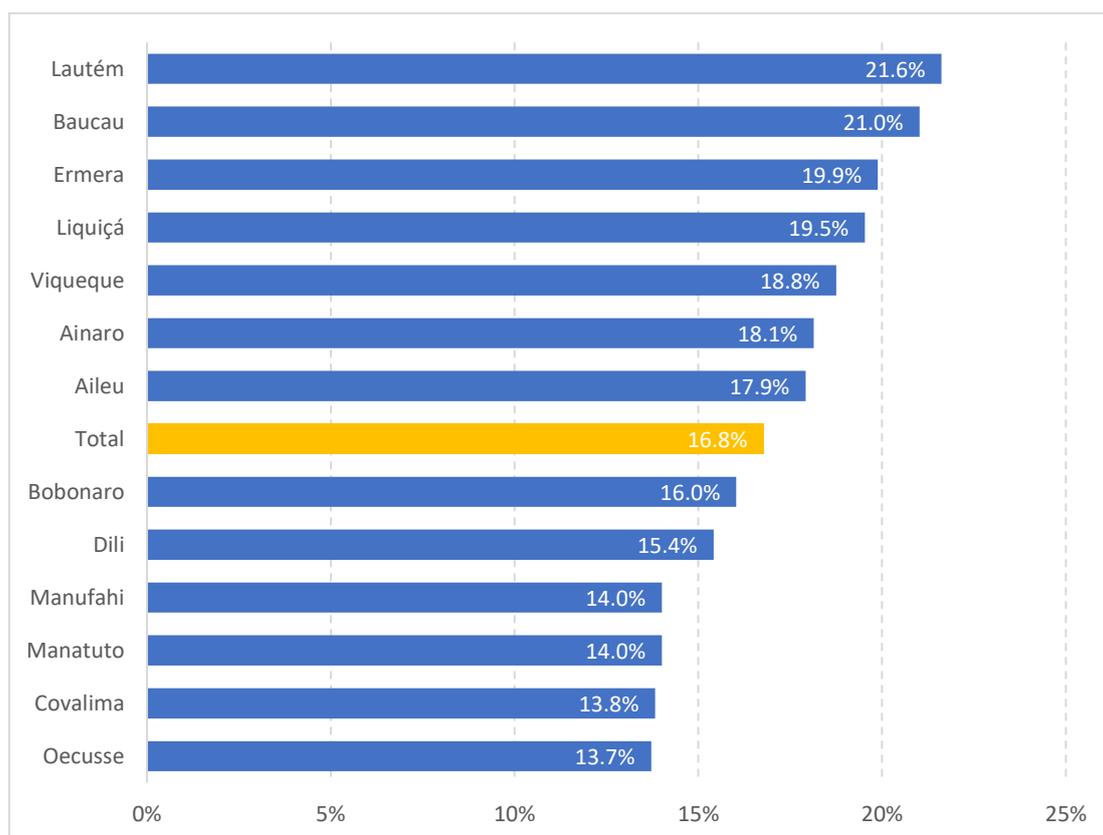

In general, female heads of household are significantly older than male heads: the mean age of female heads is 55.6 years, against 48.6 years for male heads. Figure 11 presents the relative age distribution of female and male heads. The graph clearly shows that the bulk of male heads are 30 to 55 years, while among female heads this is 50 to 70 years. More than 50 percent of all female heads are older than 60 years old; among men this is less than 25 percent. On the other hand, 43.6 percent of male heads are younger than 45, against only 24.1 percent of female heads. The fact that so many female heads are older contributes to their vulnerable position. An extra factor that can ameliorate this position is the fact that disabilities normally increase exponentially at older ages.

Figure 11 Relative age distribution for male and female heads of household
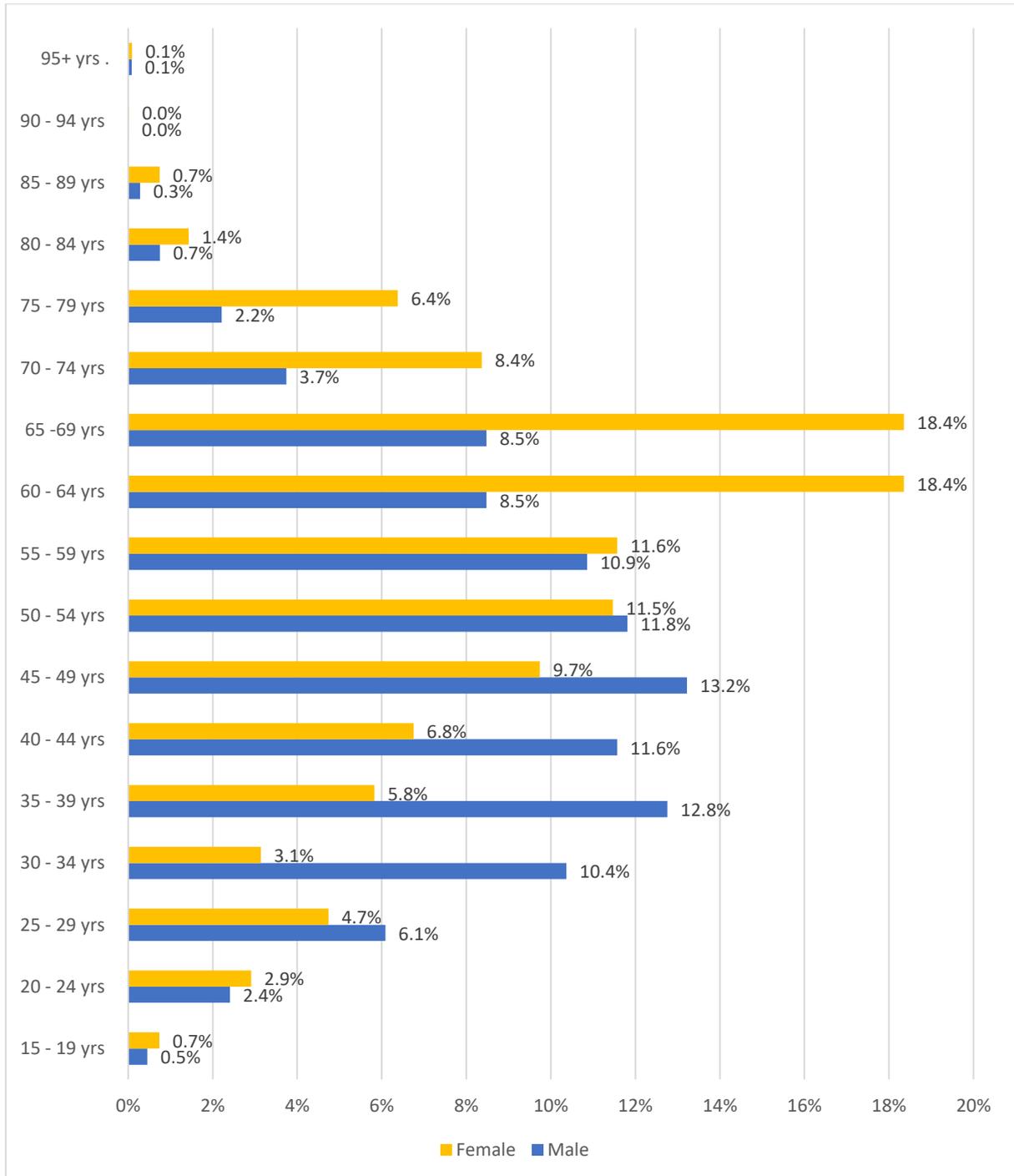
If wealth were equally distributed among households with female heads, then 20 percent of female headed households would be found in each wealth quintile. Figure 12 shows that this is not the case and that female headed households are found somewhat more in the poorest quintile, while male headed households are more present in the richer quintiles. However, the differences are quite limited.

**Figure 12 Percentage of households by sex of head and wealth quintile**
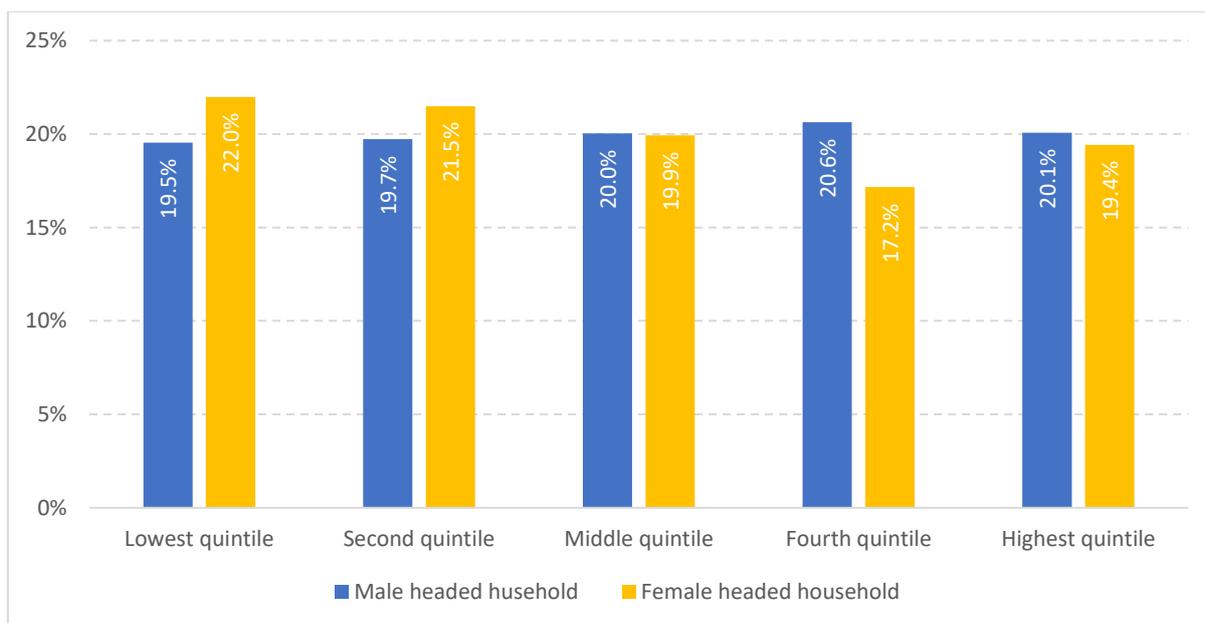
4.2.2. Disability

The Washington Group uses a definition of disability in which 'those who have a *lot of difficulty with* or *cannot do at all*' on at least one of the basic functional domains in the question set is considered to have a disability (UNDP Vietnam, Australian Aid and KOICA 2020). However, the Washington Group also declares that there is no gold standard for determining who has a disability and who has not (Washington Group on Disability Statistics 2021). In this study, as a working definition, persons who indicate that they have a lot of problems or cannot do a specific basic functional domain is considered to have a disability.

PWDs face specific risks during the COVID-19 pandemic. Many suffer from underlying health conditions that may put them at higher risk for hospitalization or death if they become infected. They belong disproportionally to older age groups, which are at a higher risk of suffering complications if infected. PWDs may have more problems accessing necessary medical services, supplies and information (Washington Group on Disability Statistics 2021) .
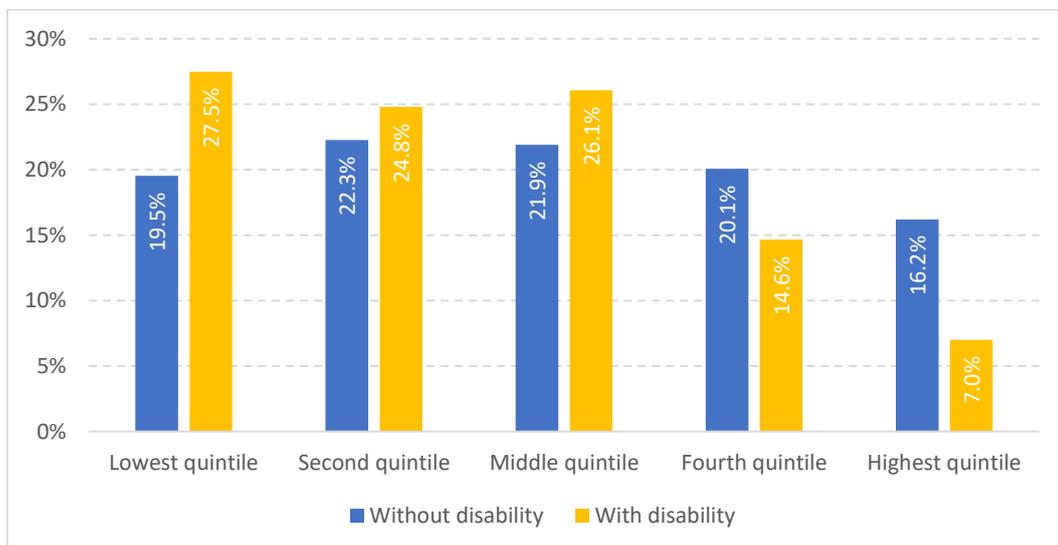
In the SEIA-2, 1.7 percent of all persons 15 years of age and older indicated they had a disability, i.e., they indicated for at least one of the four activities that they had a lot of problems executing them, or that they could not do them at all. Among those with a disability, 64.8 reported one disability, 15.2 percent two disabilities, 7.1 percent three disabilities and 12.8 percent four disabilities. The reported percentage of persons with a moderate or severe disability is quite different in the various municipalities of the country. Figure 13 shows that in Baucau, 0.6 percent of persons in the survey population revealed they had a disability. In Dili only 1.0 percent of the persons in the survey reported a disability. On the other side of the spectrum, in Lautém, 4.0 percent of the population 15 and older were classified as having a disability. There is no reason to believe that such large differences in the prevalence of disability indeed exist between the different municipalities. It is more likely that there is a difference in reporting of the functional difficulties between the various municipalities.

Figure 13 Percentage of persons 15 years of age and over by disability status and municipality
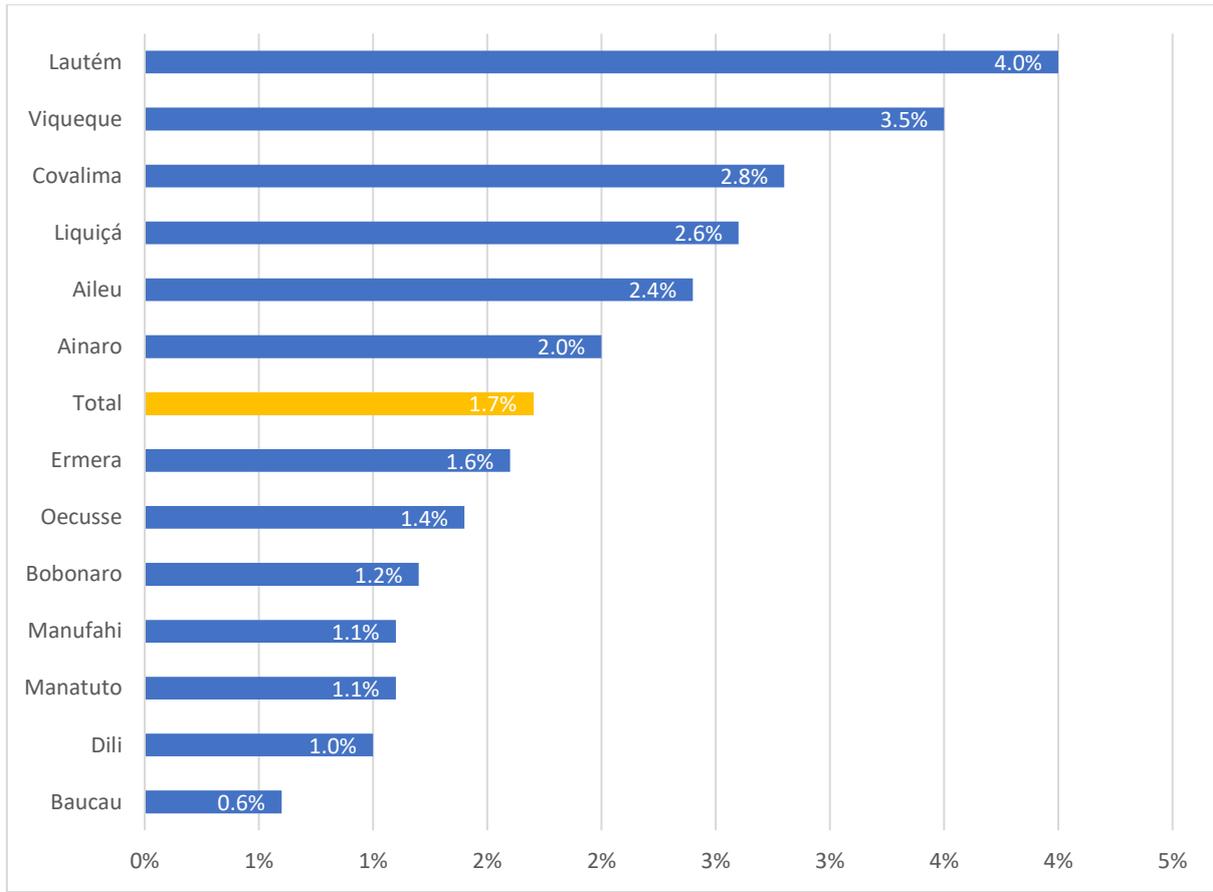
PWDs are overrepresented in the poorer segments of society: 52.3 percent of people a with disability are found in the lowest two wealth quintiles, against 41.3 percent of people without a disability. At the other end of the spectrum, only 7.0 percent of persons with disabilities live in a household belonging to the richest quintile, against 16.2 percent among persons without disabilities. In the second richest quintile, 20.1 percent of persons without a disability can be found, against only 14.6 percent of persons with a disability (Figure 14).

Figure 14 Persons with disabilities and without disabilities by wealth quintile

Among the four functional domains, people in the survey had the most difficulty with seeing: 6.2 percent of all persons 15 years of age and older reported that they have some problem seeing, even if wearing glasses; 0.6 percent indicated they have a lot of problem seeing. None of the persons in the survey indicated that they could not see, hear, walk, or remember at all. The percentage of people who have some problems hearing, walking, or remembering is about half of those for seeing. The percentage of cases of persons who had serious problems is about the same for all four function domains and hovers around 0.6 percent (Figure 15).

Figure 15 Percentage of persons with some difficulties or with a disability, by type of functional domain
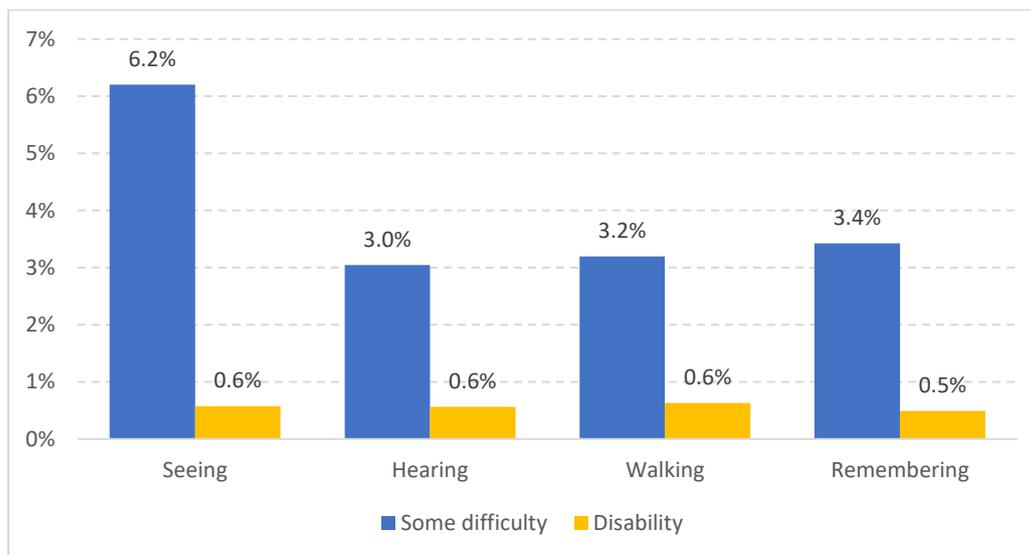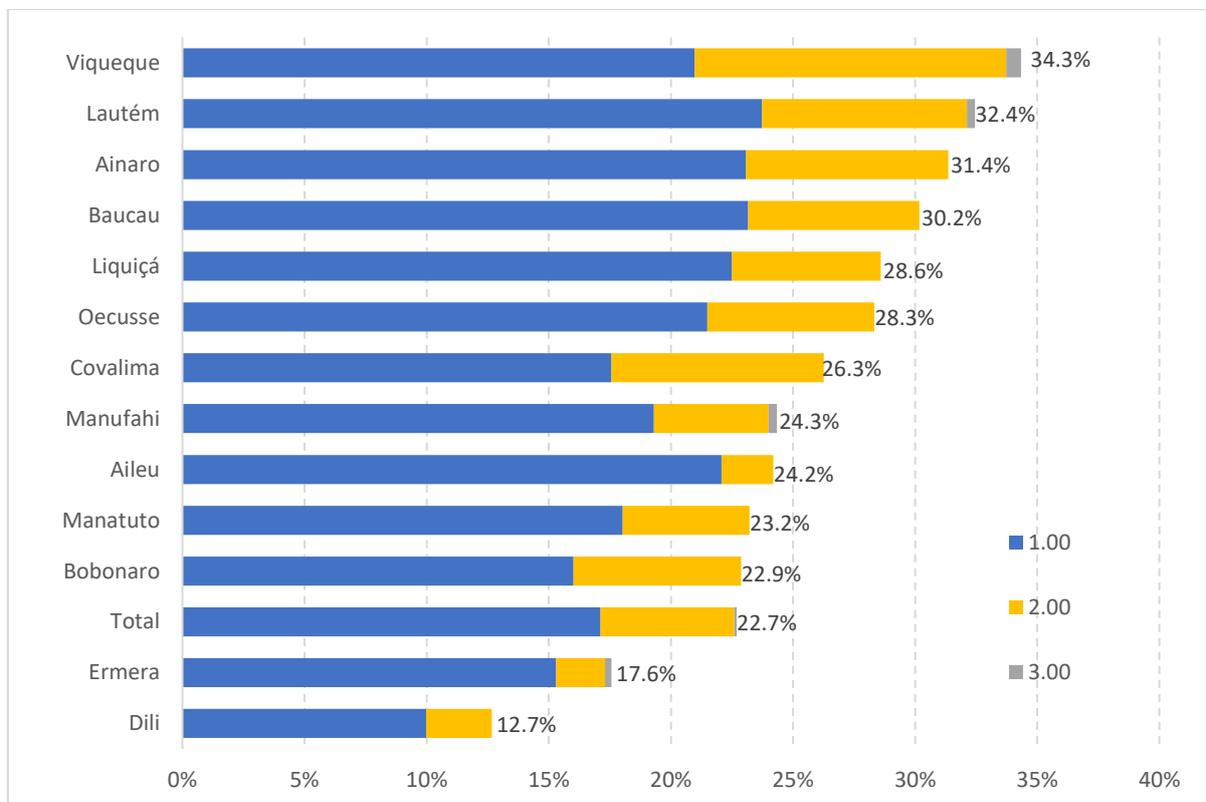

4.2.3. Older persons

For the calculation of the vulnerability index, a person 65 years of age and older was considered to be an older person. In the survey, 1,407 (weighted) persons above age 65 were recorded, which means that 6.0 percent of the total population was 65 years of age or older. The percentage of persons 65 years of age and older was 5.6 percent for men and 6.3 percent for women. These percentages align with the percentages observed in the PHC-2015, when 5.8 percent of the population was found to be 65 years of age and older. The corresponding figures in the census for men and women were 5.4 percent and 6.1 percent for women. For older persons, none of the figures of the SEIA-2 survey were significantly different from the census figures.

Among all households in the survey, 22.7 percent had at least one person older than 65 years old: 15.8 percent had one older person, 5.5 percent two older persons and 0.1 percent three older persons. Female headed households had considerably more older persons (34.6 percent) than male headed households (20.3 percent). Large differences exist in the number of households with older persons across municipalities. Figure 16 shows that the number of households with older persons in Dili is only 12.7 percent, which is 10 percent lower than the national average. The municipalities with the highest proportion of households with older people are in Viqueque, Lautém, Ainaro and Baucau. In each of these municipalities, well over 30 percent of the households have at least one person older than 65 years old. Besides Dili, only one other municipality scores below the national average - Ermera, with 17.6 percent of households containing older persons. As Dili is an important attraction

point for internal migrants and migrants usually come to the capital city for work or study without bringing older dependents, fewer older people are in households.

Figure 16 Percentage of households that have persons 65 years of age and over, by number of older persons in the household and municipality

The economic vulnerability of households with older persons is shown by looking at the wealth quintile these households belong to, compared to households where no persons aged 65 and older were present. Figure 17 shows that households with one or two (or more) older persons have a higher chance of being poor; 18.4 percent of all households without an older person belonged to the lowest wealth quintile, against 24.9 percent of households with one older person and 25.8 percent of households with two or more older persons. In the richest wealth quintile, the percentage of household with no older persons is twice as high as for households with one or two older persons.

Figure 17 Percentage of households that have persons 65 years of age and over, by number of older persons in the household and wealth quintile
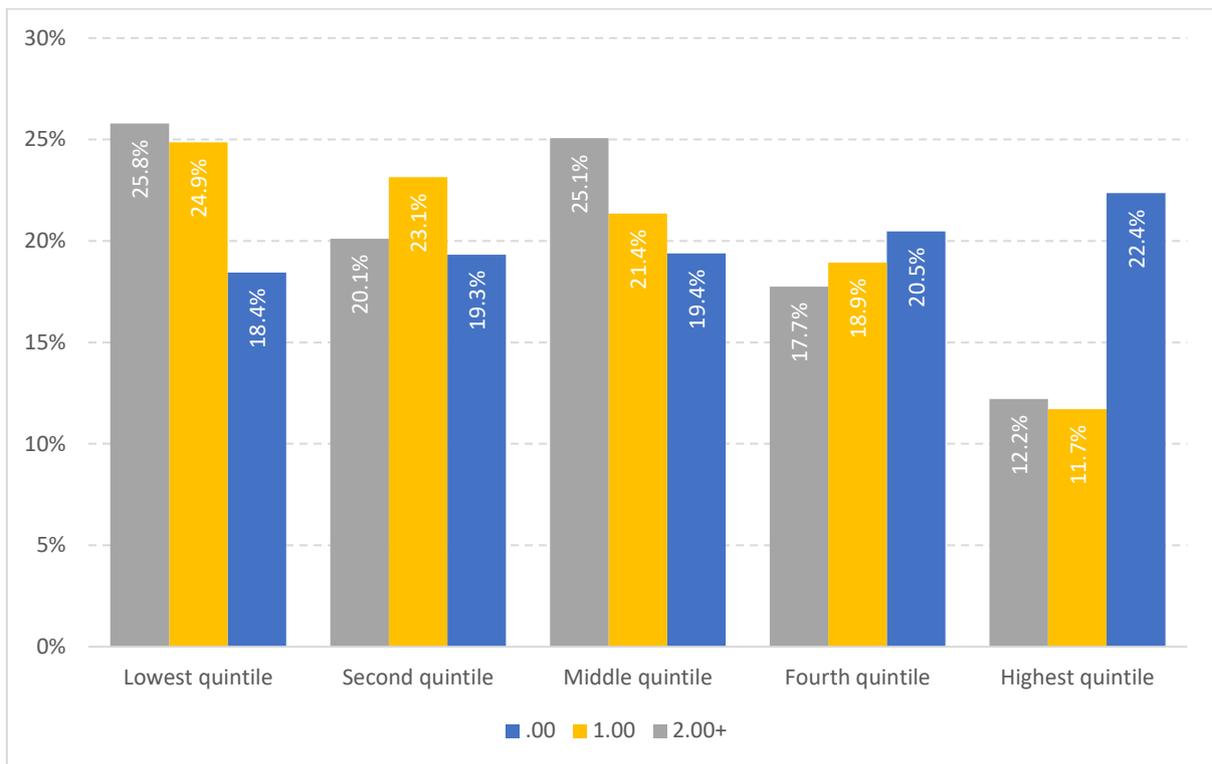
4.2.4. Pregnant or lactating women

Pregnant and lactating women were not incorporated in the social vulnerability index as the condition is short-term. According to the SEIA-2, 3.0 percent of all women in the age group 15 – 49 indicated they were pregnant at the time of the survey, and 12.0 percent were breastfeeding. For a small group of women (4.2 percent), household respondents were not sure about their current status. The age pattern of pregnancy and breastfeeding more or less follows the age specific fertility schedule (Figure 18). In the 15 – 19-year-old age group, 2.7 percent of women are either pregnant or breastfeeding. After the age of 20, the percentage of pregnant and breastfeeding women increases rapidly, to reach a peak of 26.7 percent in the age group of 25 – 29 years old. Also, in the age group of 30 – 34 years, somewhat more than a quarter of women are either pregnant or breastfeeding.

Figure 18 Percentage of women who are pregnant or were breastfeeding at the time of the survey, by five-year age groups
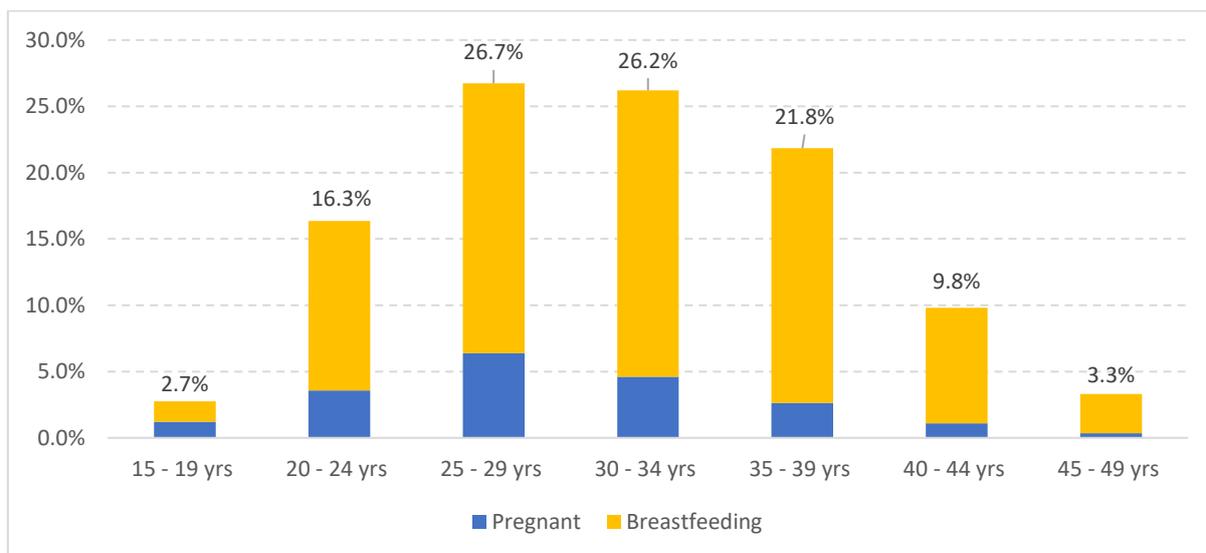
Figure 19 shows the percentage for both pregnant and breastfeeding women come quite close in the three middle quintiles, clear differences can be observed in the poorest and the richest quintile. Among all women who were pregnant or breastfeeding at the time of the interview, 24.9 percent can be found in the poorest quintile, while this is only the case for 16.1 percent of women who were not breastfeeding and not pregnant. In the richest quintile, the reverse can be observed. Of all women pregnant or breastfeeding at the time of the interview, only 11.8 percent formed part of the richest quintile, while this was the case for 20.2 percent of women not breastfeeding or pregnant.

Figure 19 Percentage of women who are pregnant or were breastfeeding at the time of the survey, by wealth quintile
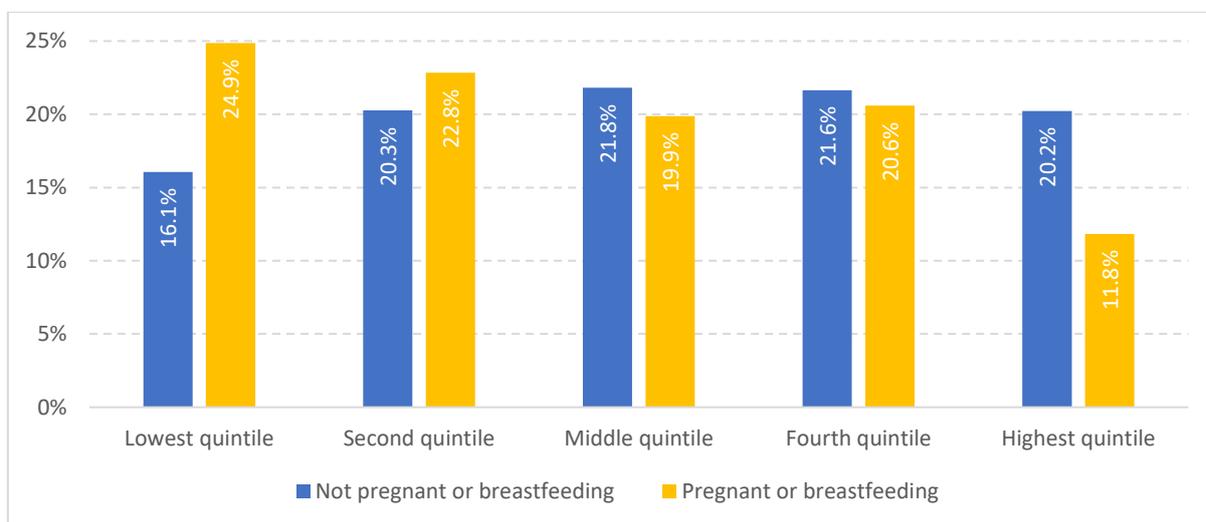
4.2.5. Migrating persons

Although not included in the social vulnerability index, migrants who return home can make the household more vulnerable, as they place an extra burden on limited resources and, in many cases, return because they have lost their work and income. Overall, 2.9 percent of all individuals had moved since the SoE in March 2020. The age group 15-24 comprised the majority (34.2 percent of those who moved), followed by age group 25-39 (21.2 percent). Those over 65 years old comprised only 2.8 percent of those who moved. Of the individuals who migrated, more men (53.6 percent) than women migrated (46.4 percent).

SEIA-2 finds that 67.0 percent of those who moved, moved within or to rural areas versus 33.0 percent to urban areas. Table 5 shows the destination – whether the movement occurred from rural to urban or urban to rural. The majority of those who moved did so from urban-to-rural settings (39.9 percent), followed by those who moved between rural locations (27.1 percent). Similarly, according to a survey conducted in May 2020, the 'households in rural areas were absorbing more people' (MAF, Oxfam et.al 2020).

Table 5 Individuals' migration since the SoE (by residence, rural and urban)

Current place of residence		Rural		Urban		Total	
		Number	% of total	Number	% of total	Number	% of total
Previous place of residence	Urban	269	39.9%	133	19.7%	402	59.6%
	Rural	183	27.1%	90	13.4%	273	40.4%
Total		452	67.0%	223	33.0%	675	100.0%

The top three reasons for migration were employment opportunities (39.8 percent), threats due to the COVID-19 pandemic (21.8 percent), and education or training opportunities (12.5 percent). Figure 20 shows the reasons for migration by gender and indicates that 42.7 percent of men and 36.2 percent of women had moved to find employment and livelihood opportunities, whereas more women (23.3 percent) than men (20.1 percent) indicated they moved to escape from threats of the COVID-19 pandemic in the previous residence. Majority of people who migrated for employment or education opportunities had moved to urban settings whereas more people who moved due to threats of COVID-19 had moved to rural settings.

When looking at differences by social vulnerability, among those who moved, 56.1 percent belonged to least vulnerable households, 36.8 percent to more vulnerable and 7.1 percent to most vulnerable households. The distribution of those who moved was relatively even across wealth quintiles (22.1 percent of the poorest, 17.2 percent of the second poorest, 18.0 percent of the middle, 20.0 percent of second wealthiest and 22.0 percent of the wealthiest quintiles). However, when looking at the reasons for migration and social vulnerability, those who moved due to the Easter Flood consisted of mainly vulnerable households and those in the lowest/poorest wealth quintiles. In terms of municipalities, more than one third of the migrating persons had relocated to Dili (31.0 percent), 15.3 percent to Oecusse, 8.2 percent to Ermera and 5.6 percent to Aileu. Other municipalities ranged from 1 percent to 4 percent.

Figure 20 Reasons for migration, by gender

Figure 20 Reasons for migration, by gender
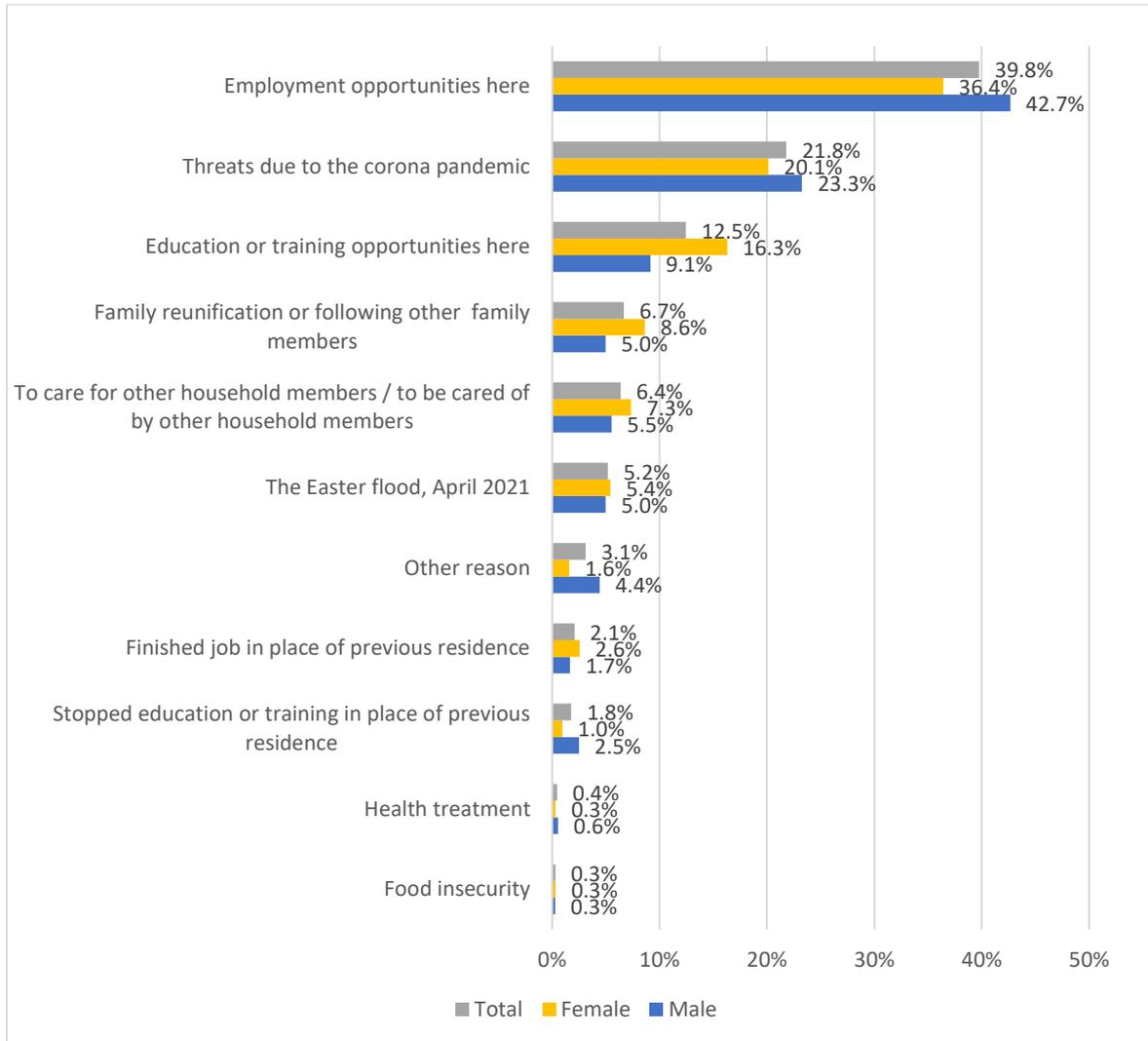
II. Socioeconomic impact on individuals, households and, communities

5. Economic impact

The Timor-Leste economy has experienced three recent recessions, in 2017, 2018 and 2020 (World Bank Group 2021, 16). The 2020 decline comprised a roughly 7 percent reduction in the economy, the largest decline since independence and a regression to 2009 levels. COVID-19 prevention measures such as movement restrictions and limitations on commerce, weakened private consumption, while budgetary delays in early 2020 undermined public spending, which declined by 9 percent (World Bank Group 2021, 16).

While containment measures are essential to reducing the spread of COVID-19, they create barriers to critical services and livelihood opportunities, leading to an immediate and likely long-term decline in wellbeing. This chapter will examine to what extent households and individuals in Timor-Leste were impacted by COVID-19 measures in terms of employment, income sources, food security and what livelihood coping mechanisms have they employed.

5.1. Impact on employment and domestic work

The PHC-2015 indicated that close to 40 percent of the population of Timor-Leste was below 15 years of age. This percentage of children in the population is the main factor in the relatively high dependency ratio[25] of 82[26] persons in the dependent ages (below 15 and 65 and over) for every 100 persons of working age (15 to 64 years old) found in the census. At the same time, as the census found that just over half of the working age population (53.4 percent) was actually employed, the effective dependency ratio is significantly higher than 82 percent. Although for some households, rent, forms of social security and remittances from household members working abroad may provide additional sources of income – or could even constitute the main source of livelihood – the large majority depend on the labour conducted by one or more household members, be it subsistence activities or paid labour. Much of the labour in the Timor-Leste economy is characterised by informal arrangements, low-paid and low-productivity jobs, family work and child labour (World Bank 2013, GDS, ILO and UNFPA 2018). This combination of population- and labour-market characteristics translates into a large proportion of economically marginalised households with low resilience to cushion livelihood shocks.

Figure 21 presents the percentage of households in the highest of four dependency ratio categories constructed in the SEIA-2[27] (a household dependency ratio of 133 percent or more) for each of the

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[25] The dependency ratio is calculated as the number of persons in the non-working-age groups of 0-14 and 65 and over divided by the number of persons in the working-age group of 15-64, and presented as a percentage.

[26] The census-based dependency ratio of 82 is a little higher than the UN estimate of 78 for 2015. However, even the UN estimate implies that the figure for Timor-Leste is the highest in the region of South-Eastern Asia (52), with the ratios of all other countries being below 60 in 2015 (United Nations 2019). It is also considerably higher than neighbouring countries Indonesia (49) and Papua New Guinea (67).

[27] The categories of household dependency ratio constructed for the SEIA-2 are the following: below 33 percent, 33 to 69 percent, 70 to 132 percent and 133 percent or more (including households without persons in the working-age range).

five wealth quintiles. It shows a consistent pattern of a lower percentage of households in the highest dependency ratio category for each higher wealth status category. In the poorest quintile, almost one-third of households (32.6 percent) have a very high dependency ratio of 133 percent or more, twice as high as the percentage of households in the richest quintile (16.8 percent).

Figure 21 Percentage of households in the highest dependency ratio category,[a] by wealth status
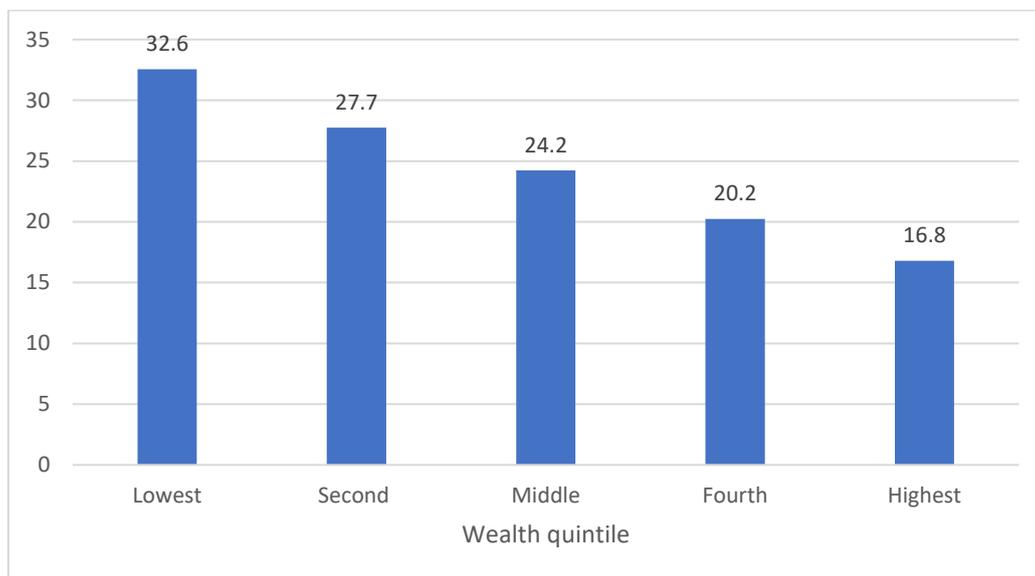
[a] *Households with a household dependency ratio of 133 percent or more.*

Against this demographic background of a high proportion of the population in the young age categories and a high dependency ratio, this section focuses on the characteristics of the labour market. The population included in this analysis are persons aged 15 years or over, representing 60.5 percent of the survey population.[28]

The absence of an upper age limit for the working age population is to reflect the contribution of considerable proportions of the older population to the economy and livelihoods, which is typical for agricultural and informal economies.

The analysis is conducted along the lines of the mutually exclusive categories of the 'labour force status', i.e., employed, unemployed or outside the labour force. The labour force is defined as the current supply of labour for the production of goods and services in exchange for pay or profit. The employed are all persons aged 15 or above who, in March 2021,[29] were engaged in any activity to produce goods or services in exchange for pay or profit. The unemployed are all persons aged 15 or above who, in March 2021, were (a) not employed, (b) looking for a paid job or trying to start a business and (c) could have started working then. The persons outside the labour force are all those aged 15 or above who, in March 2021, were not employed and not unemployed.

This definition of the labour force – made up of the employed and unemployed – does not cover productive activities done without remuneration, including own-use production work, volunteer work, or unpaid trainee work. Since agricultural own-use production work is important in Timor-

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[28] The SEIA-2021 does not cover child labour, as this would have required an additional module in the questionnaire.
[29] The reference period of March 2021 was defined to exclude the effect of the Easter Floods in Timor-Leste.

Leste, where possible, the analysis will also address this subsistence work as a complementary component in the country's economy and households' livelihoods.
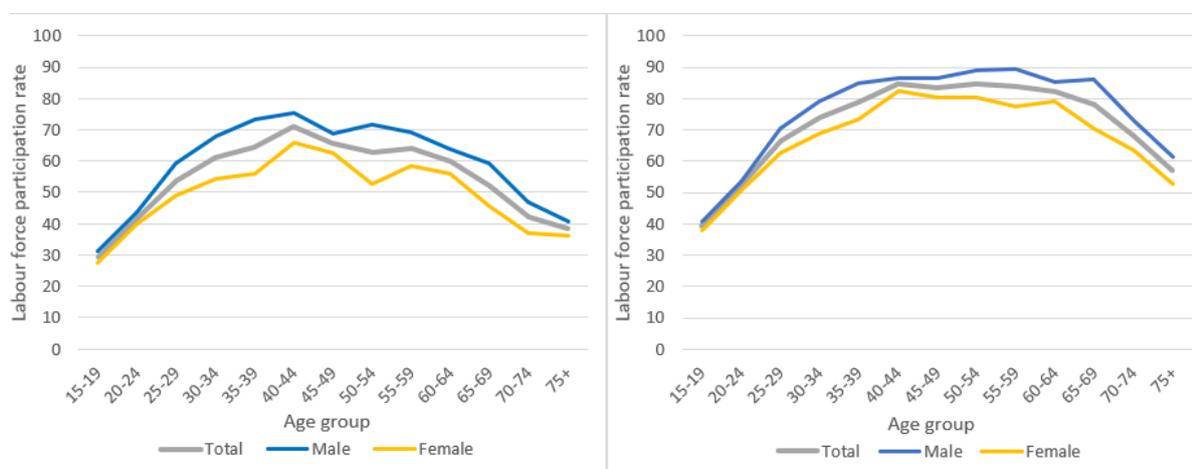
5.1.1. Labour force participation

The labour force participation rate reflects the proportion of the working-age population that engages actively in the labour market, either by working or by looking for work. It is an important indicator for determining the relative size of the supply of labour to produce goods and services in a country and provides insights into employment opportunities and the demand for income for different population categories.

The young age structure of Timor-Leste's population constrains the current productive capacity of the country's economy, as only 60.5 percent of the population is in the working age of 15 years and over. According to the SEIA-2, the overall labour force participation rate of this working-age population is 51.3 percent. **Error! Reference source not found.**a presents the age- and gender-specific labour force participation rates. The curves have a relatively flat inverted U-shape that peak around 70 percent in the age group 40-44. In the youngest age group, the percentage of persons engaged in paid- or for-profit work, or looking for such work, is already around 30 percent. Although the participation rates drop beyond age group 40-45, (ILO 2016).[30] Even in the oldest age group of persons aged 75 or older, around 40 percent remains active on the labour market.

Figure 22 Labour force participation rate, by gender, and by five-year age group

a. Including employed and unemployed

b. Including employed, unemployed and subsistence workers

Labour force participation of women is lower than that of men, respectively 46.7 and 55.8 percent, which represents a gender parity index[31] of 0.84. This is indicative for poorer access to remunerative jobs for women, or lower female demand for such jobs, or a combination of these. Although the

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[30] All citizens above 60 years are entitled benefits of US$30 per month. In 2016, the programme covered over 94 thousand individuals (*ibid*).

[31] The gender parity index for labour force participation is calculated as the rate for women divided by the rate for men. A value of 1 indicates exact gender equity and the further from 1 the parity index, the greater the gender disparity.

pattern of the age-specific rates for men and women is very similar, the level for women is consistently lower.

If the category of agricultural subsistence workers[32] is added to the employed and unemployed populations, the labour force participation rate increases to 65.9, and for men and women to 69.3 and 62.4, respectively. This represents a more equal gender parity index (0.90), which implies that agricultural subsistence work is relatively done more often by women than by men. The age-specific labour force participation rates in **Error! Reference source not found.**b show that adding agricultural subsistence workers not only increases the level for both genders and for all age groups, but also changes the pattern from a peak in the age group 40-45 to a plateau of over 80 percent for the age range 40-64, with a participation rate for the age group 75 and over as high as 56.8 percent. This implies that agricultural subsistence work is relatively more concentrated in the older age groups. The addition of this subsistence work also implies that two in five persons in the youngest age group (aged 15-19) are active on the labour market either for remunerated work or looking for such work.

Figure 23 compares the labour force participation rate of the small group of persons with a disability with those without a disability. The participation rate of 28.0 percent for persons with a disability is about half (54 percent) the rate of PWDs (51.7 percent), which is an indication of the adverse position on the labour market of the former group. If agricultural subsistence work is included, the participation rate of PWDs (45.9 percent) increases to 69 percent of the corresponding rate of persons without disability (66.2 percent). This indicates that PWD relatively more often resort to subsistence work to compensate the lack of access to employment for pay or profit.

Figure 23 Labour force participation rate, by disability status, and by inclusion of agricultural subsistence work
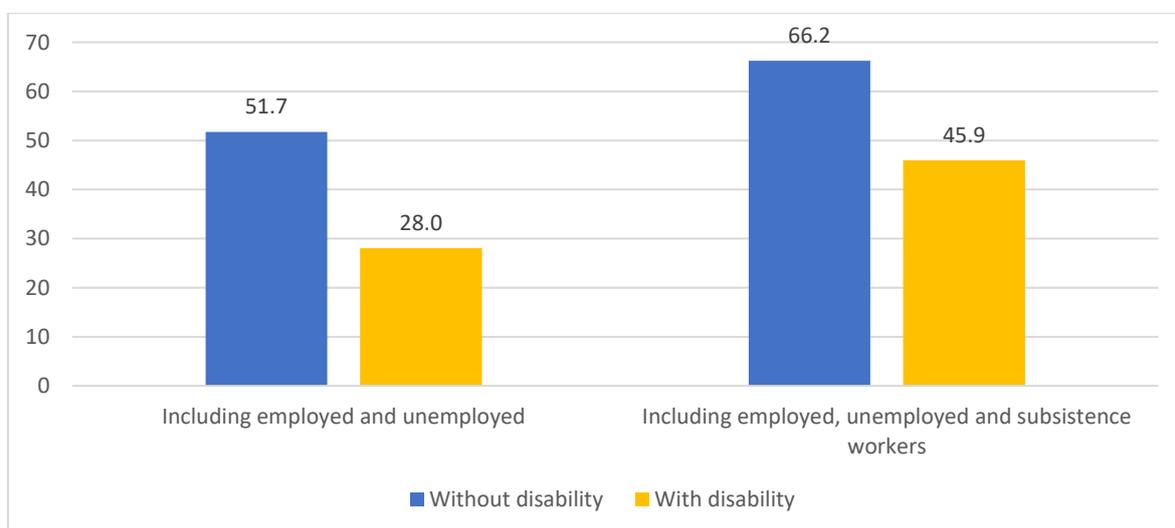
The labour force participation rate shows a large variance across the municipalities within Timor-Leste (Figure 24). Dili is an outlier, with a low participation rate (36.3 percent) that is only half of the of the municipality with the largest participation rate (Manufahi, 71.6 percent). Among others, explanations for this low participation rate likely include longer durations of participation in

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[32] Persons engaged in farming or growing food in a plot or kitchen garden, in raising or tending farm animals, chickens or poultry, or in fishing, aquaculture or collecting shellfish mainly or only for family consumption.

education among persons under 20 and a higher proportion of the working-age population employed in the formal sector who retire at the age of 60. In addition, it could indicate a lower need for people to be employed, for instance because there are other employed household members with relatively high levels of remuneration.

Including agricultural subsistence work in the labour force participation rate increases the rate for Dili to 37.9 percent (data not shown). This implies a relative increase of only 4.6 percent, compared to an average increase of 28.5 percent across all municipalities. This again points to the relative importance of the formal sector in Dili. Other municipalities where the addition of subsistence work implies relative increases of less than 20 percent are Manufahi, Manatuto, Covalima and Liquiçá, whereas municipalities with relative increases of more than 40 percent include Lautém, Baucau, Viqueque and Aileu, the latter even with a relative increase of 65.4 percent.

Figure 24 Labour force participation rate, by municipality
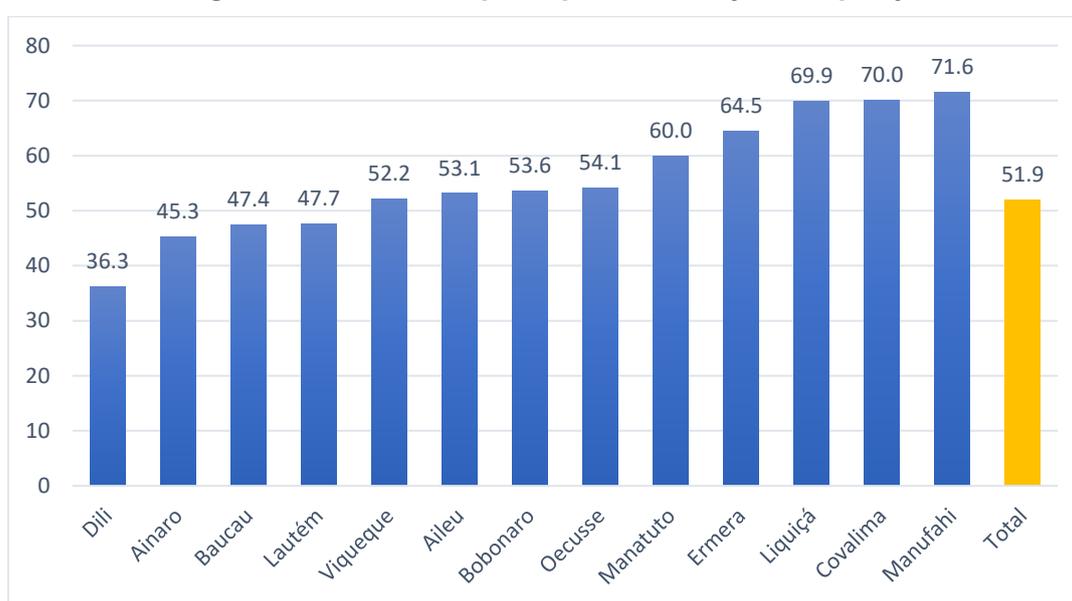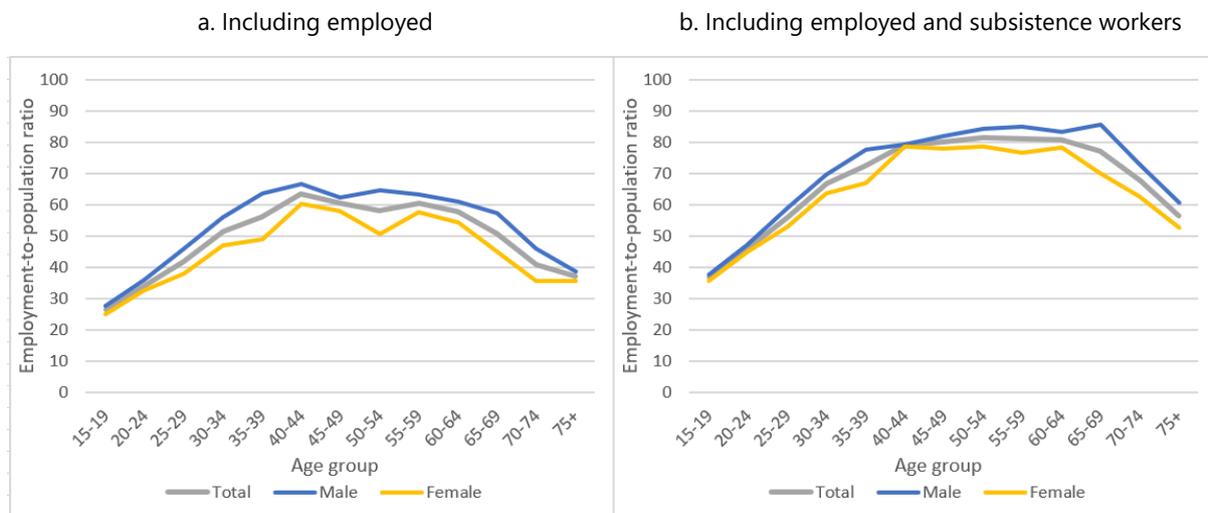

5.1.2. Employment

Employment-to-population ratio

An indicator that provides information on the ability of the economy to generate paid or for-profit jobs is the employment-to-population ratio, the proportion of the working-age population that is employed. According to the SEIA-2, this ratio was 45.2 percent and for men and women, respectively, 48.6 percent and 41.7 percent. The age-specific pattern of the employment-to-population ratio for men, women and both genders combined is very similar to that of the labour force participation rate, although at a somewhat lower level. The employment-to-population ratio of PWDs is 25.2 percent, compared to 45.5 percent for persons not living with a disability (data not shown), indicating the very vulnerable position of PWDs on the labour market.

As with the labour force participation rate, adding agricultural subsistence workers to the employed population creates a shift of the ratio upward, as well as to older age groups. This again indicates that agricultural subsistence work is relatively more concentrated in the older age groups. The age shift is particularly pronounced for men, for whom the highest ratios are observed in the age group 55-69. The overall employment-to-population ratio including agricultural subsistence workers is 61.1

percent – one-third higher than the ratio without agricultural subsistence workers – and for men and women, respectively, 63.7 and 58.4 percent.

Figure 25 Employment-to-population ratio, by gender, and by five-year age group

a. Including employed

b. Including employed and subsistence workers

The gap between the employment-to-population ratio calculated with and without agricultural subsistence workers is highly relevant for labour market policies, by providing information about the share of the working-age population for whom paid employed needs to be created. However, paid employment in itself does not indicate the quality of jobs and the extent to which these generate sufficient income for persons and households. Many jobs in which people work for pay or profit are characterised by informal work arrangements and insecure employment, unstable and inadequate earnings, low productivity, and a lack of safety nets that guard against loss of incomes during economic hardship (ILO 2009, ILO 2008) This characterisation also applies to Timor-Leste (World Bank 2013).

Status in employment

The 'status in employment' is an indicator of quality of employment in the economy and helps distinguish between 'vulnerable' and 'decent' employment. Status in employment measures the types of economic risk that the employed face in their work, the strength of institutional attachment between the person and the job, and the type of authority over establishments and other workers. In the SEIA-2, five status categories are identified: employees in government employment, employees outside government employment, self-employed with employees (employers), self-employed without employees and contributing family workers. The categories of self-employed without employees and contributing family workers are considered as being in vulnerable employment. According to the SEIA-2, the proportion in vulnerable employment is very high (86.3 percent) with a somewhat higher proportion for women than for men (respectively, 83.2 percent and 90.0 percent), and higher proportions among youth (95.1 percent) and older persons (93.6 percent) compared to the age group 25-64 (82.4 percent). These figures should be treated with caution, as there are indications that during data collection persons were erroneously recorded as 'contributing family workers'. However, the 2010 Labour Force Survey also found a high proportion of vulnerable employment (70 percent).

Employment by economic sector

Employment in Timor-Leste is dominated by the agricultural sector. More than 70 percent of the employed population is engaged in agricultural production and sale of agricultural products. Thereby, it dwarfs employment in other economic sectors (Figure 26). Within the sector of agricultural production and sale, the production of staple crops (rice, beans, sweet potatoes, maize, etc.) and that of vegetables and fruits are the largest sub-categories, with, respectively, 36.2 percent and 16.1 percent of total employment.

The industry sector – comprising the economic sectors of mining and quarrying, manufacturing, construction and public utilities (electricity, gas and water) – is for most countries the engine of the economy, given its contribution to the national product and job creation. The share of industry in employment reveals a country's position in the transition process from a traditional – agriculture-based – economy to a modern and more diversified economy. SDG indicator 9.2.2 measures employment in the industry sector as a proportion of total employment to monitor the progress in the achievement of SDG Target 9.2. Overall, the SEIA-2 suggests that the indicator's value for Timor-Leste is very low. Employment in construction and manufacturing is measured at 3.6 percent. Whereas public utilities and mining and quarrying are not separately recorded in the survey, these are not expected to add much to this percentage.

Figure 26 Employment, by economic sector (in percentage)
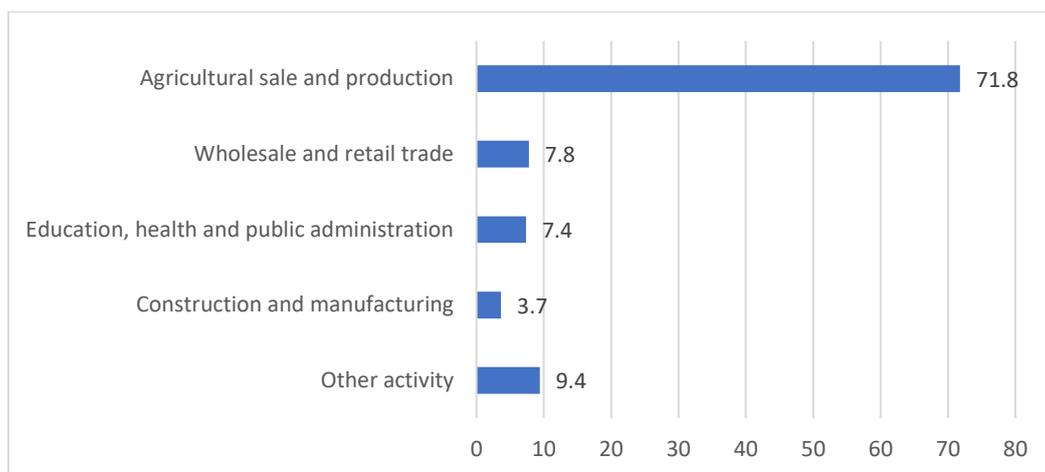
In all municipalities except Dili, the sector of agricultural production and sale provides the largest share of employment, with Covalima and Baucau showing a proportion of just over 60 percent, up to Liquiçá and Aileu with a proportion of around 90 percent. Dili has a much more even employment distribution, with 28.5 percent in agricultural production and sale, 22.3 percent in wholesale and retail trade, 21.0 percent in education, health and public administration, and 12.7 percent in construction and manufacturing (data not shown).

The gender distribution in overall employment is 53.6 percent male and 46.4 percent female (Figure 27). Male employment appears to be more common than female employment in most economic sectors. However, in the main sector of agricultural production and sale, the distribution is almost equal (respectively 51.1 percent and 48.9 percent), and in the trade sector women are in majority.

Figure 27 Gender distribution in employment, by economic sector (in percentages)
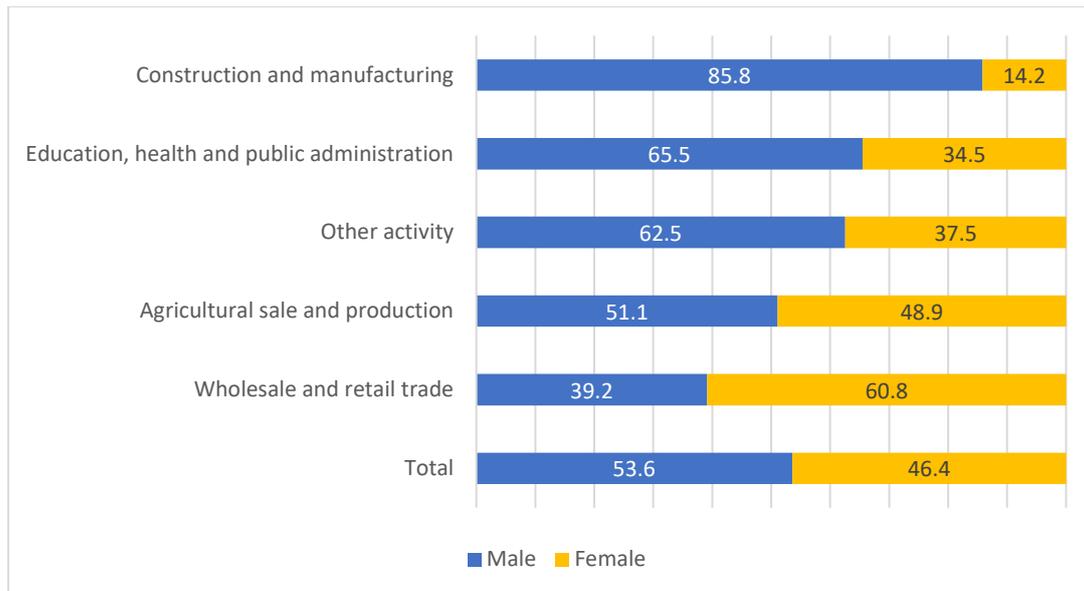

Impact of COVID-19 on employment

In the SEIA-2, an effort was made to establish retro-actively the labour force status of the population of working age before the COVID-19 SoE was declared in March 2020. As the period between the survey and this reference month is more than one year, the provided information is prone to recall error and the analysis results must be treated with due caution[33]. For reasons of recall difficulty, no additional questions about the conditions for unemployment were asked[34]. Therefore, in the labour force status before the March 2020 SoE, a distinction is made only between 'employed' and 'not employed', without distinguishing within the latter category 'unemployed' and 'outside the labour force'.

The employment-to-population ratio calculated for the persons of working age in March 2020 is 39.3 percent, which is 5.9 percentage points below the level 45.2 percent recorded for March 2021 (**Error! Reference source not found.**). The increase in the intermediate year would mean that the number of people who made the transition from being unemployed or economically inactive to being employed is larger than the number of people who made the transition in the opposite direction. The corresponding employment-to-population ratios for men and women in March 2020 are, respectively, 48.6 percent (increasing by 5.2 percentage points to March 2021) and 41.7 percent (increasing by 6.3 percentage points March 2021). It should be noted, as indicated in Chapter 3.2 of this report, that sanitary fences and home confinements were also conducted after March 2021, and the data here do not capture their potential impact on employment.

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[33] In addition, unobserved mortality in the population of working age in March 2020 will have biased the information. However, as this mortality will have been concentrated in the small older age groups, in the present analysis this effect is considered negligible.

[34] Questions referring to whether the person was looking for work in March 2020 and whether the person would have been available to start working had there been an opportunity to do so.

Figure 28 Employment-to-population ratio in 2020 and in 2021, by gender
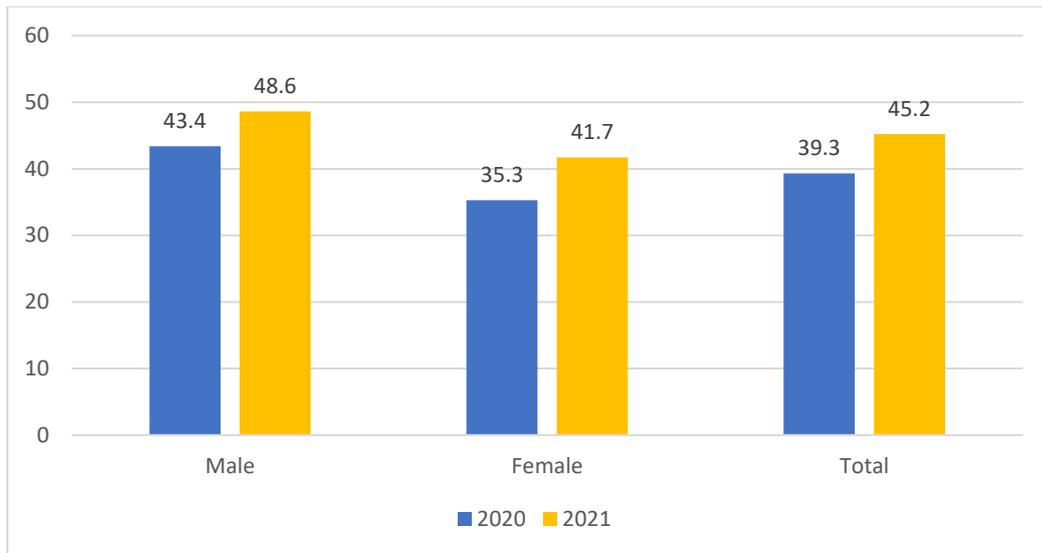
### Job loss and change in work

The increase in the employment-to-population ratio should be treated with much caution, as it seems implausible that that the employment situation in March 2021 will have improved compared to the situation before the first state of emergency in March 2020. This is also substantiated by the survey result that a very large proportion of persons who were employed in March 2020 lost their job due to the pandemic at some point since then.

Overall, this was mentioned for two-fifths (39.3 percent) of the employed population and more so for men (42.0 percent) than for women (36.0 percent). The adult age group 25-39 was most affected (43.3 percent). Those in Dili (54.6 percent) were more affected by job loss than outside Dili (38.4 percent). However, a similar pattern of employment increase was observed in the UNDP MSME survey. MSME owners reported that the number of people employed full-time in 2021 had increased by 83.5 percent compared to 2019 (UNDP Timor-Leste 2021). Looking from a different angle, 33.3 percent of the businesses in 2019 had full-time employees, whereas 54.2 percent of the businesses had full-time employees in 2021. Both the household survey and the MSME survey results indicate an increase in paid employment, which may be driven by stabilization of the government budget situation rather than COVID-19. The GoTL, implemented a series of measures as part of the economic stimulus package to support employees, informal workers, businesses (as listed in Annex 5).

In many, if not most cases, the recorded 'job loss' should be interpreted as a temporary suspension of work, as 90.1 percent of the persons who lost the job were again employed in March 2021 (91.4 percent of men and 88.5 percent of women). The main reasons for the job loss were directly related to government measures, including imposed restrictions to activities (35.5 percent) and the travel ban in the country (26.0 percent) (Figure). Another distinguishable reason is people's fear of infection (19.0 percent). These data suggest that male employees fared slightly better than female employees in regaining employment, though it did not reach statistical significance. UNDP's 2021 survey of MSMEs confirmed that women were slightly more negatively affected by the SoE's impact on employment, finding that female employment dropped in 2020 from 2019 (by 3 percent in full-time work and 19 percent in part-time work), while male employment increased. In 2021, the number

of jobs in the sample increased for both genders compared to 2019, but somewhat more for men (UNDP Timor-Leste 2021).

Figure 29 Employed population in March 2020 who lost job due to the COVID-19 pandemic, by main reason for job loss (in percentages)
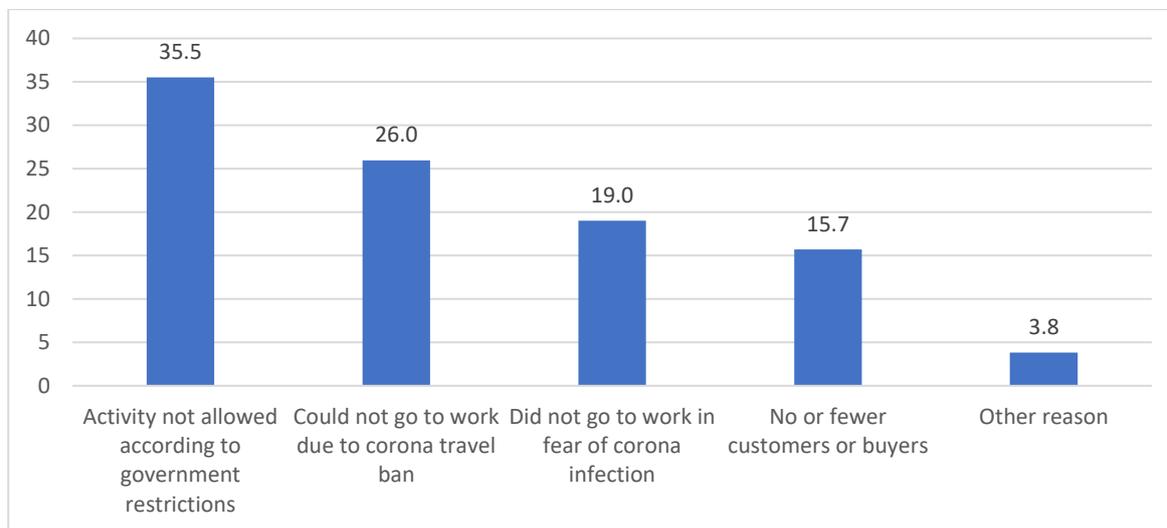
Persons who had been employed in March 2020 were asked about how their work was affected, apart from a possible job loss. As shown in Figure , a substantial 11.0 percent had been working from home, and 5.9 percent worked shorter hours. Other changes in work were rather insignificant, including different types of leave from work (included in the 'Other' category).

Figure 30 Persons employed in March 2020 who were affected by different types of change in work (in percentage)
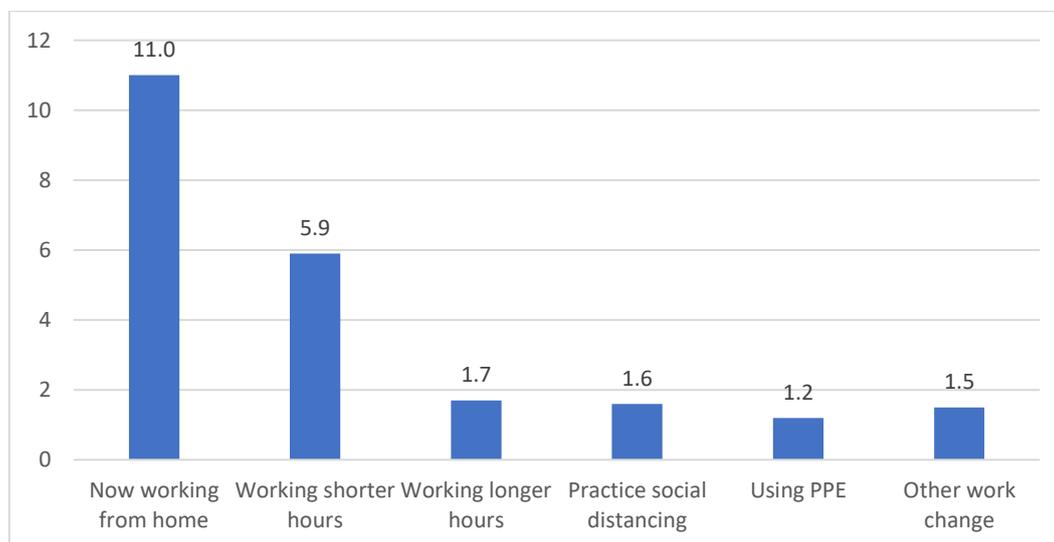
5.1.3. Unemployment

The unemployment rate is the percentage of the labour force that is unemployed, which refers to persons not in employment in the reference month of the SEIA-2 (March 2020), and who, at that time, were seeking employment and were available to start working if an opportunity would have been offered. The unemployment rate is an indicator for the ability of the economy to absorb the available labour supply in the country. However, in countries without adequate social security

systems, few people can afford being fully unemployed and accept jobs that are insufficient to provide decent employment and adequate livelihoods. The unemployment rate is one of the SDG indicators to monitor the achievement of SDG 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

The SEIA-2 recorded for the reference month an overall unemployment rate of 11.9 percent, and for men and women, respectively 12.8 percent and 10.8 percent. Whereas usually the youth age group (15-24) records a relatively high unemployment rate, the SEIA-2 shows that the peak of 22.1 percent is located in the age group 25-29 (Figure 31Unemployment rate, by gender, and by five-year age group**Error! Reference source not found.**). This unusual pattern is likely related to the impact of COVID-19, as it was for the younger adult age group that the highest level of job loss was recorded. The youth unemployment rate was 13.9 percent, slightly higher for male youth (14.3 percent) than for female youth (13.5 percent). The number of unemployed persons living with a disability recorded in the SEIA-2 is too small to present meaningful analysis of the unemployment rate by disability status.

Figure 31 Unemployment rate, by gender, and by five-year age group
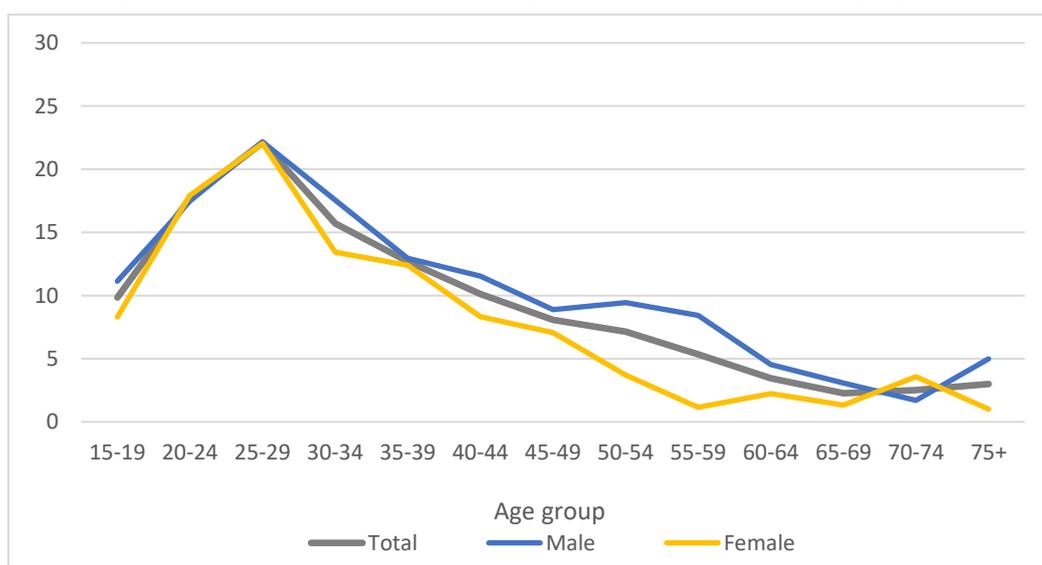
5.1.4. Population outside the labour market

The persons not actively participating in the labour market include those who are not employed and not unemployed. The SEIA-2 found that in March 2021, 48.7 percent of the population were outside the labour market, with the percentage for men (44.2 percent) lower than that for women (53.3 percent) (data not shown). This rate of economic inactivity is the complement of the labour force participation rate, and the age-specific curve shows the inverse of **Error! Reference source not found.**a, with the lowest value for the age group 40-44 (29.1 percent) and high values for the youngest (70.7 percent) and oldest (61.7 percent) of the working age population (data not shown).

The main reason for not participating in the labour market is often highly gender-specific and age-specific (data not shown). The overall prominence of attending education or traineeships (29.2 percent) is related to the young age composition of the working-age population, with a large representation of persons of school age. 'Household/caregiving responsibilities' is particularly concentrated in the age group 25-39 (28.3 percent), which represents the category of persons with

dependent children. As household and care-giving responsibilities are considered primarily the domain of women, they are also a main reason for many women (24.5 percent) not engaging in employment (Figure 32Figure). This, in turn, suppresses the mention of other reasons as the main reason for women, compared to men. Being a pensioner, retired or in old age is concentrated in the ages above 60.

It should be noted that restrictions due to the COVID-19 situation was the third-most commonly mentioned main reason for not participating on the labour market: overall for 13.8 percent of persons out of the labour market, and for men and women, respectively 16.3 percent and 11.8 percent. It was also a particularly important reason for the adult age group 25-39 (20.8 percent), who seem to have been most affected by the COVID-19 situation in terms of employment.

Figure 32 Persons outside the labour market, by gender, and by main reason for not looking for work (in percentages)
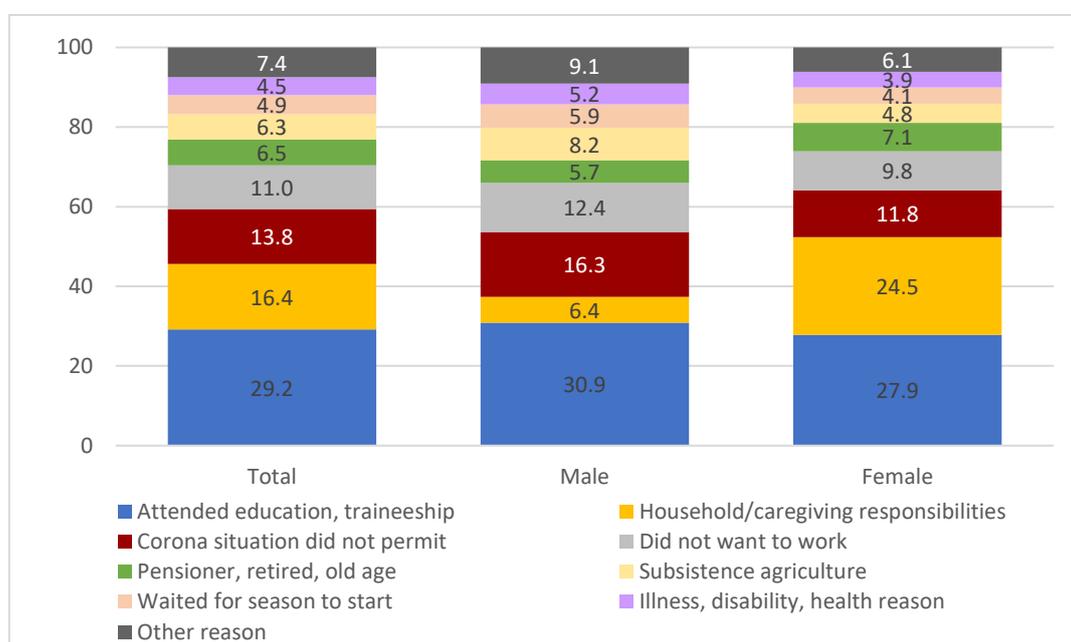
5.1.5. Domestic work

The SEIA-2 included questions about the impact of the COVID-19 situation on the time spent on four household chores: childcare or caring for sick family members, water collection, shopping for finding food, and cooking and cleaning the home. Figure 33 shows that the pattern of change for all four household chores is very similar. For all four, close to three quarters of households did not experience a change in time spent on the chore. For around 22 percent of households, an increase of the time spent was mentioned, except for shopping for food where the increase was slightly larger. Less time spent on household chores was mentioned for very few households.

Figure 33 Households, by change in time spent on selected household chores due to COVID-19 (in percentages)
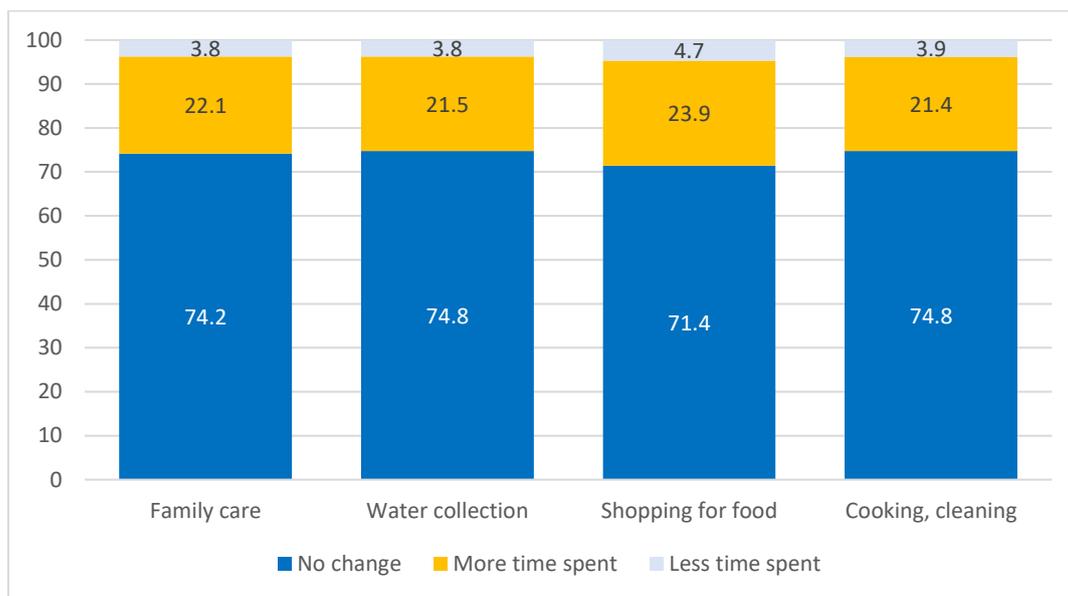
Figure 34 and Figure indicate the demographic profile of persons who were most affected by the change in time spent on domestic chores due to the COVID-19 SoE. Against the background of prevailing gender roles in Timor-Leste, it does not come as a surprise that the majority of persons who were most affected by a change in time spent on domestic chores were women. This applies to the situation in which more time was spent, as well as to the – considerably less occurring – situation in which less time was spent. Water collection and, particularly, cooking and cleaning were the domestic chores for which women were disproportionally often mentioned as the most affected household member spending more time. Also, when cooking and cleaning for the household required less time, in most situations it implied that it was women whose tasks were reduced.

Figure 34 Proportion of men and women reporting more time spent on selected household chores, by household chore, and by gender (in percentages)
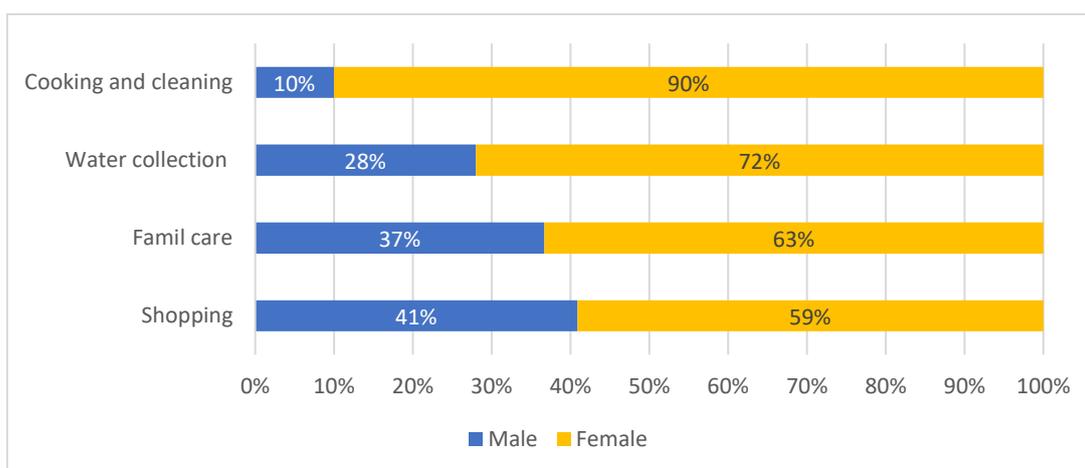

Figure 35 shows that the persons who were most affected by an increase in time spent on domestic chores due to the COVID-19 SoE were adult household members in the age groups 25-39 and 40-64. Compared to the age distribution in the total population (presented by vertical bars), these persons were at least twice as often mentioned as the household member most affected for most

domestic chores. On the other hand, children were relatively rarely mentioned as the household member who was most affected by an additional time burden for domestic chores. Youth aged 15-24 and older persons aged 65 or over were mentioned as the household members most affected by spending more time more proportionally to the population age distribution.

Figure 35 Population and persons reported as most affected household member by an increase in time spent on selected household chores, by household chore, and by broad age group (in percentages)
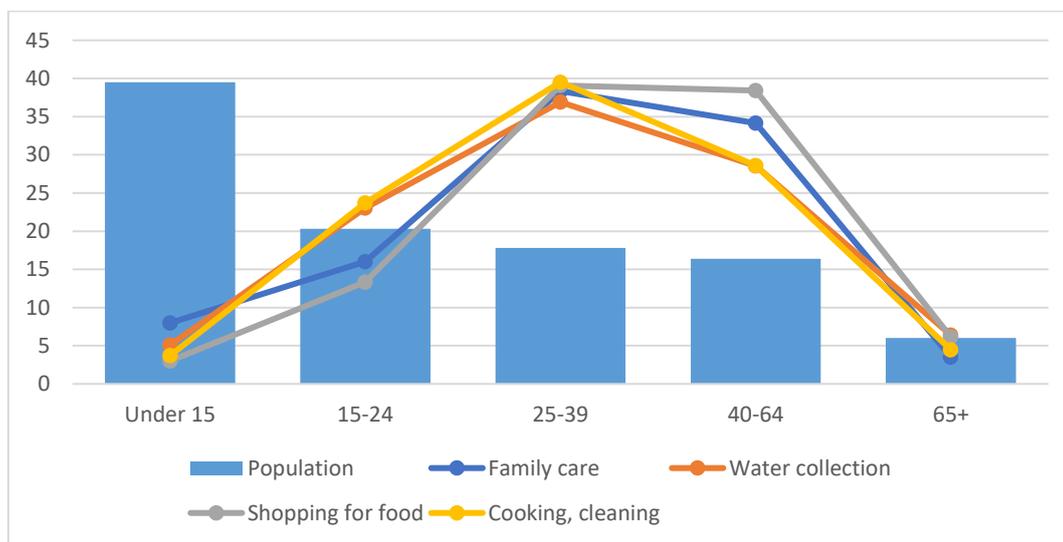
5.2. Impact on livelihoods

In this section, the effects of the COVID-19 pandemic and related government measures on the livelihoods of individuals and households will be examined. In doing so, the sources of income at the household level, changes in household expenditures due to the COVID-19 pandemic, the effects of the impact of the Easter flood, food insecurity and livelihood coping strategies employed by households and major difficulties faced by households are presented.

5.2.1. Household income sources

The period since the onset of COVID-19 has been difficult for many people. Besides the direct effect of the pandemic, the social and economic measures to limit the spread of the virus had serious consequences on people's livelihood. The figures from the SEIA-1 showed that during the months following the start of the COVID-19 pandemic, drastic changes took place in people's levels of incomes.

In the SEIA-2, survey information on household income was asked for March 2021, i.e., just before the Easter flood, and for March 2020, just before the COVID-19 measures were taken. Figure depicts the households' various sources of income. In March 2021, 35.2 percent of households did not have any income at all from work or sale of agricultural or other products. While income from work was the most important source of income for households in March 2021, the second most important was old-age pension. Almost 20 percent of households had at least one member who received a pension (19.6 percent). Other important sources were payments through Bolsa de Mãe (11.2 percent) and Cesta Básica (10.2 percent). For none of the sources of income is there a big difference between

March 2020 and 2021, indicating that the effect of the pandemic on household income source(s) remains generally the same.

Figure 36 Percentage of households by source of household income in March 2021 and March 2020*
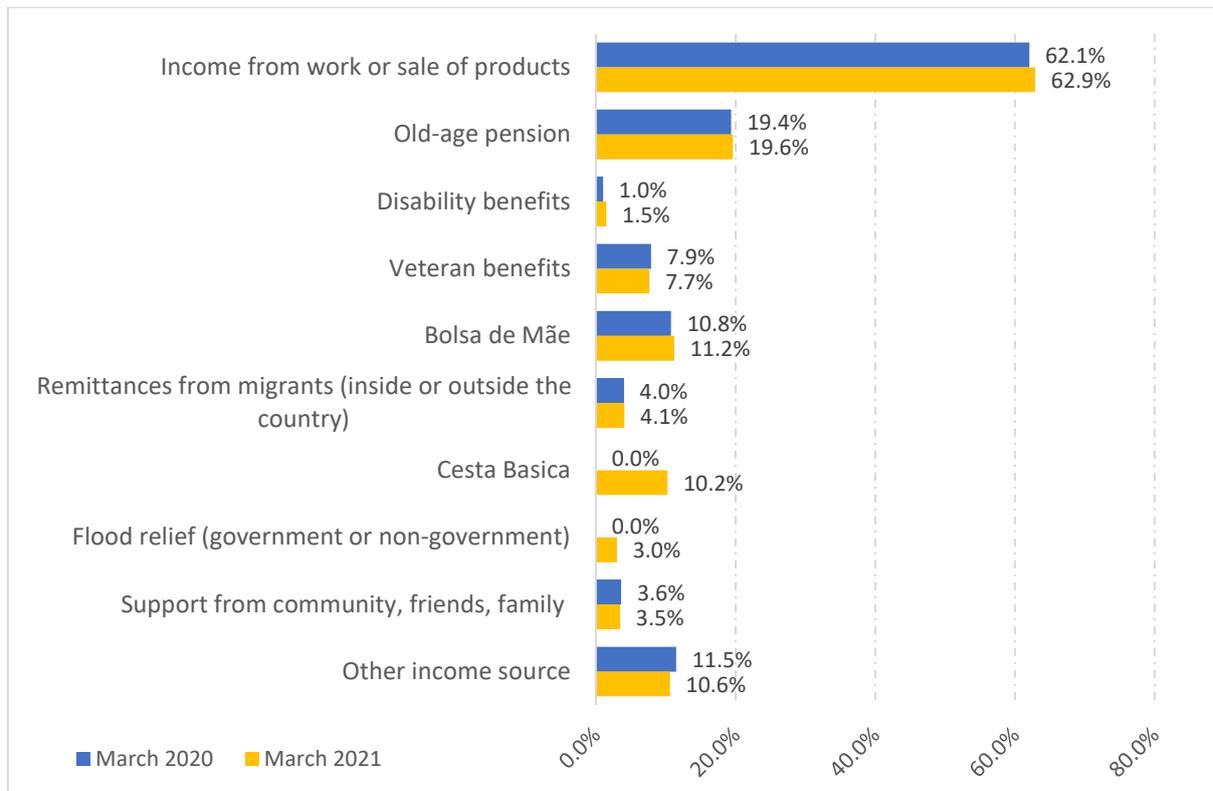
*Bolsa de Mãe is a GoTL social protection programme targeting poor and vulnerable households with children.

In the first SEIA-1, a question was asked whether persons ten years of age and older had any form of income during the week before the interview and in March 2020 before COVID-19. This survey was not nationally representative but still provides an indication of the pandemic's impact and its accompanying protective measures on household income during the first months of the pandemic. The SEIA-1 indicated that only 41 percent of persons who had an income in March 2020 before the COVID-19 were left with an income during the week before the survey (June – July 2020). Adding the number of persons with an income in the household in the SEIA-1 showed that before COVID-19, 19.3 percent of households did not have any form of formal income. At the time of the interviews in June – July 2020, this percentage had increased to more than half of all households (56.6 percent).

The results from the SEIA-1 and SEIA-2 cannot be compared directly as questions were asked differently and sampling methods also differed. Nevertheless, both results suggest that the dramatic decrease in the sources of income during the first few months of the pandemic has stopped. For instance, according to the SEIA-1, 52 persons received an old-age pension before the COVID-19 SoE and only 1 had received his/her pension before the interview. The sale of crop products and other farm products, small trading, payment of salaries, remittances and benefits - almost all came to a standstill. The results from the current survey suggest that the sources of household income have been restored since then. This does not mean that the level of income has recovered since the

beginning of the pandemic or that households do not feel the economic effects of the measures to curtail the spread of the disease.

Interviews conducted with farmers and fishers in rural areas revealed their concern about household income and the impact of movement restrictions on their livelihood as follows:

> *I feel sad and afraid. How do we get livelihoods for our kids? When we want to sell vegetables, we cannot. When the roads to Dili and Baucau are closed, we feel very sad. Also, there is no transport for us ordinary citizens. -Single mother with a disabled child*

> *I feel sad because I am not free to travel to other municipalities. The restrictions have been making me feel sad. Also going to the market has been hard these days. Now with the sanitary fence I cannot go to Dili to sell fish. COVID-19 has had a big impact on my livelihood. -Male fisherman*

> *I am afraid to get tested positive, because if I go to quarantine who will take care of my animals? - Elderly woman*

Besides movement restrictions, people in interviews said that demand for fish, vegetables, and other local products had dropped and prices were down, greatly affecting informal workers:

> *People that use to sell stuff in markets used to get $20 or $30. However nowadays only $1 or $2. - Female chief of suco*

> *Now to sell our produce is hard and the prices have reduced up to 50%. Sometimes our income is not enough to fulfil our needs. -Male farmer*

> *Before COVID my income was ok. But after COVID my income dropped drastically because people do not buy my produce. There are more people selling vegetables than buying. -Single mother with a disabled child.*

Household income by household types and vulnerability categories

Information on the various sources of household income were disaggregated according to different vulnerability indicators to allow identifying potential inequalities in household income sources.

Table 6 and Table 7 show statistically significant differences in different sources of income.

With regards to income from work or sale of products (the most common source of income reported by the households), **most vulnerable**, households with members with disabilities, households with one or more older persons, female headed households and households in Dili and most vulnerable households had significantly lower proportion having income from work or sale.

Old-age pension reaches 65.7 percent of households with older persons as opposed to 5.8 percent of those with no older persons in the household. In addition, it reaches more households with persons with disabilities (5.7 percent versus 0.9 percent with no members with disabilities) more female headed households (30.6 percent versus 17.6 percent), more vulnerable households (53.9 percent versus 6.8 percent of least vulnerable) and poor households (28.3 percent in the lowest wealth quintile against 8.2 percent in the wealthiest quintile).

Disability benefits does not seem to reach households with PWDs – only 4.0 percent of households with members with disabilities reported receiving disability benefits. As reported in the MoF, GDS and UN Women report, old age and disability programmes covered only 14 percent of people

registered by the government and respectively covered 87,001 and 8,298 individuals in 2016 or by latest available data (Ministry of Finance, GDS, and UN WOMEN 2018).

According to official data, the **Bolsa de Mãe** programme covered 183,165 households with vulnerable parents and children but did not provide sufficient resources to reduce vulnerability to poverty (Ministry of Finance, GDS, and UN WOMEN 2018). SEIA-2 found that only 12.5 percent of household with highest child dependency ratio (versus 2.6 percent of household with no child dependents) and 11.4 percent of poorest households (versus 4.2 percent of wealthiest quintile) had an income from *Bolsa de Mãe* as of March 2021.

Of other social protection programmes, veteran payments overwhelmingly reach older men, who make up one percent of the population (World Bank n.d.). This was also identified in the SEIA-2 as shown in the tables below. Remittances was a household income source for only 4 percent of all households. Of these, more households with members with disabilities, most vulnerable households and households belonging to the wealthiest quintile reported it as a form of income.

Table 6 Households' sources of income by households' child dependency ratio, households with people with disabilities and households with older persons*

	No dependency	Low dependency	Highest dependency	No disability	With disability	No older persons	With older persons
Income from work or sale of products	**30.3%**	**59.8%**	**63.7%**	62.4%	55.7%	**66.5%**	**54.3%**
Old-age pension	**77.6%**	**11.2%**	**22.3%**	**19.7%**	**45.4%**	**1.6%**	**56.4%**
Disability benefits	0.0%	1.3%	0.7%	**0.8%**	**4.0%**	0.9%	1.2%
Bolsa de Mãe	**2.6%**	**9.4%**	**12.5%**	8.0%	9.9%	**6.0%**	**11.9%**
Veteran benefits	**12.2%**	**8.3%**	**5.6%**	11.6%	12.8%	**13.7%**	**8.2%**
Remittances	2.6%	4.8%	2.7%	**3.6%**	**6.2%**	3.1%	5.0%
Cesta Basica	**26.9%**	**13.8%**	**19.2%**	18.6%	24.6%	17.6%	21.4%
Flood relief	0.0%	20.9%	15.5%	2.8%	1.5%	**3.5%**	**1.2%**
Support from others	5.2%	4.1%	3.7%	3.3%	4.4%	3.1%	3.9%
Other source	**2.6%**	**14.3%**	**12.3%**	10.7%	8.8%	**13.6%**	**5.2%**

*Percentages in bold are statistically significant. The columns do not add up to 100 percent as households can select several sources of income.

Table 7 Households' sources of income by households' headship, wealth quintiles, and social vulnerability

	Male headed	Female headed	Least vulnerable	More vulnerable	Most vulnerable	Poorest quintile	Richest quintile
Income from work or sale of products	**63.7%**	**51.8%**	**66.2%**	**65.4%**	**47.6%**	63.1%	65.5%
Old-age pension	**17.6%**	**30.6%**	**6.8%**	**14.5%**	**53.9%**	**28.3%**	**8.2%**
Disability benefits	0.9%	2.2%	0.9%	1.0%	1.3%	1.3%	1.1%
Bolsa de Mãe	10.7%	11.3%	**10.4%**	**13.9%**	**6.2%**	**11.4%**	**4.2%**
Veteran benefits	8.1%	6.6%	8.0%	7.1%	9.1%	**4.2%**	**9.5%**
Remittances	3.5%	7.2%	**3.6%**	**3.1%**	**6.5%**	**0.9%**	**7.4%**
Cesta Basica	15.7%	16.6%	**13.1%**	**15.5%**	**22.3%**	15.9%	15.6%

	Male headed	Female headed	Least vulnerable	More vulnerable	Most vulnerable	Poorest quintile	Richest quintile
Flood relief	3.3%	1.3%	**4.0%**	**2.8%**	**1.5%**	**0.6%**	**6.0%**
Support from others	3.6%	3.9%	3.6%	3.0%	4.9%	2.0%	4.0%
Other source	**12.1%**	**7.7%**	**12.4%**	**13.0%**	**7.0%**	**6.8%**	**13.9%**

*Percentages in bold are statistically significant. The columns do not add up to 100 percent as households could select more than one sources of income.

As a general conclusion on support to households from overall government social protection programmes one can state that although vulnerable households benefit more than less vulnerable households (except for veterans' benefits), the coverage is low and needs to be expanded for those households that deserve to participate in these programmes.

Household savings

In the SEIA-2, households were asked whether they had any savings. Figure 37 depicts the percentage of households by wealth quintile that reported having savings. About 31.8 percent of all households reported having some savings. Households belonging to the lowest quintile had the lowest percentage of savings (16.1 percent), while households belonging to the highest quintile had the highest percentage (46.6 percent). No information was asked about the amount of savings the household had. Only small differences were observed between households that were more or least vulnerable: 33.5 percent of least vulnerable households reported to have savings, against 30.1 percent of more vulnerable households and 28.9 percent of most vulnerable households.

The question on savings was also asked in the SEIA-1. It is interesting to note that among the households in this (non-representative) survey, the percentage of households that reported having savings was higher than in the current survey. In 2020, 40.3 percent of all households indicated they had savings. Although a full statistical comparison cannot be made because the SEIA-1 was not a nationally representative survey, the figures suggest that many households may have used their savings in the last 12 months to cope with the consequences of the COVID-19 pandemic.

Figure 37 Percentage of households that reported having savings at the time of the SEIA-2 survey, by wealth quintile
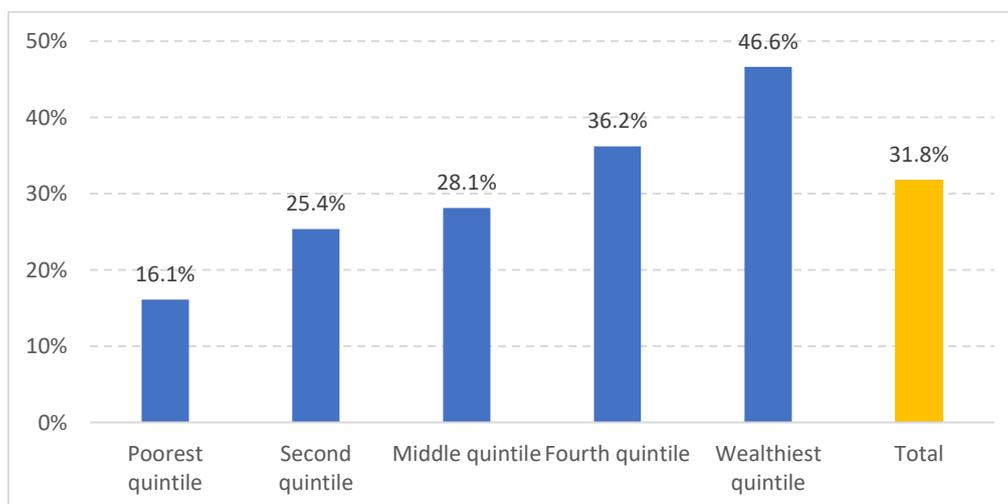
5.2.2. Expenditures

A pandemic may have a direct effect on people's consumption behaviour, as it can affect income and the cost of consumption items and their subsequent purchasing. For instance, medical costs can change due to purchasing of PPE, or educational costs may be different due to home schooling. Moreover, the lockdown and the sanitary fences that were installed between certain areas may have had a negative effect on the production and transport of goods. This could affect availability, prices and affordability of certain goods.

In the SEIA-2, respondents were asked whether household expenditures had increased or decreased due to the 'corona situation', or whether expenditures had remained the same. Interviewers were instructed to stress that the question was related to the COVID pandemic and that it was not about changes in expenditure due to the Easter flood. However, one can assume that in practice both causes would have been hard to discern for respondents.

Changes in price levels, the need for other products to protect oneself against the virus, the reduction in income and disturbances in production and transport may all have been factors which influence the pattern of individual and household consumption. Figure 38 shows that 41.1 percent of households reported that their expenditures decreased because of the COVID-19 pandemic, for 26.8 percent expenditures had increased and for 30.6 percent they had remained the same. The decrease in expenditures is significantly higher among households belonging to the lower wealth quintiles, compared to those belonging to the higher wealth quintiles. More than 45 percent of households in the poorest and second poorest wealth quintiles saw their expenditures decline, against some 35 percent among households in the two highest wealth quintiles. The reverse trend can be observed for the increase in expenditures with the highest percentage for the richest quintile.

The effect of the pandemic on household expenditures is different between urban and rural areas (Figure 39). In rural areas, the percentage of households that saw their expenditures go down (44.9 percent) is twice as high as the percentage of households that saw their expenditures go up (22.4 percent). On the other hand, in urban areas the number of households for which expenditures increased (35.9 percent) is higher than for those for which expenditures decreased (33.3 percent). A possible explanation for this pattern may be that in rural areas - as products become less available or increase in price - households no longer buy them and increasingly start living off the land, which also reduces demand for local products, as evidenced by qualitative interviews (see above). In urban areas, however, people are forced to buy their basic necessities on the market, even if prices increase. The difference in expenditure patterns between municipalities was also considered. However, the pattern was quite erratic, and no clear conclusions could be drawn.

In IDIs, one set of costs was consistently said to have increased – those related to public transportation. Some said this was due to higher gas prices. A pregnant farmer offered another explanation: 'Last year when going on public transport, we had to pay for two seats due to physical distancing. Now it is not needed anymore, but the tickets are still more expensive than before the pandemic.'

Figure 38 Changes in expenditures encountered by households, by wealth quintiles
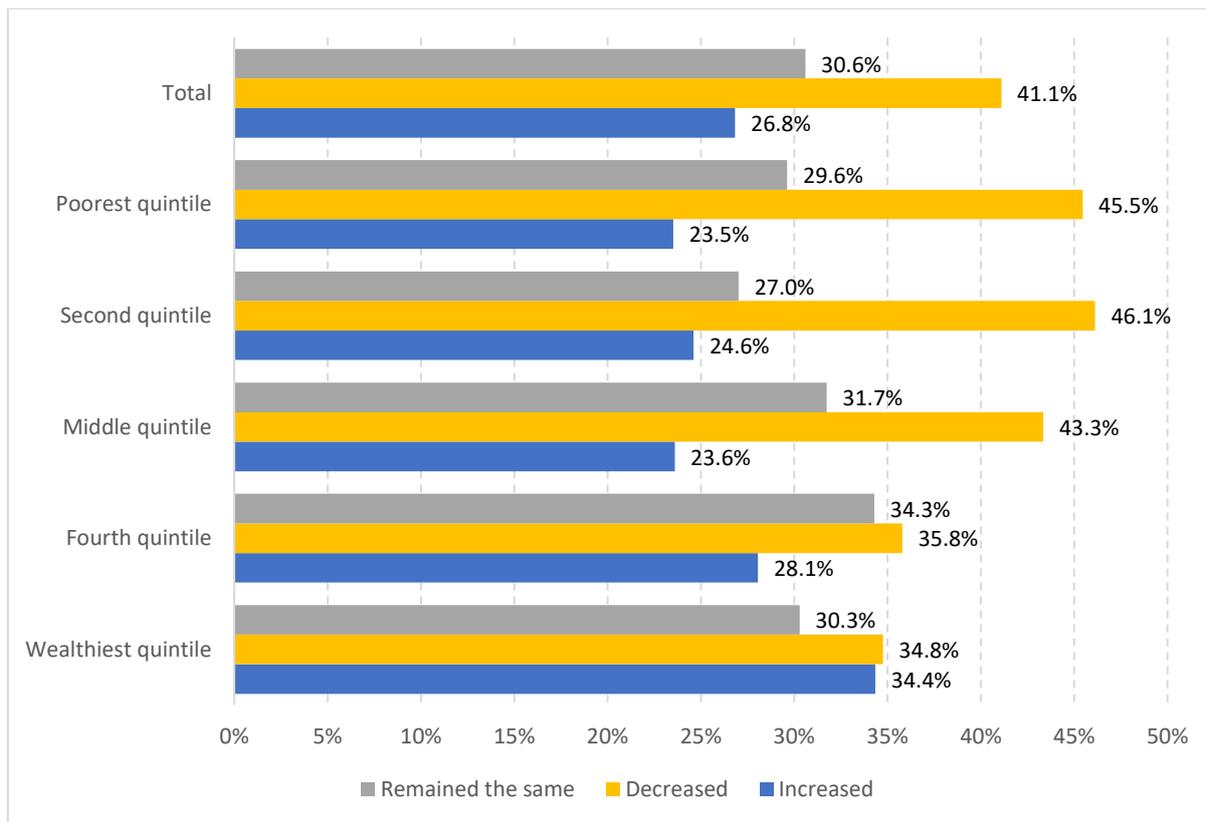
Figure 39 Changes in expenditures encountered by households, by urban/rural place of residence
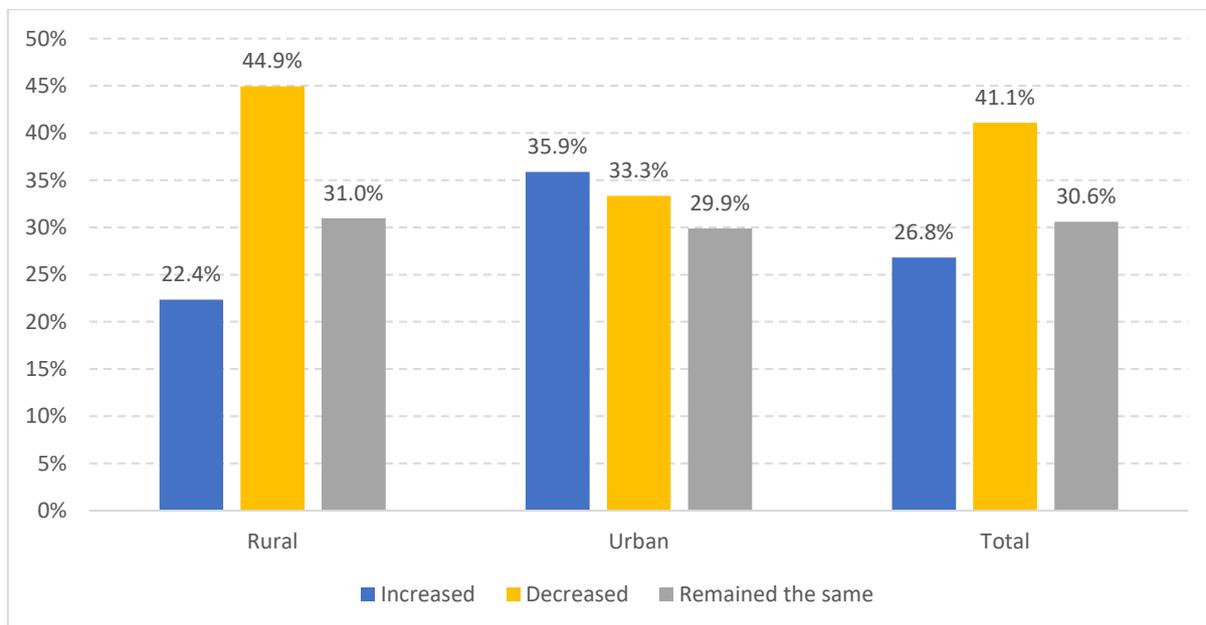
5.2.3. Easter Floods

In addition to the economic hardship caused by the pandemic, over the Easter weekend in the beginning of April 2021, the country suffered devastating floods and landslides affecting all 13 municipalities of the country. The capital of Dili took a particularly heavy hit. The combination of the pandemic and the Easter flood created a perilous situation that posed a direct threat to people's health and livelihood. Any assessment of the effect of COVID-19 on people's livelihood in Timor-

Leste would be incomplete without incorporating the effects of the Easter flood. For this reason, a question was asked in the SEIA-2 whether the person's income had changed because of the Easter flood and whether this change had been positive or negative, been large or moderate or whether the person had completely lost his/her source of income. The categories with positive changes were incorporated because, after a disaster, people who possess skills or sell products that are essential for reconstruction or relief may have increased.

Figure 40 shows that almost two out of three persons (62.8 percent) reported that their income had been affected by the Easter flood[35]. Very little difference exists between the way women and men were affected. The graph also shows that the flood impacted the income of people from all walks of life. Although some small differences exist between the different wealth quintiles, none of these differences were found to be statistically significant. A test was done on whether reported income changes were different between the three household vulnerability groups, but, again, no differences were observed according to the vulnerability status of the household.

Figure 40 Percentage of employed persons whose income changed due to the Easter flood, by wealth quintile and by sex
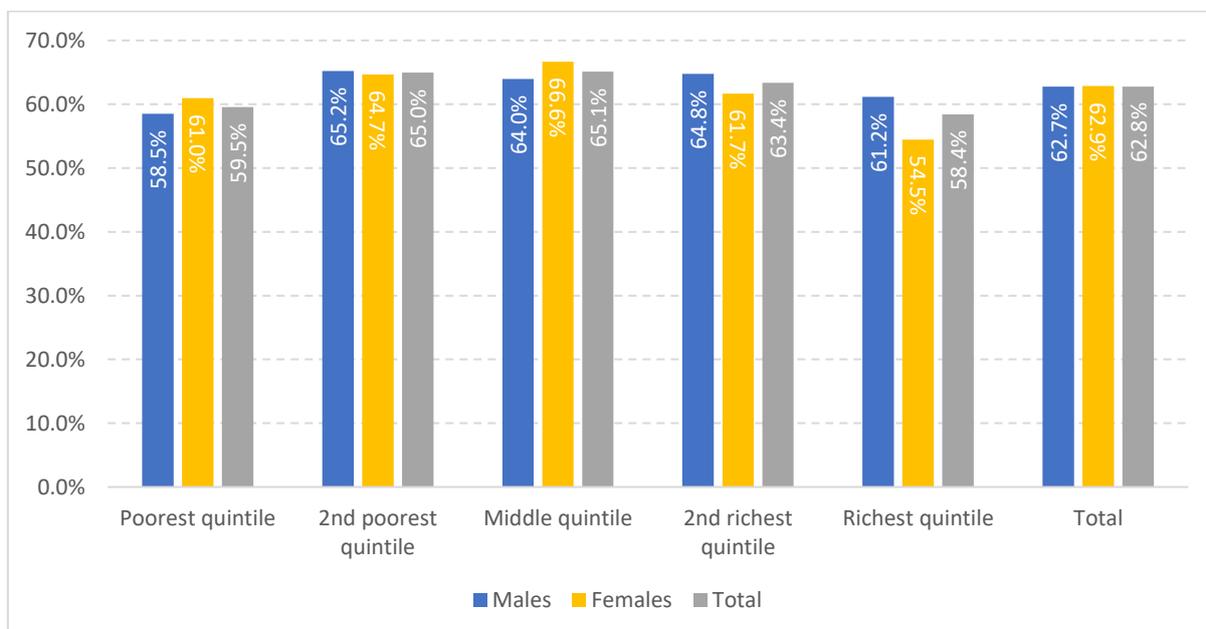
However, large differences were observed between the different municipalities in terms of changes in income. Figure 41 shows the percentage of persons indicating their level of income had changed because of the flood. In the graph, the following color scheme was used. If the percentage of persons living in a particular municipality that had a change of income was significantly higher than the national percentage, the bar was colored orange, and if the percentage was significantly lower than the overall percentage, it was colored green. The grey-colored bar indicates the national percentage, and the blue-colored bars indicate the municipality did not differ from the overall national percentage.

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[35] Whereas in Household and Building Damage Assessment (HBDA) conducted targeting households damaged by Easter Flood found 90 percent of the household surveyed reported decline in income (UNDP, GDS and UNTL 2021).

The results showed that, in two municipalities (Manufahi and Ermera), the percentage of persons whose income was affected was significantly higher than the observed national percentage. Aileu also scored very high, but its result was not statistically significant. In Ermera, some 80.1 percent of all persons who had an income indicated that their income had changed because of the flood. Oecusse seems to be the municipality in which income was least affected by the flood; 31.4 percent of persons with an income in Oecusse saw a change in the level of income (however, the proportion of agricultural households impacted by the Easter Flood was one of the highest). The other three municipalities that saw significant lower effects on income compared to the national average are Viqueque (50.9 percent), Covalima (51.4 percent) and Ainaro (52.9 percent). It is difficult to disentangle the effects of the Easter flood and the COVID-19 pandemic on income level, but the percentages presented clearly show that the effect of the flood within the vulnerable context of the pandemic caused tremendous effects on the livelihoods of individuals and households.

Figure 41 Percentage of working persons whose income changed due to the Easter flood, by municipality
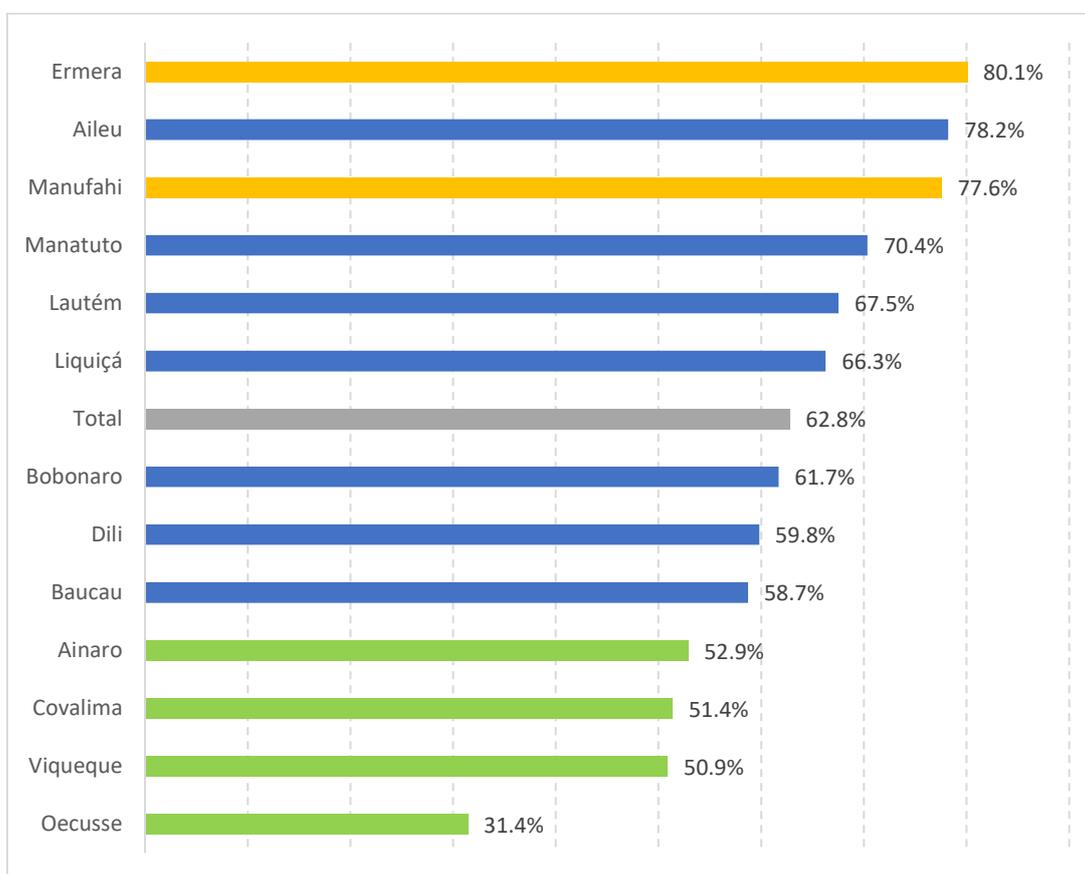
Persons whose income had changed were also asked the degree and direction of change. In total, 18.1 percent of persons whose income changed experienced an increase of income: 13.0 percent saw a moderate increase and 5.1 percent saw a large increase (Figure 42). On the other hand, 44.6 percent witnessed a moderate decrease in the level of their income, 23.0 percent saw a large decrease in their income, and 3.9 percent lost all income. If the number of persons whose income decreased is related to the entire working population and not only to those who saw their income change, then the percentage of those whose income decreased in a moderate or drastic way or who lost all income becomes 48.2 percent, which is still almost half of the working population. For those whose income

decreased in a more drastic way or who completely lost their income, the percentage becomes 18.1 percent.

Figure 42 Percentage of employed persons whose income changed due to the Easter flood, by degree and direction of change, by wealth quintile
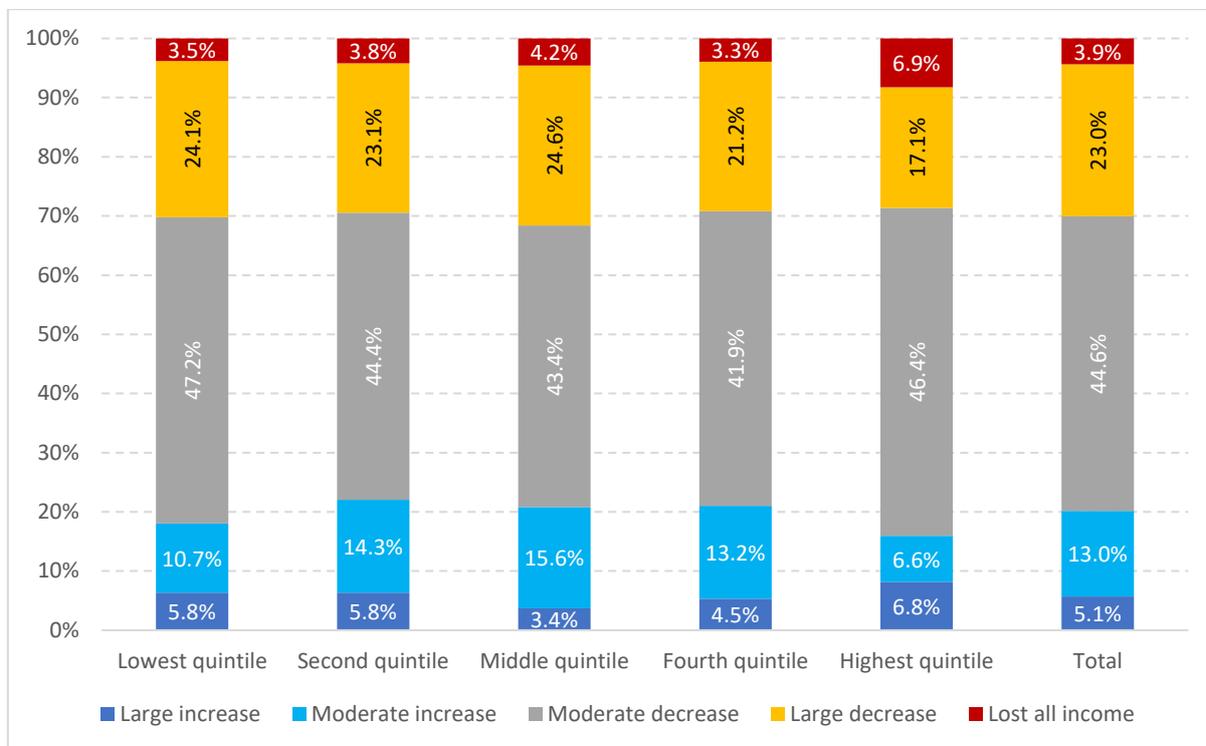

The figures above clearly show the dramatic effect the Easter flood had on livelihoods in Timor-Leste. For many households, the reduction in income caused by the Easter flood did not operate independently from the reduction in income caused by the COVID-19. A cross-tabulation (not shown) between the question on income changes due to the flood and the question on income changes due to COVID-19 showed that 79.5 percent indicated that their income had changed due to the flood *and* the pandemic. This again underlines the dramatic effect the two-pronged disaster of COVID-19 and flooding had on livelihoods.

According to the SEIA-2 survey, 20.3 percent of all households indicated that their house had been damaged or destroyed by the flood. About 10.5 percent of all households with an employed or a contributing family worker lost productive assets (such as boat and engine, hand tractor, water tank, computer, tais equipment, or means of transport for business, such as a car, bus, or motorbike) due to the flood. Farmers in particular paid a heavy price. Figure 43 shows the type of damage suffered by agricultural households because of the flood. From the total of 2376 agricultural households across 13 municipalities: 58.8 percent of all agricultural households had standing crop or harvests destroyed and 9.2 percent lost livestock. Another 21.1 percent of households were affected by crop diseases or pests. A drastic impact was suffered by the 4.5 percent of agricultural households that will have to deal with the long-term effect of land degradation or destruction because of the flood.

There was a second question asked about other impacts, apart from the Easter flood. It proved that there is a high correlation between the answers to both questions.

Figure 43 Percentage of agricultural households that suffered damage by the Easter flood, by type of damage
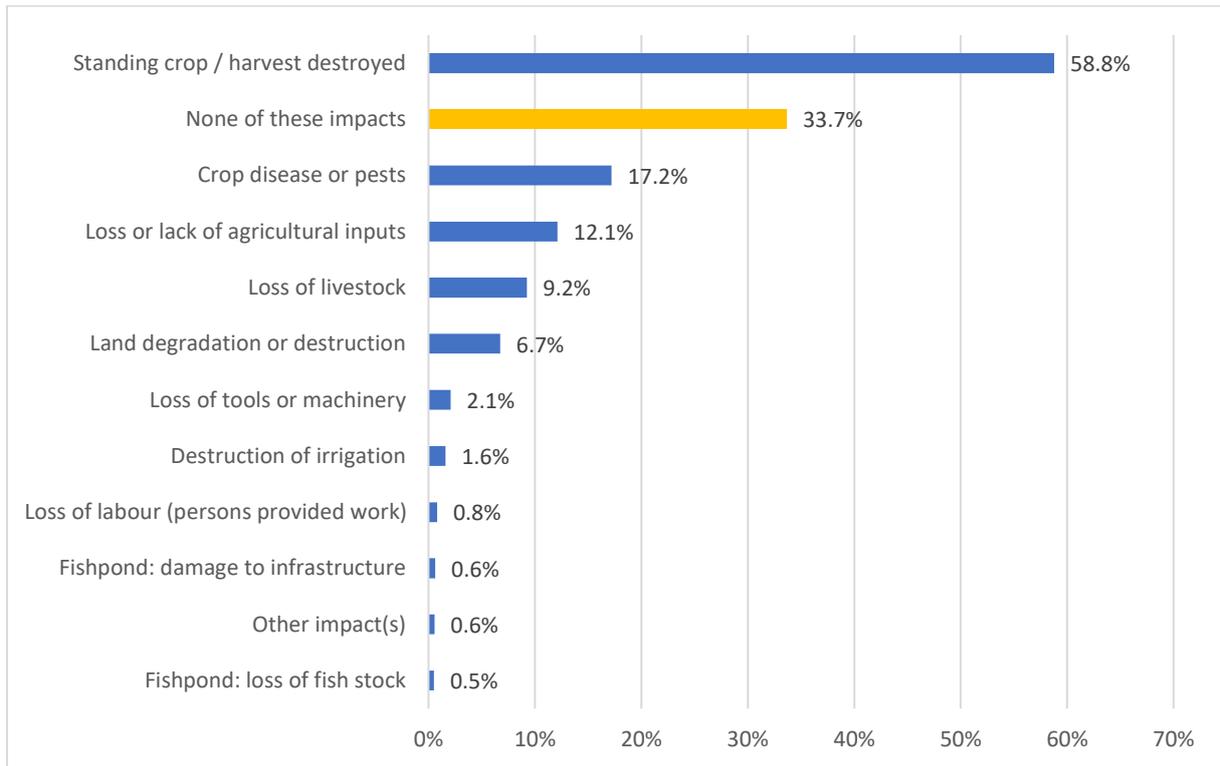
According to the HBDA report on the flood affected households' damage, among those who reported loss in livestock, most common loss of livestock was poultry followed by goat and pig.

Figure 44 Proportion of agricultural households whose standing crop and harvest destroyed due to Easter Flood, by municipality
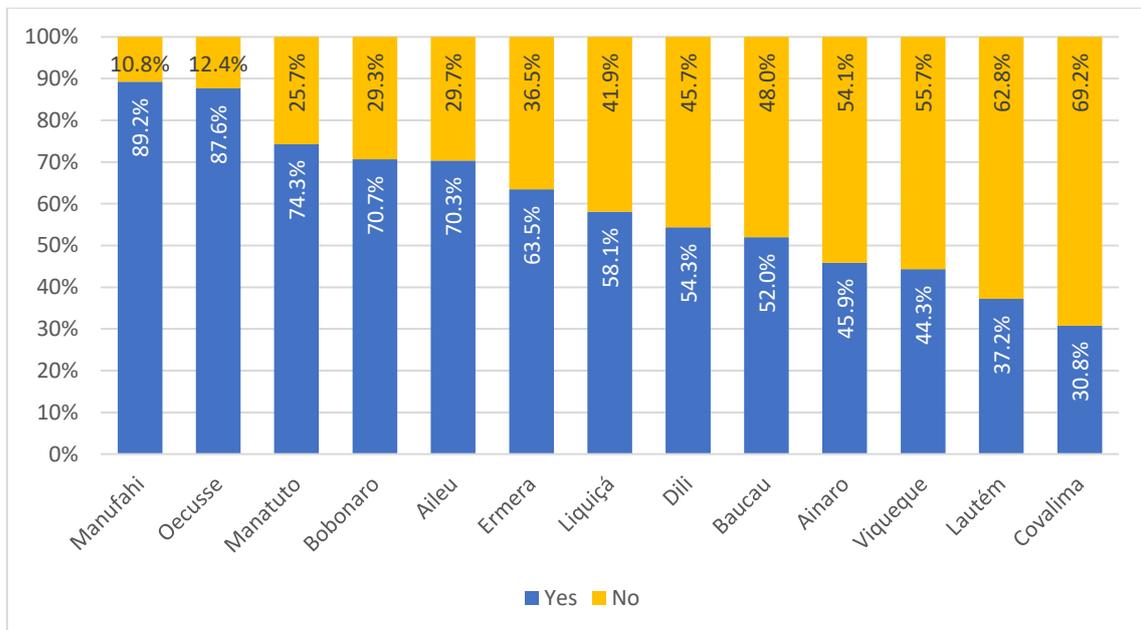
5.2.4. Food insecurity

Timor-Leste's development challenges include high rates of malnutrition and food insecurity. Prior to the COVID-19 crisis, rates of undernutrition in children under 5 years and women of reproductive age were higher than acceptable in both urban and rural areas, in all municipalities, and among both boys and girls. As cited in the SEIA-1 report (UN Timor-Leste 2020), in terms of food insecurity, the results of the integrated food security phase classification, conducted for the first time in 2018, indicated that 36 percent of the population was moderately to severely food insecure.

This section presents the estimated prevalence of food insecurity based on the Food Insecurity Experience Scale (FIES) data collected with a 30-day reference period preceding the survey. The FIES[36] is an experience-based metric of severity of food insecurity that relies on people's direct responses to eight questions regarding their access to adequate food. Respondents are asked to report on the occurrence of conditions and experiences that are typical of a household or an individual facing 'food insecurity'. Each FIES question refers to a different experience and is linked to a different level of severity of food insecurity (Figure 45).

Figure 45 Food insecurity along a continuum of severity

Comparing the survey results with the global standard, except for ATELESS item, the alignment of the scale estimated in Timor-Leste with the FIES global standard is very good. The severity levels associated with the remaining six items were found to be well aligned with the corresponding levels on the global reference scale[37].

Results show that 41.4 percent of the population in Timor-Leste was affected by moderate or severe food insecurity during the 30 days preceding the survey. This corresponds to individuals living in households where at least one household member has likely been forced at times during the last month to reduce the quality of their diet, due of lack of money or other resources. The figure includes the 19.3 percent of the population estimated to be affected by severe food insecurity, which represents that household members have almost surely reduced the quantity of food consumed (Figure 46).

Although there was no statistically significant difference, slightly more female headed households were classified as affected by moderate or severe food insecurity. In terms of social vulnerability of

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[36] The analysis of FIES data using the methods developed by FAO produces internationally comparable estimates of the proportion of the population facing food insecurity at different levels of severity.

[37] See Annex 4 for more detailed note on methodology. Also, note it was decided adaptation of the 'Skip meal' question in Tetum and culture could cause confusion, and therefore it was preferred to exclude the question from the analysis.

households, there was also no statistically significant difference. In contrast to common belief the agricultural households would be less affected by food insecurity because they have their own produce to grow and consume is not support through SEIA-2 finding. Agricultural households were more affected by moderate and severe food insecurity (statistically significant) (Table 8).

Figure 46 Prevalence of moderate or severe and severe food insecurity, by municipality (in percentage)
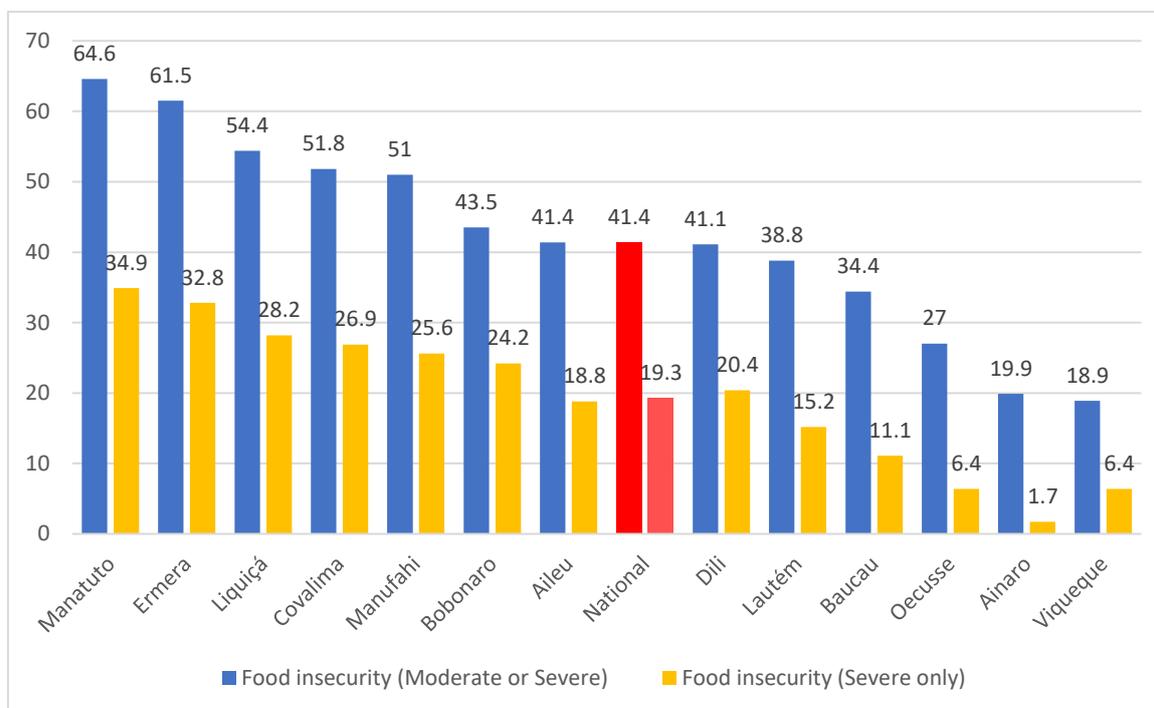
Table 8 Prevalence of moderate or severe and severe food insecurity, by male- and female-headed households (in percentage)

	Food insecurity (Moderate or Severe)	Food insecurity (Severe only)
Male headed households	41.05	18.78
Female headed households	42.02	19.71
Most vulnerable	41.01	19.26
More vulnerable	41.36	19.74
Less vulnerable	41.71	19.78
Agricultural households*	45.88	21.43
Non-agricultural households*	35.60	17.20

Conversely, there was a significant difference based on household wealth. The prevalence of food insecurity was directly related to the wealth of households, that is, the lowest wealth quintile had the highest food insecurity, and the highest wealth quintile had the lowest food insecurity.

Figure 47 Prevalence of moderate or severe and severe food insecurity, by wealth quintile (in percentage)
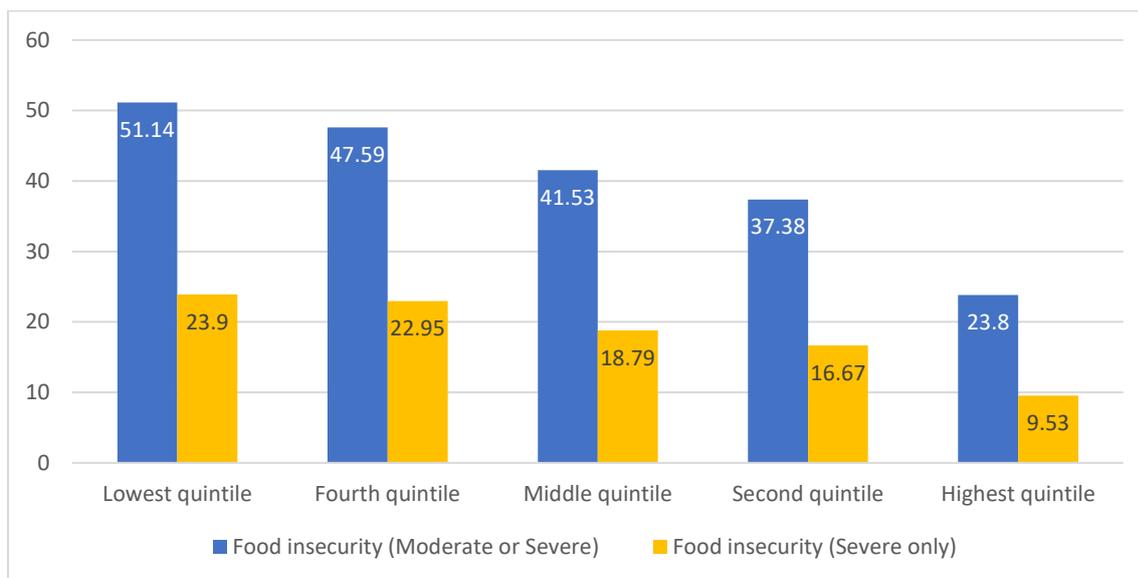
This higher proportion of moderate and severe food insecurity could be due to several compounded factors including COVID-19 restrictions, increased food prices and significant damage and loss caused by Easter Floods on farmlands, especially in Manatuto. The agriculture sector is not productive nor diversified enough to cope with climate and economic shocks (KONSSANTIL, FAO and EU 2019) although it represents the main livelihood of nearly 70 percent of the Timorese (GDS and MAF 2019) and is a foundation of household and national food security (Suara Timor-Lorosaé 2021).

As the results suggest, the impact of the measures to contain the COVID-19 pandemic (especially those restricting people and goods' transport) have amplified these pre-existing conditions. Agricultural and fisheries supply chains have been interrupted. In IDIs and KIIs, farmers, fishers, and MAF representatives related that they could not obtain seeds, nets, hooks, animal feed, fertilizers, and pesticides from their usual sources in Dili or West Timor because of travel restrictions. As a result, they used lower quality or less effective products. For example, in 2021, to control an outbreak of pests, appropriate modern insecticides were needed in addition to conventional pesticides, but they could not be obtained (Suara Timor-Lorosaé 2021). A male farmer explained: 'It has been very hard to get seeds and fertilizers. Our fertilizer is from Indonesia, and, with the international restrictions, we cannot get fertilizer from Indonesia. Now only illegal trade for the fertilizer at a high price for us farmers. Same for seeds. Before COVID-19, seeds usually cost $8, now with the pandemic it has increased to $12, causing a big impact to us.'

Elsewhere in this report (Chapter 5.2.5 and 6.4.1), it is reported that 37.9 percent of all the households and 96.0 percent of those who received help had received food support. When asked what support is needed to aid household livelihood, the majority of respondents mentioned food support as a priority. This shows the urgent need of reducing food insecurity within the country.

5.2.5. Livelihood coping strategies

Major difficulties faced by households

In addition to COVID-19 pandemic and the natural disaster like Easter Flood, people's socio-economic position can be affected by other difficulties and shocks. Some of these difficulties might occur in relation to the pandemic or could occur independently from the pandemic and hinder the conditions of households. Therefore, we asked whether the household had encountered any of a series of major difficulties during COVID-19. In total, 52.1 percent of all the households had faced at least one major difficulty in their lives during the SoE.

Figure 48 Major difficulties faced by households*
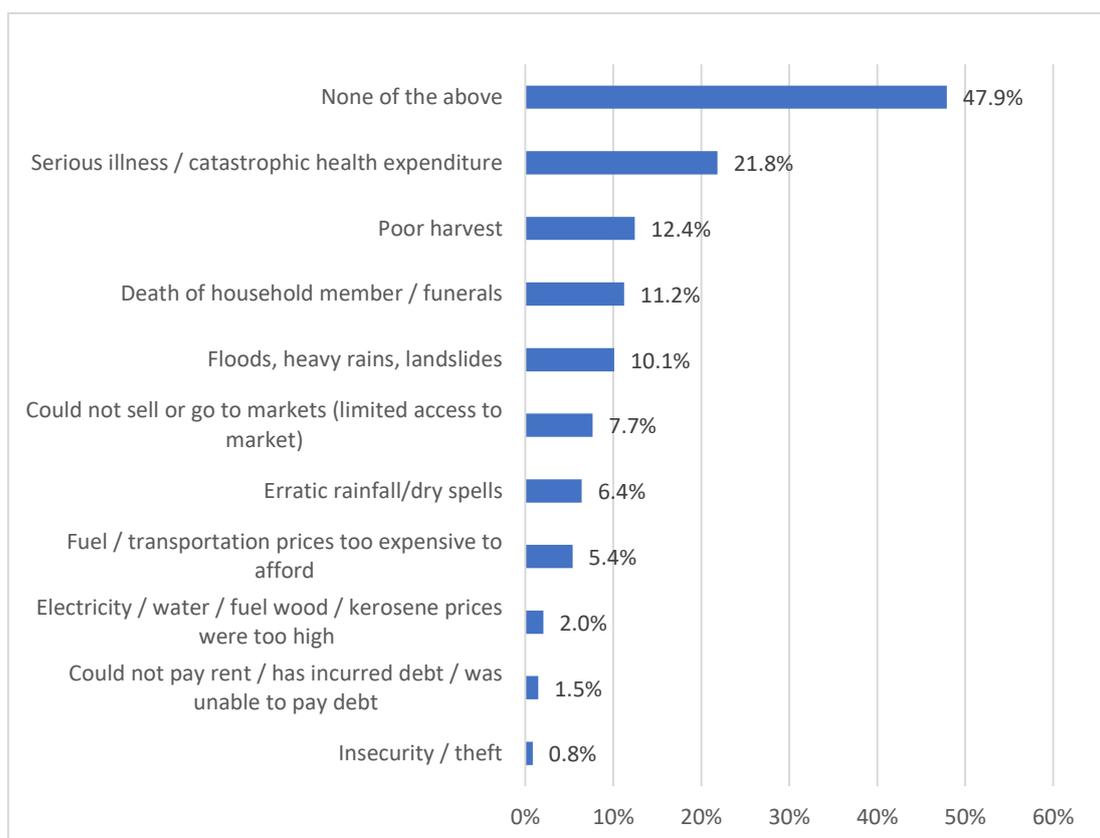
Total number does not add up to 100 percent as one household can report several difficulties.

Health expenditure and illness became the most mentioned difficulty for households nationwide, especially for the most vulnerable households. For the remaining types of difficulties, there was no significant difference based on social vulnerability. As

Table 9 shows, households in the poorest quintile experienced more difficulties including high health expenditure (24.6 percent versus 19.6 percent in the highest wealth quintile). Also, 59.9 percent of highest wealth quintile indicated they faced none of the indicated difficulties mentioned in the survey versus 40.7 percent of the lowest wealth quintile.

Table 9 Major difficulties faced by households by residence and wealth quintile

| Types of difficulties	Dili	Outside Dili	Lowest quintile	Highest quintile
Serious illness / catastrophic health expenditure	18.8%	23.1%	24.6%	19.5%
Death of household member / funerals	3.6%	14.4%	11.1%	6.8%
Fuel / transportation prices too expensive to afford	2.3%	6.6%	4.2%	5.6%
Could not pay rent / has incurred debt / was unable to pay debt	0.8%	1.7%	1.2%	1.6%
Electricity / water / fuel wood / kerosene prices were too high	3.7%	1.4%	0.8%	3.5%
Insecurity / theft	0.0%	1.2%	0.9%	0.1%
Poor harvest	2.8%	16.4%	21.5%	1.9%
Floods, heavy rains, landslides	17.3%	7.1%	8.4%	12.7%
Erratic rainfall/dry spells	1.6%	8.4%	7.9%	2.8%
Could not sell or go to markets (limited access to market)	2.6%	9.7%	9.1%	2.7%
None of the above	58.1%	43.7%	40.7%	59.9%

It is interesting to note that the SEIA-1 survey conducted just after the first lockdown (between March and June 2020), although not directly comparable, showed the top difficulty faced by households was access to markets (32.0 percent). Those indicating serious illness and catastrophic health expenditure comprised 10.5 percent of households, ranking it the sixth most mentioned difficulty, whereas in SEIA-2, we can see that serious illness and health expenditure became the most mentioned difficulty faced by households across Timor-Leste.

Coping mechanisms employed by the households

Due to the pandemic and the flooding, some households have been forced to adapt their lifestyle to lower incomes or food availability. In the SEIA-2, a set of questions were asked to find out what coping mechanisms households used Figure 49. These questions reveal different levels and severity of coping strategies ranging from *stress* (selling household assets, spending savings and selling more livestock) to *crisis* (borrowing money, selling productive assets, reducing education and health costs) to *emergency* (begging and selling house or land) used in the one month preceding the interview.

Selling more livestock was the most popular coping mechanism to deal with food shortages or lack of money. About 34.6 percent of households sold more livestock when they lacked money to buy food. Spending savings was another widespread mechanism to cope with hardship. Of all households who had savings, 32.9 percent used their savings to buy food. Other prevalent ways to deal with food or money shortages were borrowing money (24.9 percent) and reducing money spent on education and/or health care. About one in five households indicated that they had reduced their expenses on education or health to be able to buy food.

Figure 49 Coping mechanisms used by household because of a lack of food or a lack of money to buy food*
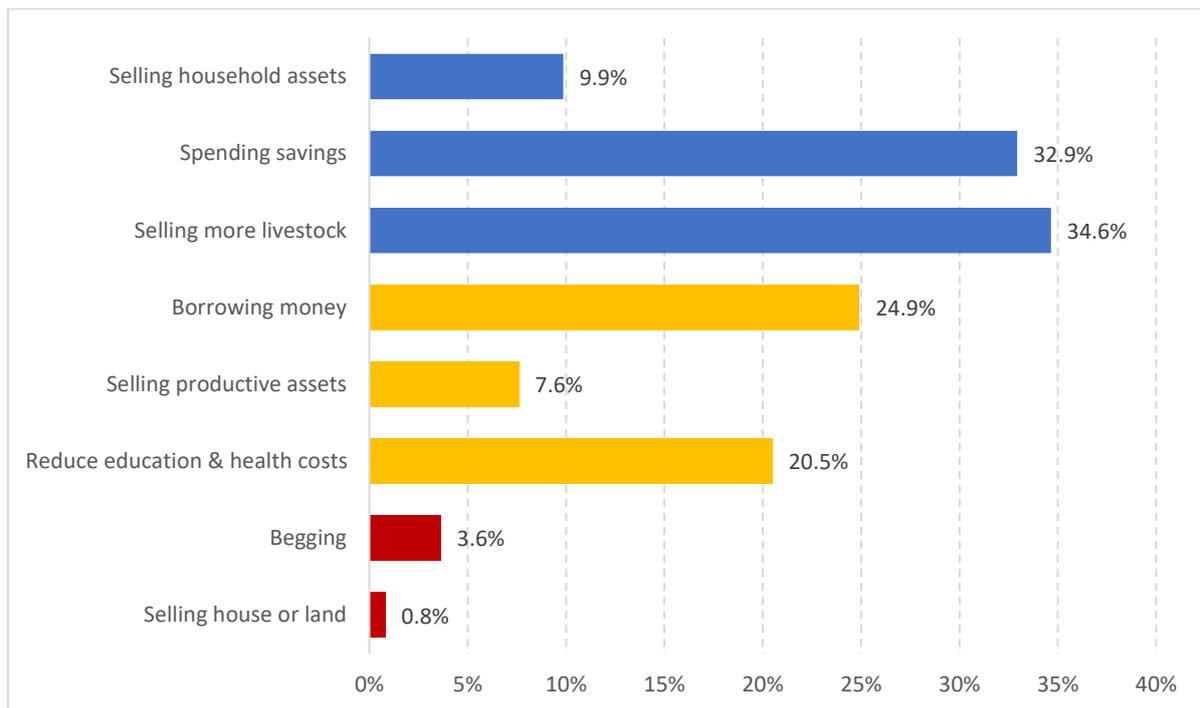
The colours indicate severity of coping strategies. Blue – stress coping strategies, orange – crisis coping strategies and red – emergency strategies.

Looking at the households using different livelihood coping strategies by municipalities (Figure 50), 90 percent of the households in Liquiçá had used a coping strategy whereas this number was lowest in Viqueque (41 percent) and Dili (44 percent). In Oecusse, more than one third of households had used emergency coping strategies including selling house or land (33 percent) in contrast to Baucau, none of the households had used emergency coping strategy. Manatuto and Bobonaro had highest number of households (46 percent and 39 percent) using crisis coping strategies such as selling productive assets, reduce education and health costs and borrowing money.

Figure 50 Household livelihood coping strategies, by municipality
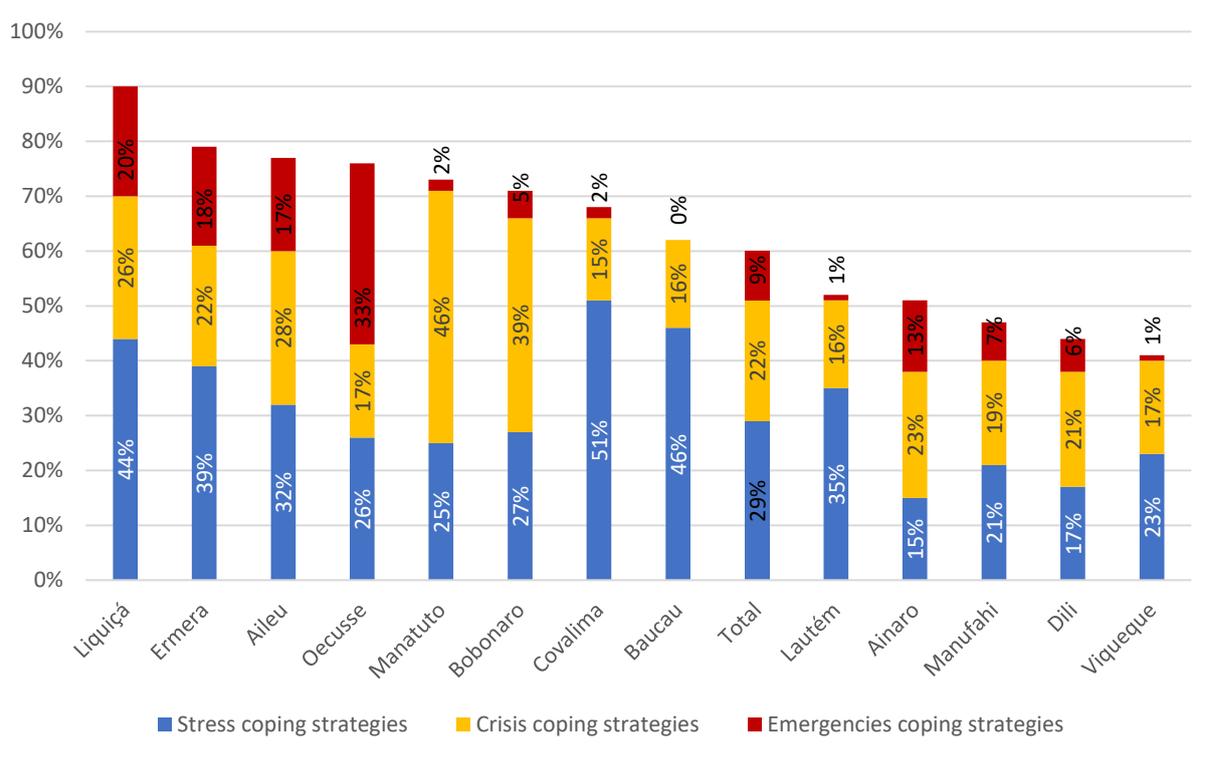
Tests were done to explore whether coping mechanisms that households used are different according to the vulnerability status of households. No real differences could be observed between households that were categorized as less, more, or most vulnerable. Also, no major differences were observed between female-headed households and male-headed households. However, Table 10 shows that belonging to a particular wealth quintile is an important determining factor for the use of particular coping mechanisms. Households belonging to the lowest quintiles used more coping mechanisms than households belonging to the highest quintile. Due to their deprived economic position, they are more frequently forced to cope differently to put food on the table.

Table 10 is important because it shows the type of coping strategies those in lower wealth quintiles use to make resources available to obtain food. The most important way to do so is by selling livestock. In the month before the interview, more than half of all households belonging to the poorest quintile sold livestock to buy food. Only 9.8 percent of households belonging to the richest quintile had done so. Spending savings (34.3 percent) and borrowing money (32.7 percent) are the two other most frequent strategies poor households use to cope with food shortages. It is interesting that little difference exists in the percentages of using different strategies between the poorest and the second poorest quintile, and that even the values for the third and to some extent the fourth quintile come rather close. This clearly shows that in Timor-Leste, poverty is widespread and that at the moment large sections of the population have to find ways to provide food for the family. Also note that even households belonging to the highest quintile have had to take actions because of a lack of food or a lack of money to buy things to eat. For instance, more than one in five households belonging to households that scored in the highest wealth quintile used savings in the last month to buy food, 14.5 percent had to reduce costs for education and/or health, and more than one in ten had to borrow money to be able to obtain the bare necessities.

Table 10 Coping mechanisms used by household because of a lack of food or a lack of money to buy food, by wealth quintile

	Lowest quintile	Second quintile	Middle quintile	Fourth quintile	Highest quintile	Total
Selling household assets	12.3%	12.1%	9.7%	9.6%	5.6%	9.9%
Spending savings	34.3%	38.4%	37.7%	33.6%	20.7%	32.9%
Selling more livestock	51.5%	48.7%	37.9%	25.3%	9.8%	34.6%
Borrowing money	32.7%	32.8%	27.0%	20.5%	11.5%	24.9%
Selling productive assets	7.0%	7.8%	7.9%	7.2%	8.1%	7.6%
Reduce education & health costs	22.1%	22.5%	23.0%	20.3%	14.5%	20.5%
Begging	5.1%	3.7%	3.5%	3.4%	2.4%	3.6%
Selling house or land	1.5%	1.0%	0.8%	0.4%	0.4%	0.8%

Because of the economic hardship caused by the COVID-19 pandemic, households often had to rely on external assistance. To measure household support, a question was asked whether 'your household received help from others since the corona state of emergency before the Easter flood?' Note that this support did not include help received after the Easter flood. For those households that answered the question, 39.5 percent indicated they had received help from others. To those who answered affirmatively, it was then asked what type of support they received. As presented in Chapter 6.4.1, respondents could indicate as many of the pre-coded types of support that were applicable. Households had mainly received two types of support: food support and cash support. Among all households who received support before the Easter flood, 96.0 precent were given food support and 48.1 percent were given cash support. Less than five percent received household items, and the other types of assistance were negligible.

6. Social impact

While containment measures are essential to reducing the spread of COVID-19, they create barriers to the availability, accessibility, awareness, quality, and utilization of critical services, leading to an immediate and likely long-term decline in wellbeing (United Nations 2020a). In this section, the study examines how critical services were affected by COVID-19, the current state of trust and cooperation in society, and subjective wellbeing of the people in pandemic times.

6.1. Impact on education services

Globally, the impact of the COVID-19 pandemic on schooling is a 'generational catastrophe.' An estimated 101 million children and youth fell below the minimum reading proficiency level, wiping out the education gains achieved over the last two decades. (UNESCO 2021)

As net enrolment rates for primary education (grades 1-6) have stagnated, hovering around 90 percent over the past decade, the GoTL has yet to achieve the goal set out in the National Education Strategic Plan: ensure 95 percent of children 6 years and older complete quality basic education. High repetition and dropout rates pose challenges to the country's education sector. The repetition rates in early grades are noticeably higher at 18.9 percent for grade 1 in 2019 compared to 10.2 percent for the entire basic education cycle, despite the fact that there is a law prohibiting repetition in grade 1. Boys outnumber girls both in repetition and dropout rates in all grades (Ministry of Education, Youth and Sport 2021).

Another challenge arises around the under-age entrance and over-age entrance in basic education. The GoTL is committed to expanding and improving early childhood development and education in the country in order to better prepare children for a strong start in their education. The gross enrolment rate in pre-school education improved significantly over the past years, from 12.2 per cent in 2013 to 27.4 per cent in 2020 (Ministry of Education, Youth and Sport 2021). The government aims to provide quality preschool education to at least half of all children between 3 and 5 years old by 2024 and to all children by 2030.

Since the first SoE was declared in March 2020 in Timor-Leste, it is estimated that 392,178 school children from preschool up to secondary (Ministry of Education, Youth and Sport 2021) have been affected by the school closure. The GoTL announced the school closure for the first time in March 2020, which lasted about four months, and the reopening process began in July. They closed again in February 2021 in the face of a hike of new cases of COVID-19. As the protocol of school closure and reopening varied across municipalities, schools in some municipalities have been mostly closed in 2021, and others have remained mostly open. In Dili and some other municipalities, schools reopened in July 2021. They closed again a month later due to increasing cases of COVID-19 and reopened in September. Overall, schools in border areas and Dili were most affected by the SoE, and schools in eastern municipalities were less affected and generally remained open throughout the SoE. At peak time (March and April 2021), there was a discussion of turning empty school buildings into isolation sites as COVID-19 cases increased and overwhelming healthcare facilities (Independente 2021) .

This section aims to capture the impact of COVID-19 on education services in the country by looking at missed in-person learning opportunities and sources of distance learning. We asked education-related questions to all household members aged between 4 and 25 years, who were between 3 and 24 years old in March 2020, because school starts at the age of 3 (preschool). This enables tracking the educational impact on school-age children from the start of the COVID-19 pandemic.

Of the 12,107 individuals aged 4 and 25 years in the survey, males represented 50.8 per cent of school-age persons, and females represented 49.2 percent. 0.5 percent (or 60 individuals) were PWDs. The age group of 6-11 was larger than other age groups, constituting 31 percent. Each age group presented in this report corresponds to the official age group of each education level; however, some students are older or younger than the official school-age range for the educational programme they are enrolled in.

Figure 51 Proportion of individuals aged 4-25 by age group
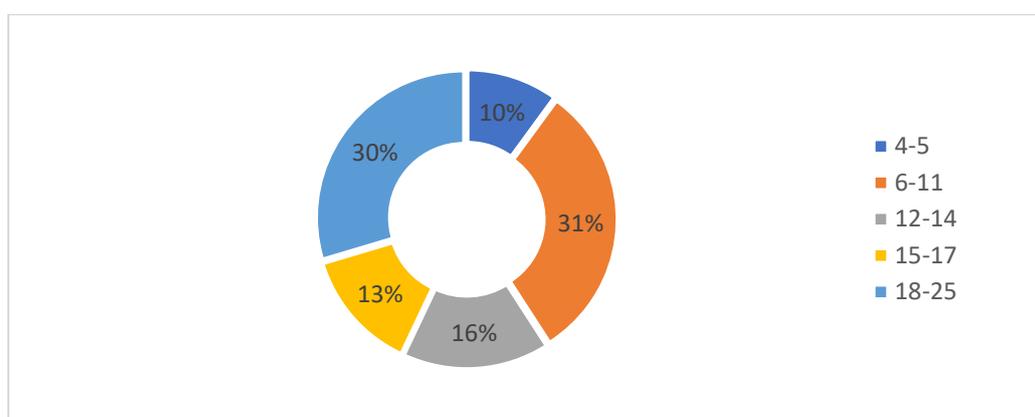
6.1.1. Continuation of studying during school closure

First, we asked whether a person attended education (preschool, primary, pre-secondary, secondary, technical/vocational, or university) in March 2020, directly before the SoE. At that time, 51.6 percent attended, and 48.4 percent did not. As Figure 52 shows, there were more individuals who attended education before the SoE outside Dili, compared to students in Dili. Among those who attended education the following were observed:

- There were more students aged 6-17 years. (Figure 53)
- There was no significant difference based on gender or gender of the household head.
- There was a small difference based on the wealth index. Individuals from the richest quintile were more likely to have attended education.
- There was a statistically significant difference between whether the respondent had a disability or not, 78.8 percent of persons with a disability or disabilities did not attend education before the first SoE. This needs to be interpreted with a caution as the proportion of students with a disability/disabilities was 0.5 percent.

Figure 52 Pre-COVID-19 school attendance - Dili vs Outside Dili
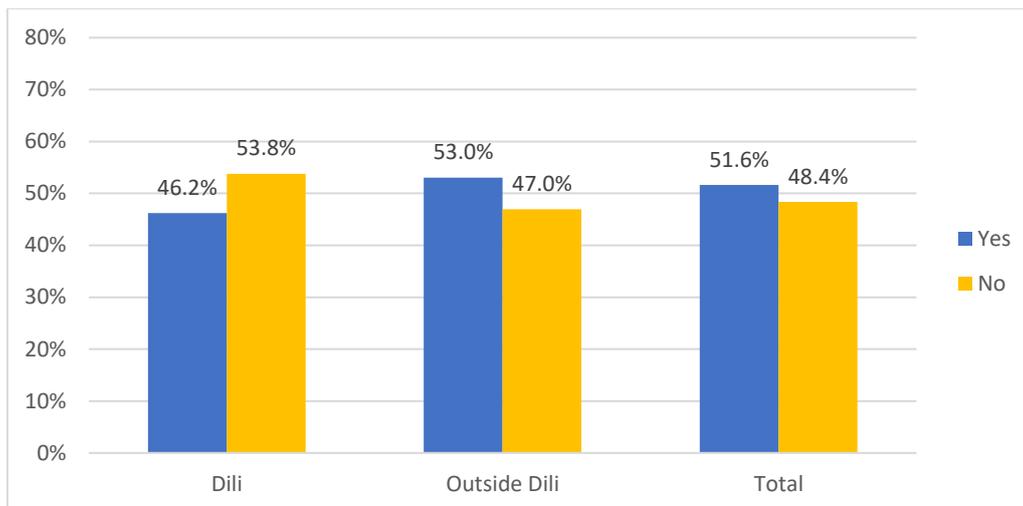
Figure 53 Pre-COVID-19 school attendance by age group and gender
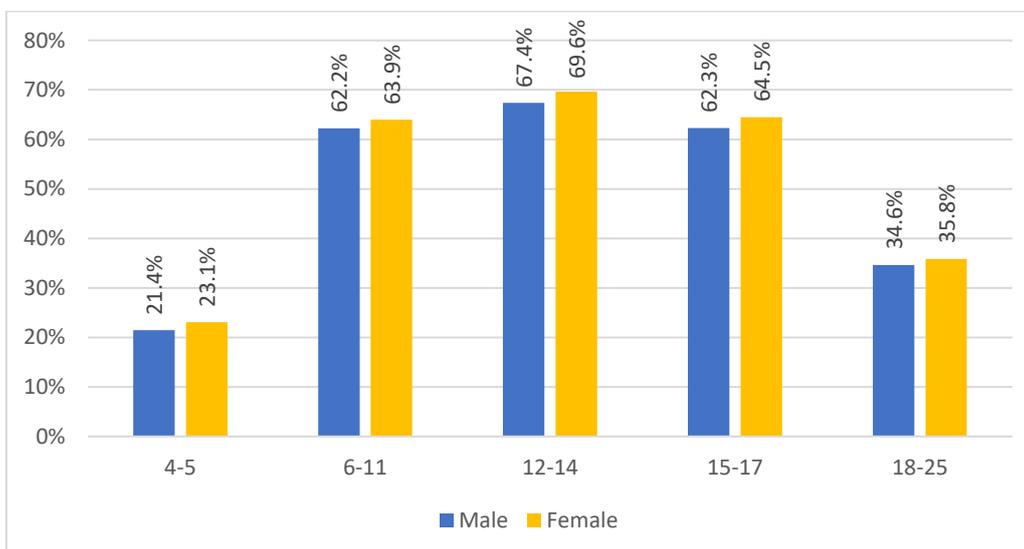
We then asked those who attended education before the SoE whether they continued studying in the periods of school closure during the SoE since March 2020. In response to the SoE and school closure, MoEYS with support from UNICEF started 'Eskola Ba Uma' or 'School Goes Home' initiative which includes television programmes, radio programmes, electronic books, an online Learning Passport platform where students can download educational materials, and printed books for children who are not digitally connected. The initiative is targeted to reach 350,000 children across the country.

If the person studied 5-7 days a week on average regardless of the time duration, he/she was recorded as studying on a daily basis. If the person continued studying but for 4 days a week or less on average, he/she 'continued studying irregularly'. This question asked about doing homework or studying at home during the school closure rather than going to school regularly or not. However, many respondents may have interpreted the question as whether or not they continued to go to school, or students continue studying at home when there is regular schooling. Overall, 41.2 percent of students in Dili continued studying on a daily basis versus 67.5 percent of students outside Dili. Furthermore, schools in Lautém were generally open throughout the SoE because of the low number

of COVID-19 cases there, and hence 97.7 percent continued studying either on a daily basis or irregularly. This implies that students in Lautém might have continued schooling rather than studying at home. Among all respondents, 62.6 percent answered that they continued studying on a daily basis, 23.5 percent continued studying but irregularly, and 13.9 percent did not continue studying.

- There was no significant difference based on age group, gender, gender of household head, and social vulnerability index.
- There was a difference based on the wealth index. Students in the lowest quintile were more likely to report they continued studying using printed materials during the school closure compared to students in higher quintiles. (Figure 55) One possible explanation is that students from higher wealth quintile might play games on their smartphones or watch television instead of studying, while students from the lowest wealth quintile may not have such electronic devices to play with and simply like to read stories from student workbooks.
- There was a small but statistically significant difference based on whether the person is living a disability or not: 91.6 percent of students with a disability/disabilities continued studying either daily basis or irregularly during the school closure as opposed to 86.1 percent of students without disabilities. However, IDIs conducted with PWDs reveal a different picture. For example, a 27-year-old woman with a disability said that she had stopped her education during the pandemic because she could no longer get to Dili where her accessible school was located, and online learning was not available for the school.

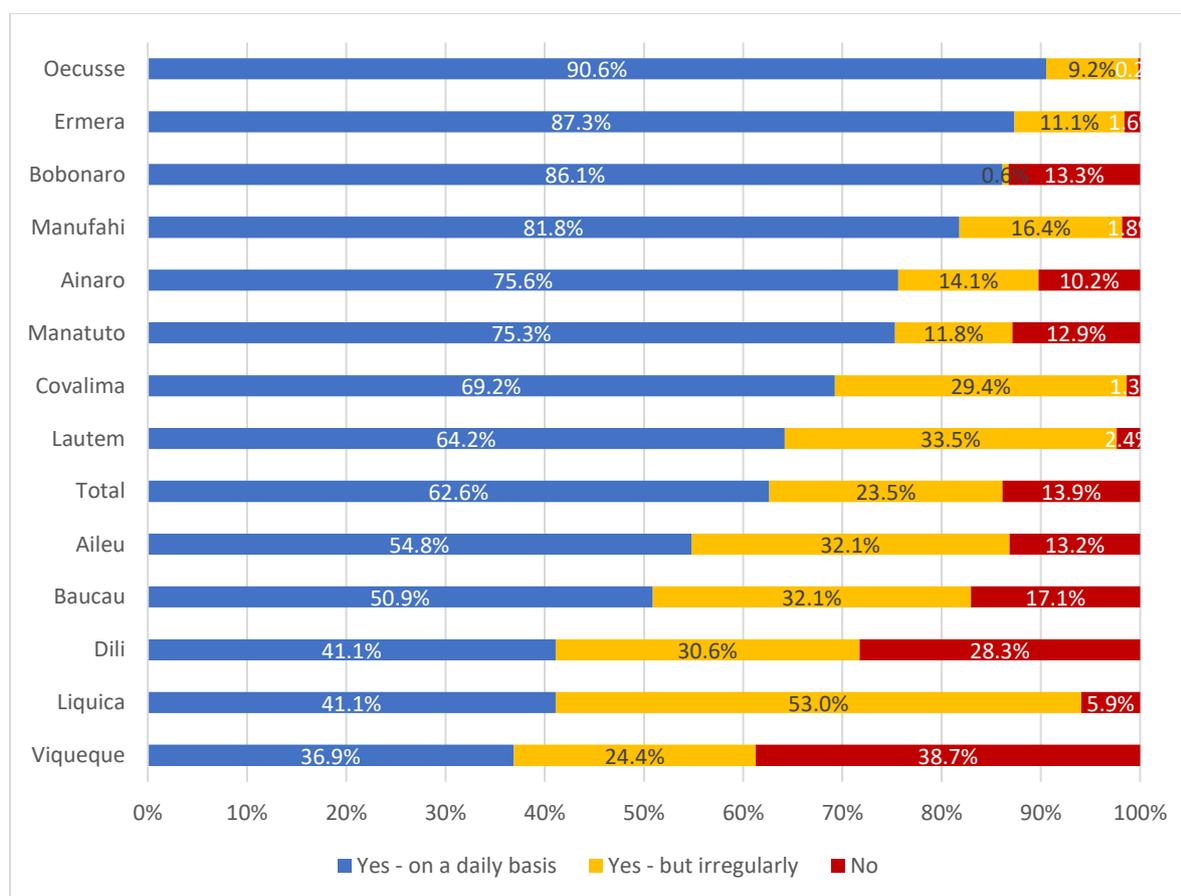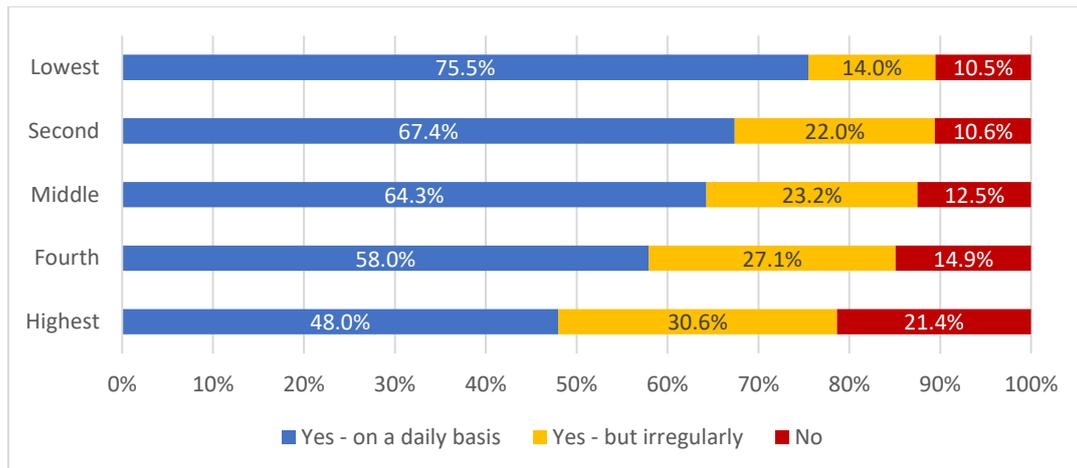**Figure 54 Continuation of study during school closure by municipality**

Figure 55 Continuation of study during school closure by wealth index

Question about satisfaction with schools were also related to continuation of study during the SoE. Those from lowest quintile were more satisfied with schools' response during the SoE whereas those from highest quintiles were less satisfied. As Table 11 shows, among those who did not continue studying or only irregularly continued studying, more than half of them did not have printed learning materials at home. Another 17.8 percent did not want to study, and 8.9 percent answered that there was no information on available TV/radio/online resources. In an IDI, a pregnant farmer who had not completed many years of education shared why her children studied less at home: 'Due to me not having education, it was hard for me to teach my kids. I asked the eldest sister to help the younger kids.'

Table 11 Reason for discontinued/irregularly continued study during school closure by residency, wealth quintile and gender

Reason for discontinued/irregularly continued study	Residency		Wealth quintile		Gender		Total
	Urban	Rural	Lowest	Highest	Male	Female	
Lack of printed learning materials at home	55.7%	50.2%	51.5%	49.5%	52.1%	52.1%	52.1%
Person did not want to study	12.1%	20.9%	20.7%	13.8%	19.4%	16.0%	17.8%
No information on available TV/radio/online resources	14.6%	5.9%	3.2%	18.1%	8.3%	9.6%	8.9%
No TV/radio/mobile phone and internet connection	4.4%	5.3%	3.8%	5.7%	4.9%	5.2%	5.0%
Because of COVID-19	5.7%	5.7%	8.3%	3.9%	5.5%	5.9%	5.7%
No one available to help the person study	2.0%	4.3%	4.1%	1.8%	3.3%	3.7%	3.5%
Other reason	0.6%	4.0%	2.2%	1.5%	3.0%	2.6%	2.8%
Person finished school and did not need to continue studying	2.6%	2.6%	4.8%	2.5%	2.1%	3.1%	2.6%
Person was required for other activities / earning income	2.4%	1.1%	1.3%	3.1%	1.3%	1.9%	1.6%

Table 12 Reason for discontinued/irregularly continued study during school closure by age group

Reason for discontinued/irregularly continued study	Age group				
	4-5	6-11	12-14	15-17	18-25
Lack of printed learning materials at home	47.7%	54.8%	57.5%	55.8%	40.6%
Person did not want to study	17.3%	23.4%	19.5%	14.7%	9.1%
No information on available TV/radio/online resources	6.5%	5.3%	5.5%	9.6%	18.3%
No TV/radio/mobile phone and internet connection	10.0%	4.1%	3.3%	4.5%	7.4%
Because of COVID-19	6.6%	4.9%	6.8%	6.9%	4.9%
No one available to help the person study	10.6%	4.1%	3.0%	2.6%	2.4%
Other reason	0.0%	2.5%	3.0%	3.3%	3.1%
Person finished school and did not need to continue studying	0.0%	0.1%	0.0%	0.8%	10.9%
Person was required for other activities / earning income	1.5%	0.6%	1.3%	1.8%	3.2%

We then asked those who continued studying on a daily basis or irregularly what education information or materials they used during the school closure. Figure 56 shows that for the 5385 individuals who continued studying regularly or irregularly, the most common source of distance learning or home schooling was student workbooks of the Ministry of Education, Youth and Sport (MoEYS), followed by online material (Learning Passport) of the MoEYS and educational shows of the MoEYS on TV (Eskola ba Uma). There were 24.1 percent of students who used different sources and methods which were not listed in the options of the question. There was significant difference in the types of sources used by rural and urban, by wealth quintiles and by age group of the students.

- There was no significant difference based on gender.
- Students in urban areas were more likely to use online sources (Learning Passport), and students in rural areas were more likely to use offline sources such as student workbooks. (Figure 57)
- Students in the lowest quintile were more likely to use student workbooks while students in the highest quintile were more likely to use online sources (Figure 58).
- Age group 18-25 were more likely to use online or digital learning materials including Learning Passport and other online materials compared to other age groups (in total 42.4 percent of age group 18-25 used these sources compared to 7.7 percent for those aged 4-5 and 9.0 percent of those aged 6-11). As age increases, the use of online and digital sources also increases (this figure was 13.6 percent for age group 12-14, and 20.6 percent for age group 15-17). (Figure 59).
- Among students with a disability or disabilities, the most frequent answer was student workbooks (43.4 percent), followed by educational broadcasts of the MoEYS on radio (18.8 percent) and other online materials or courses (9.0 percent).

The internet penetration is still low in Timor-Leste compared to other countries in the region. Internet users constituted only 27.5 percent of total population in the country (The World Bank 2017). The infrastructure of the Internet is not distributed equally within the country, and geographical gaps in access to the internet service remain huge between urban and rural areas. This can be seen from

Figure 57 in rural areas, student workbooks were the main source, whereas in urban areas, Learning Passport and TV were common. As a community member described the education situation of her grandchildren:

> *"I feel sad because the kids are not learning anything now. I have spent money on buying all the school materials and they went to school and not learn something. The government promised to send pulsa (phone credit) for our children's education but until now we have not received any pulsa."*
> *--Elderly woman*

Figure 56 Source of distance learning used by students who studied regularly or irregularly during school closure *
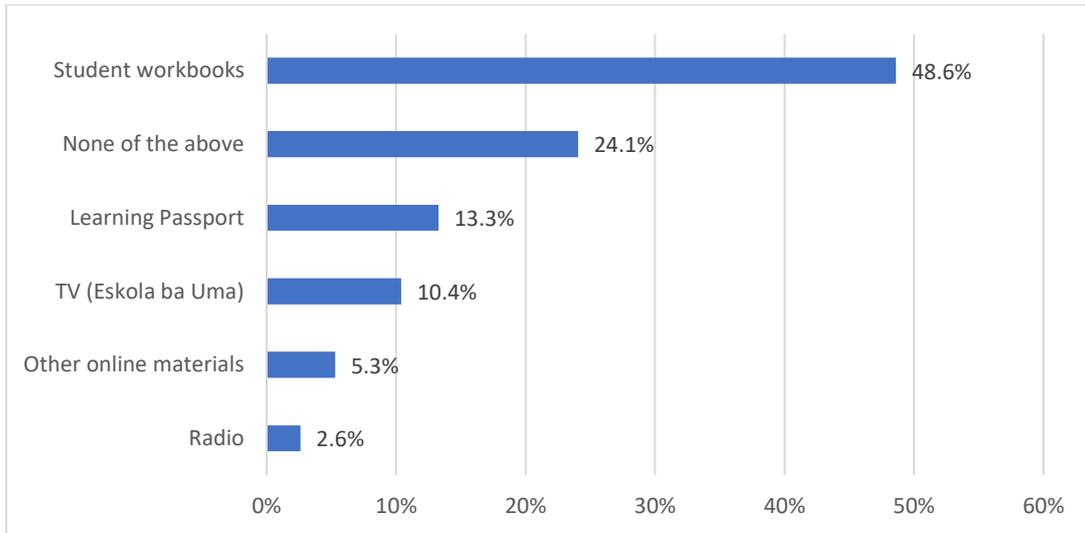
*Total number does not add up to 100 percent as one respondent can report several types of sources.

Figure 57 Sources of distance learning used by students who studied regularly or irregularly during school closure by residency
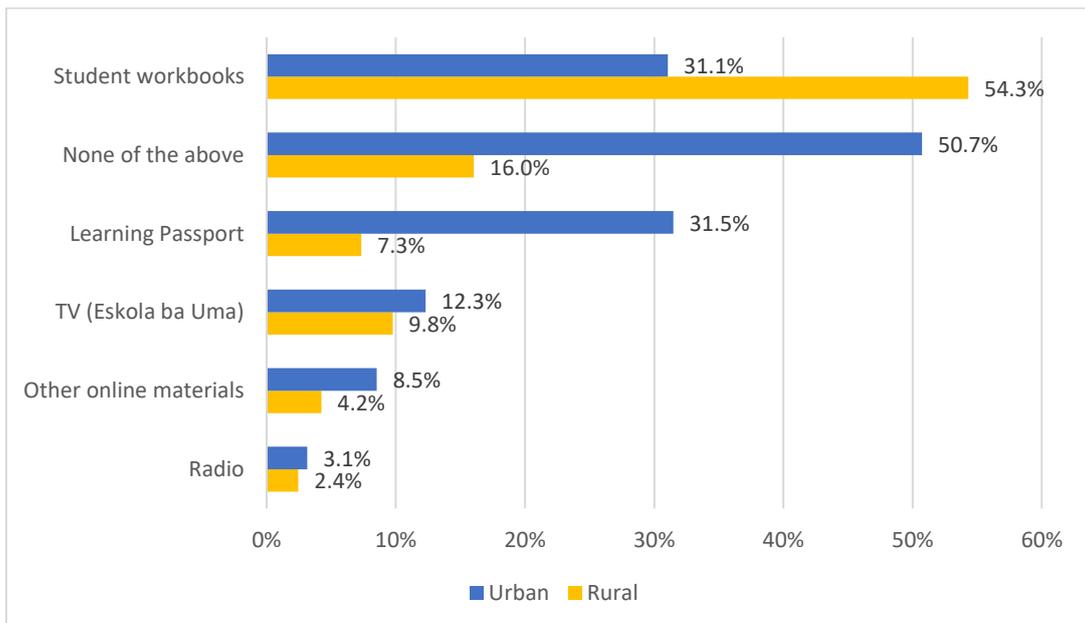
Figure 58 Source of distance learning used by students who studied regularly or irregularly during school closure by wealth quintile
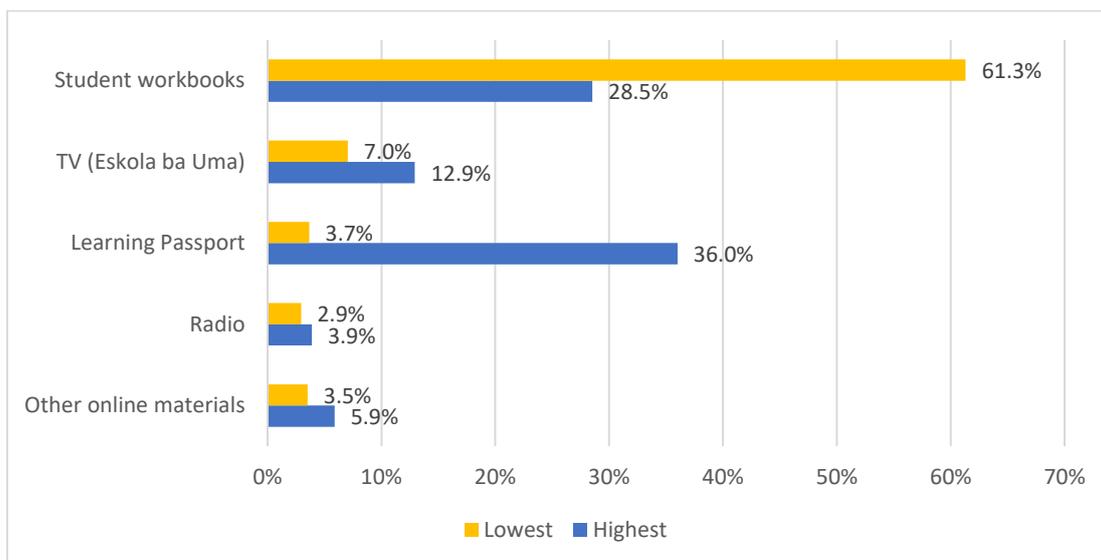
Figure 59 Source of distance learning used by students who studied regularly or irregularly during school closure by age group
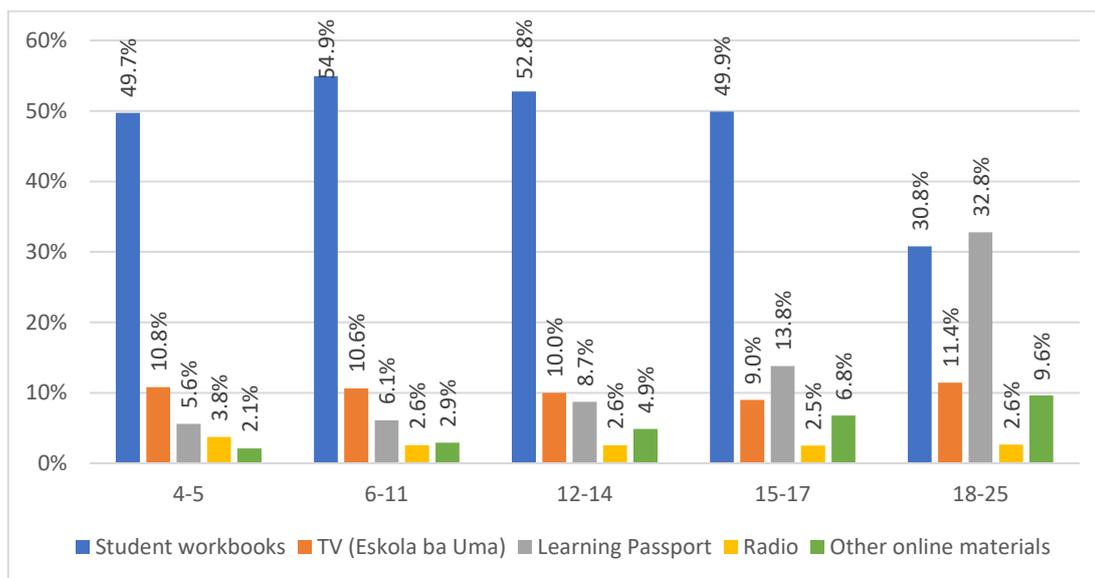
6.1.2. Returning to school

In 2021, schools in Timor-Leste closed again in February in Dili and some other municipalities. They reopened in July 2021 and closed once more one month later. Interviews were conducted during the period that schools were allowed to open. We asked whether students attended school when the schools were opened in July this year, before they closed again in August. As mentioned before, it should be noted that the school closure/reopening process varied a lot among municipalities.

The study found that the majority of children returned to school either on a daily basis or irregularly. Overall, 65.6 percent attended every day, and 21.8 percent attended irregularly, totalling 87.4 percent who returned to school, while 12.7 percent did not attend. As Figure 60 shows, school attendance status varied a lot by municipality. Close to half of the students in Baucau did not return to school, while close to 90 percent of students in Covalima returned to schools on a daily basis.

- There was no significant difference based on gender or social vulnerability index.
- There was a difference based on the wealth index. Students in the lowest quintile were more likely to return to school on a daily basis after the school reopening (Figure 61).
- There was a small difference based on age group. Younger students were more likely to return to schools every day while more of the older students did not return to schools.

Figure 60 Educational attendance after school reopening in 2021 by municipality
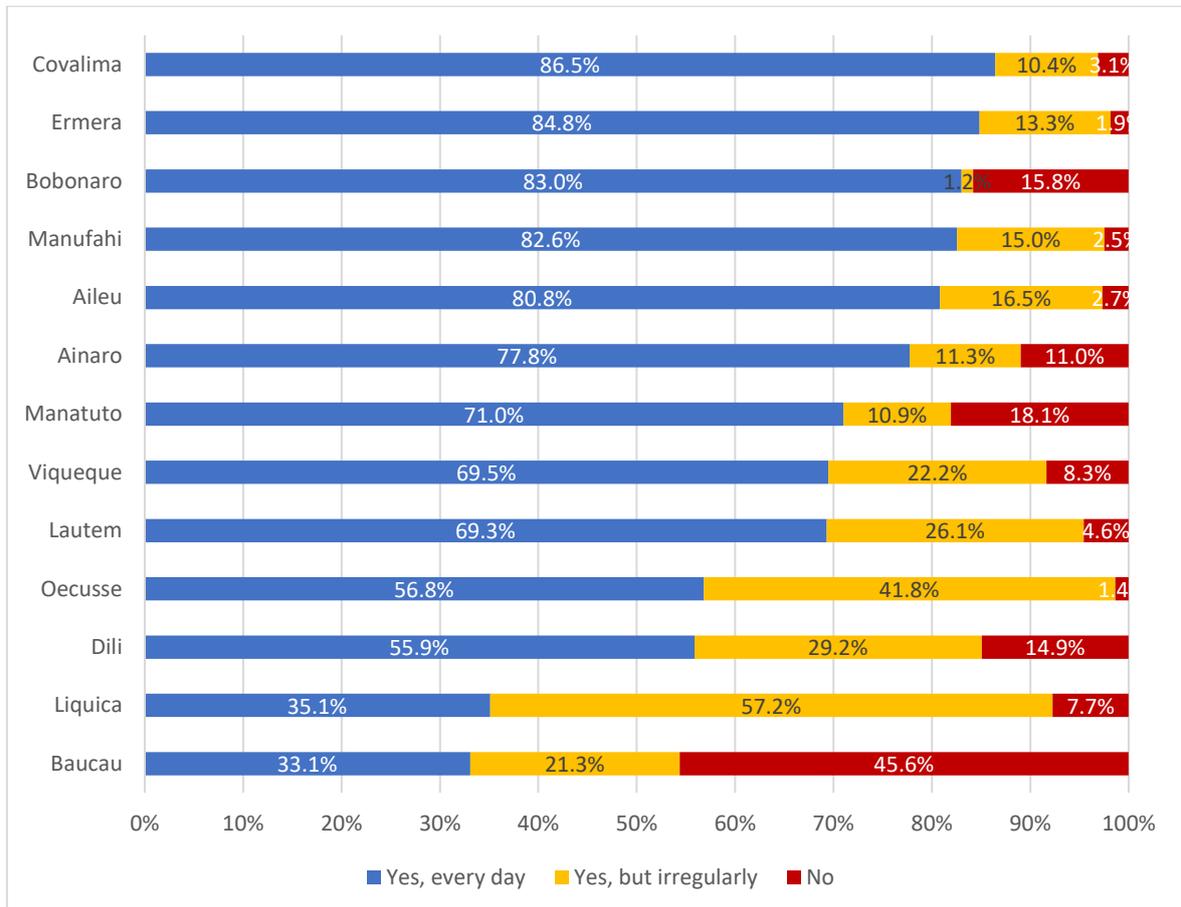
Figure 61 Educational attendance after school reopening in 2021 by wealth index and gender
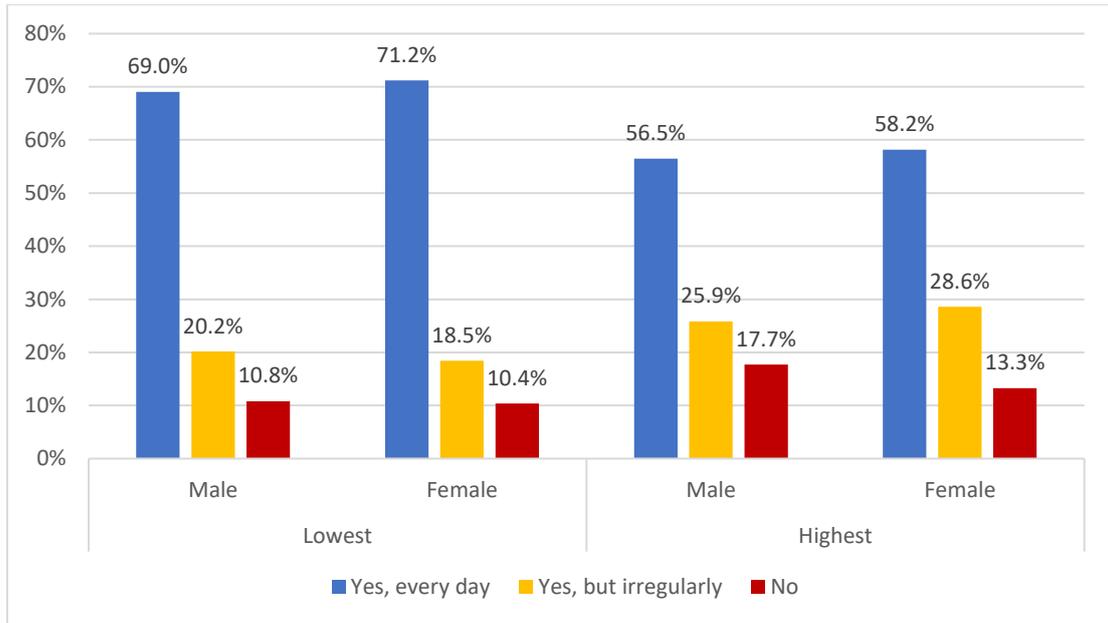
Figure 62 Educational attendance after school reopening in 2021 by age group
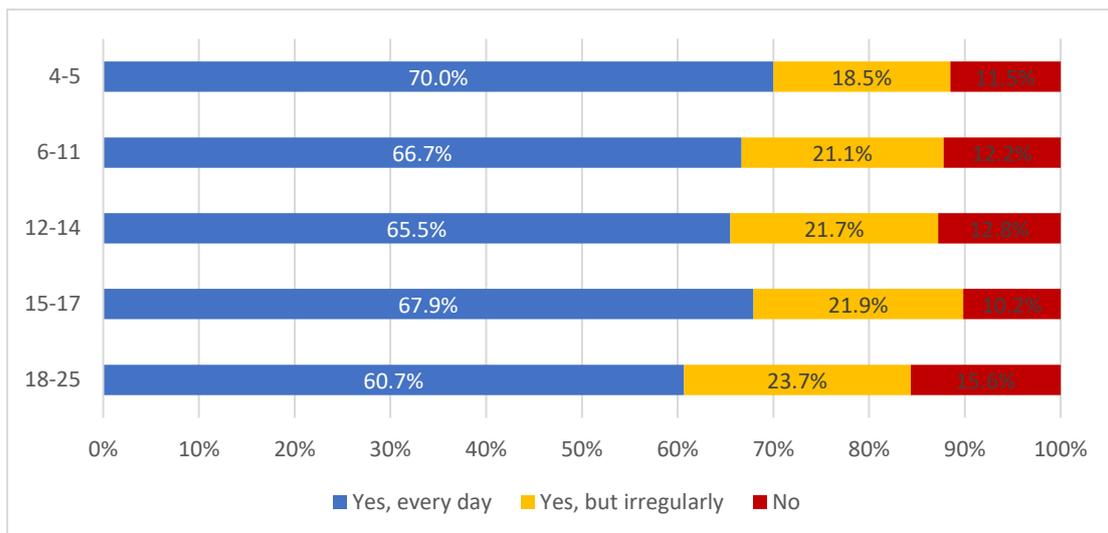
We then asked the main reason that the person did not regularly attend education when schools reopened this year. The most frequent answer was 'School was still closed' at 79.5 percent, followed by financial constraints (4.5 percent) and 'school was not considered a safe environment' (4.5 percent). Students in Dili were more likely to answer 'school was still closed' as the main reason.

Table 13 Reason for not attending education after school reopening in 2021 by residency, wealth quintile and gender

Reason for not attending education	Residency		Wealth quintile		Gender		Total
	Dili	Outside Dili	Highest wealth	Lowest wealth	Male	Female	
Financial constraints	4.4%	4.6%	1.9%	5.1%	4.4%	4.6%	4.5%
Studies were completed	5.5%	2.9%	4.7%	4.7%	3.3%	3.8%	3.5%
Moved to another place where schools are not available	0.4%	0.9%	0.4%	0.7%	1.2%	0.3%	0.7%
School was not considered a safe environment	0.0%	5.9%	1.5%	12.8%	4.8%	4.1%	4.5%
School was still closed	85.1%	77.7%	87.1%	71.1%	78.7%	80.3%	79.5%
Child/person not interested in education	1.2%	2.8%	1.1%	3.2%	2.7%	2.1%	2.4%
Family considered education unnecessary	0.7%	0.9%	1.0%	0.9%	0.8%	0.9%	0.8%
Other reason	2.8%	1.2%	1.2%	0.6%	1.5%	1.7%	1.6%
Because of COVID-19	0.0%	3.2%	1.3%	0.9%	2.7%	2.2%	2.4%

Table 14 Reason for not attending education after school reopening in 2021 by age group

Reason for not attending education	Age group				
	4-5	6-11	12-14	15-17	18-25
Financial constraints	6.7%	3.5%	3.6%	5.1%	6.2%
Studies were completed	1.6%	1.0%	0.4%	0.9%	12.5%
Moved to another place where schools are not available	1.4%	0.7%	0.9%	0.5%	0.7%
School was not considered a safe environment	3.1%	5.1%	5.4%	4.5%	3.0%
School was still closed	79.8%	82.7%	82.6%	81.6%	70.0%
Child/person not interested in education	4.6%	3.0%	2.3%	2.0%	1.5%
Family considered education unnecessary	0.0%	0.7%	0.9%	1.4%	0.7%
Other reason	2.9%	0.7%	1.1%	0.6%	3.8%
Because of COVID-19	0.0%	2.6%	2.8%	3.3%	1.7%

During the IDIs with communities, farmers, fishers and young people expressed their feelings of worry and sadness related to education. For example, a male fisherman shared:

> *We are sad. Our children cannot go to school. Schools are closed and they are always staying at home. The kids are worried, because they cannot go to school. Also, they cannot play with friends, so the change has been big.*

The youth interviewed had strong concerns about schooling: 'As a young person I feel most worried about my studies, many people stopped schooling' (*Male youth)* and 'I am mostly worried about the schools closing and that I cannot go to school and learn.' (*Female youth).*

6.2. Impact on health services

In Timor-Leste, there is one national hospital and 5 regional ones, a network of 70 community health centres at the administrative post level, and 309 active health posts delivering primary health services located across the 13 municipalities in the country. The government aims to have health posts in all *sucos* by 2030 (Government of Timor-Leste 2018).

There has been some progress in strengthening the health system, as the Universal Health Coverage Index reached 52 in 2017, a 3-point increase from 2015. Densities of health workers have improved over the years as well, reaching 7.7 medical doctors, 0.1 dentists, and 17.6 nursing and midwifery personnel per 10,000 people in 2019. Concerns remain about maternal and child health status with a maternal mortality ratio of 142 per 100,000 live births in 2017 and an under-five mortality rate of 44 in 2019; both figures are significantly higher than the regional averages (Global Health Workforce Statistics n.d.). Equitable geographical distribution is a challenge as well.

The COVID-19 pandemic has caused disruptions to essential health services. This section aims to capture the impact of COVID-19 on health services in the country by looking at service utilization during the SoE, child immunization, and reproductive health service utilization. It captures people's behaviours toward COVID-19 as well as perceptions about COVID-19 vaccines.

6.2.1. Access to health services during the state of emergency

More than half (60.9 percent) of households said member(s) of their households needed medical treatment or consultation since the start of the pandemic. Among them, 54.1 percent answered that their household members were always able to access medical services, 44.3 percent answered that they were sometimes able, and only 1.6 percent said that they were not able to access services at all. The most frequent reason for not being able to access services was that there was no health facility, or the facility was too far, which was more common for households outside Dili.

Figure 63 Health services sought by households who needed medical treatment and top 3 reasons for not having access
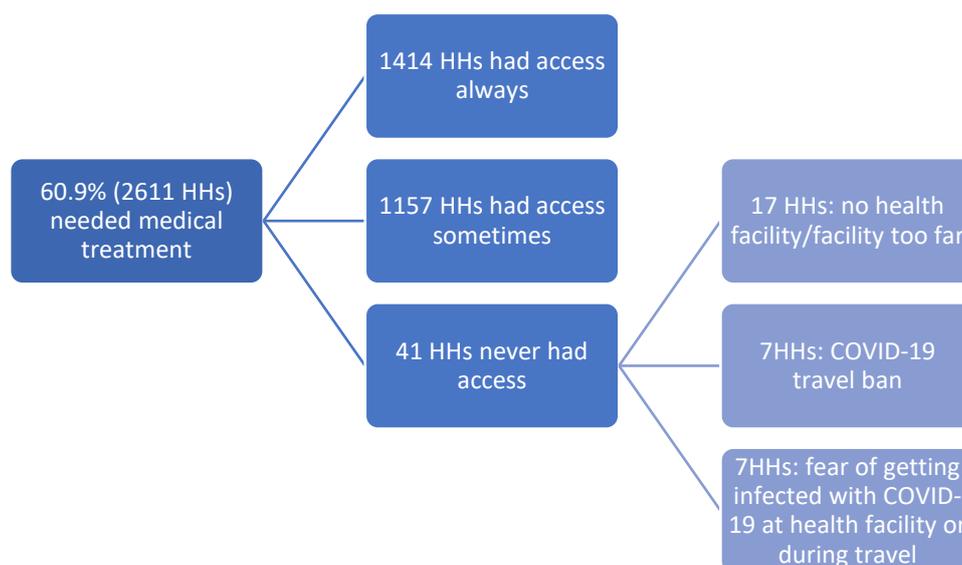
We then asked all households whether there had been changes in the household's utilization of health services. The percentage that said there was no change was 62.8 percent, 26.4 percent said there was an increase, 9.9 percent said there was a decrease, and 1.0 percent said they did not know. The percentage of households that reported a decrease was similar to the SEIA-1 finding (9 percent), while the percentage of households that reported no change was significantly higher than the SEIA-1 finding (40 percent) and the percentage that reported an increase dropped from SEIA-1 (47 percent).

- There was no difference based on the household headship or the social vulnerability index.
- There was a small difference based on residence. Households in rural areas and outside Dili were more likely to say there was a decrease in service utilization.
- There was a difference based on the wealth index. Households in the lowest quintile were more likely to say there was a decrease in service utilization.
- There was a difference based on whether a household has a member(s) living with a disability/disabilities. More households with member(s) with a disability/disabilities reported an increase in service utilization.

Among those who could not access health services when they need, the main reasons (as shown in Figure 64) included 'health facility too far or there is no health facility nearby' (41.1 percent), fear of getting infected with COVID-19 (17.2 percent) and travel ban/movement restriction (14.1 percent).

Figure 64 Reasons households could not access health services, by residence
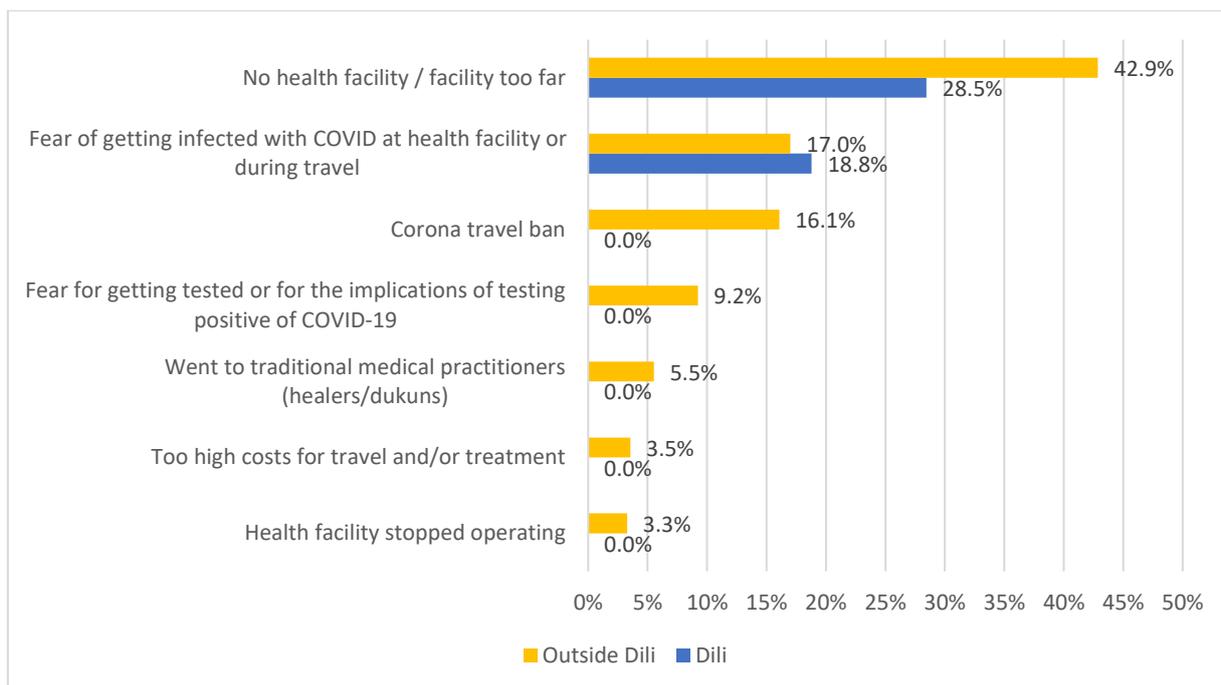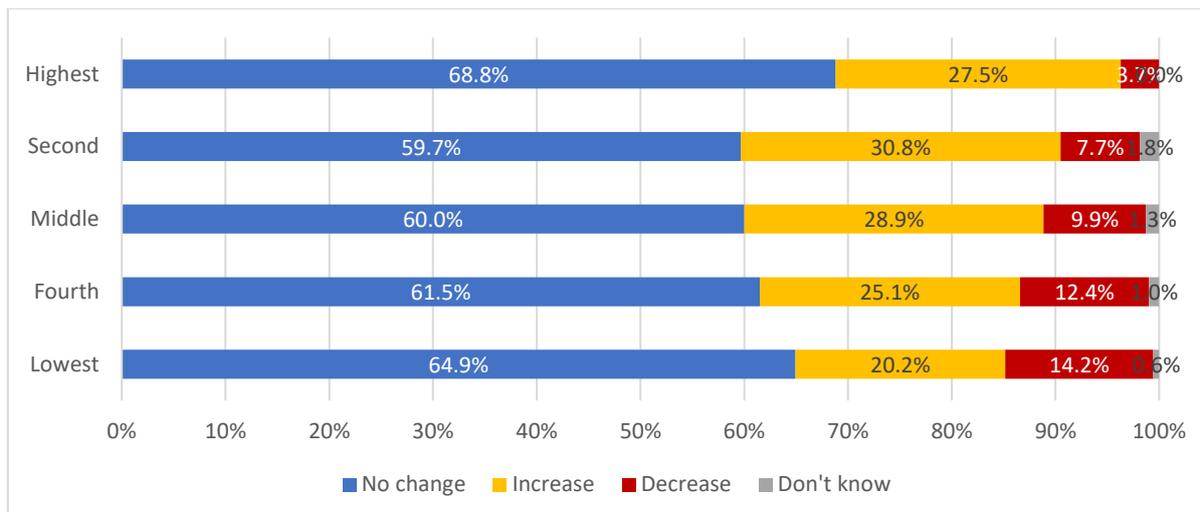
Figure 65 Change in health service utilization by wealth quintile

In KIIs, MoH officials and an NGO provider of health services said that services continued normally during the SoE but that somewhat fewer people presented themselves for care. Besides movement restrictions and a lack of public transport options during the SoE, informants pointed to fear of health services as an important reason why care-seeking was lower than usual. This included fear of contracting COVID-19 at health services as well as the mandatory swab test for COVID-19 for all patients, begun in 2021, and quarantine if the test were to be positive.

> *"After the first SoE, people reduced their visits to the clinic centre because of COVID. They are afraid to come and get swabbed or stay for quarantine and be infected." -MoH official*

> *"Sometimes even when people are really sick, people do not want to go to clinics due to fear of COVID. However in health posts people still go when they are pregnant or suffering from a serious sickness. But we are very afraid of COVID. We're afraid of the swab and don't want to go to quarantine, as people don't want to go to quarantine due to fear of abandoning the animals and not being able to feed the family" – Suco chief*

People interviewed for IDIs expressed similar feelings. An elderly woman explained why she could not go to hospital even if she needed treatment:

> *"I don't go to the hospital because I am afraid of COVID-19, and also I have no money to buy medicine. Since last year I did not go because of those reasons even though I feel sick and I cannot work and earn money."*

A single mother with a disabled child also shared:

> *When I want to go to [the health centre] I need to do a swab test and I am afraid of the swab test, because I am afraid of quarantine because should I be positive, I will be quarantined and who will look after my kids.*

We also asked interviewees from health services if health care workers had faced any stigma due to COVID-19. People indicated that there had been some negative stigma towards them in the beginning, but that it had waned. Unfortunately, some areas had several infections among health care workers:

> *'We have a big lack of human resources now because most doctors and nurses are COVID-positive* [in our municipality] *and we need people available 24 hours.'* -MoH official

6.2.2. COVID-19 symptoms and prevention

According to a media report, Timor-Leste's health authorities expressed concern that many people chose to stay at home when feeling sick instead of coming to hospital because of fears of testing positive for COVID-19. In September 2021, Timor-Leste's Integrated Centre for Crisis Management (ICCM) warned that as many as 100,000 people in Dili alone may have been infected by COVID-19[38] while MoH reports only those who come to the health facilities in severe condition, take a PCR test for travelling, or those identified through contact tracing. This section aims to capture household members' health conditions as well as actions taken when they had symptoms.

Common COVID-19 symptoms include cough, fever, and loss of taste and smell. among others. We asked households whether any of the household members had one or more symptoms (cough, shortness of breath or difficulty, fever, chills, muscle pain, sore throat, or new loss of taste or smell) during the two months prior to the interviews. The results are only indicative and should be interpreted with caution as symptoms are the same for a cold, flu, and some mosquito-borne illnesses like malaria, dengue, and chikungunya. Therefore, having a symptom(s) does not directly link to a positive case of COVID-19. However, any symptom warrants a visit to a health professional, and we wanted to know if people sought services when needed.

In SEIA-2, the proportion of households who had at least one symptom (62.7 percent) was higher than in SEIA-1 (40 percent) during the two months prior to the interviews.

- The result varied among municipalities. Liquiçá had the highest percentage of people with symptoms, while only 41.9 percent of households said their household member(s) had symptom(s) in Dili, where the COVID-19 outbreak was the worst (Figure 66).
- There were significant differences based on the wealth index and social vulnerability index (46.7 percent in the highest quintile versus 77.0 percent in the lowest quintile, and 59.3 percent in the less vulnerable category versus 67.8 percent in the most vulnerable category).
- There were also differences based on water and soap availability. Households that were not observed to have water and/or soap for handwashing were more likely to report a household member(s) had symptoms(s) (Figure 67).

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[38] Timor-Leste fears COVID-19 cases are under-reported, Independente, September 14, 2021 Language source: Tetun.

Figure 66 Proportion of households that have members with symptom(s) by municipality
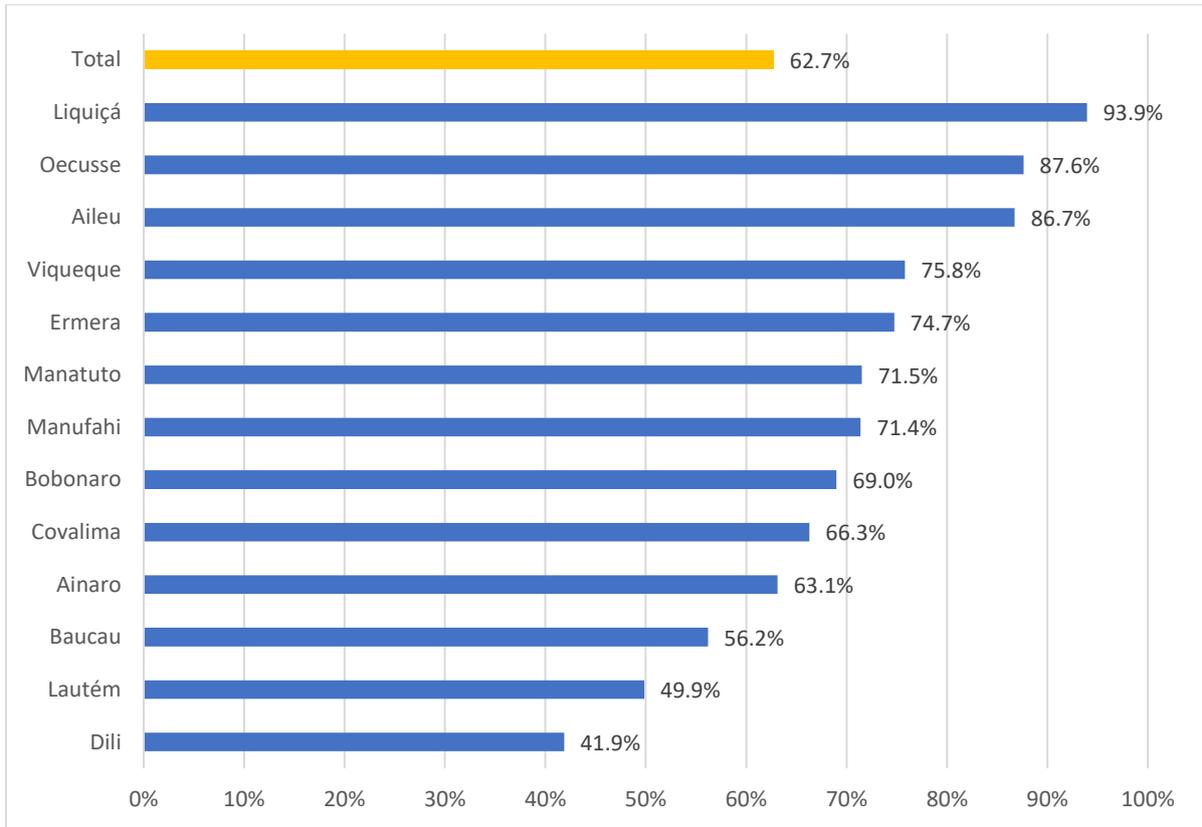
Figure 67 Proportion of households that have members with symptom(s) by handwashing facility
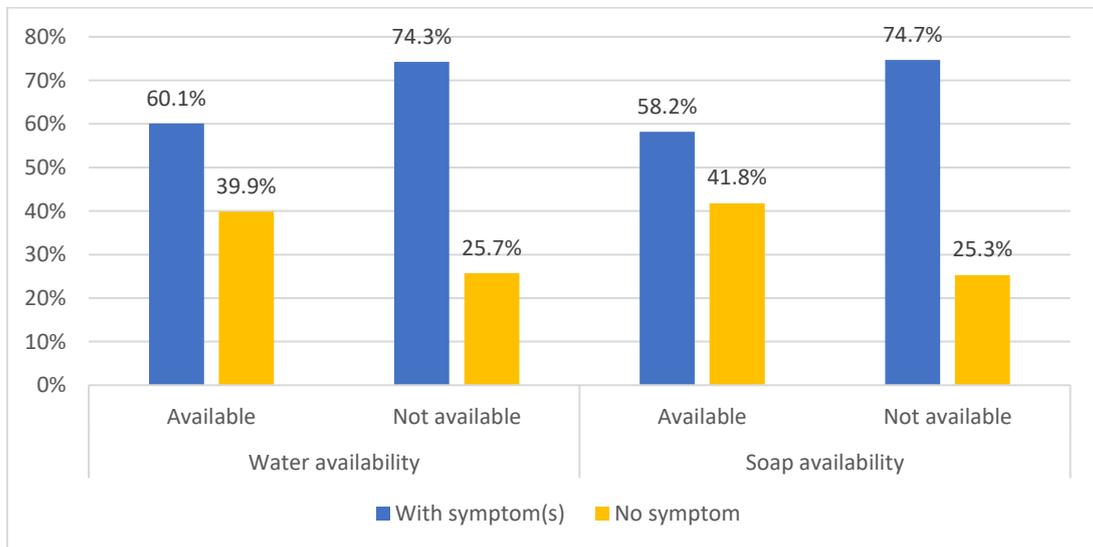
The most common symptom was cough, followed by fever and chills; 59.0 percent of households had member(s) with a cough during the two months prior to the interviews.

Figure 68 Percentage of households that had members with each symptom
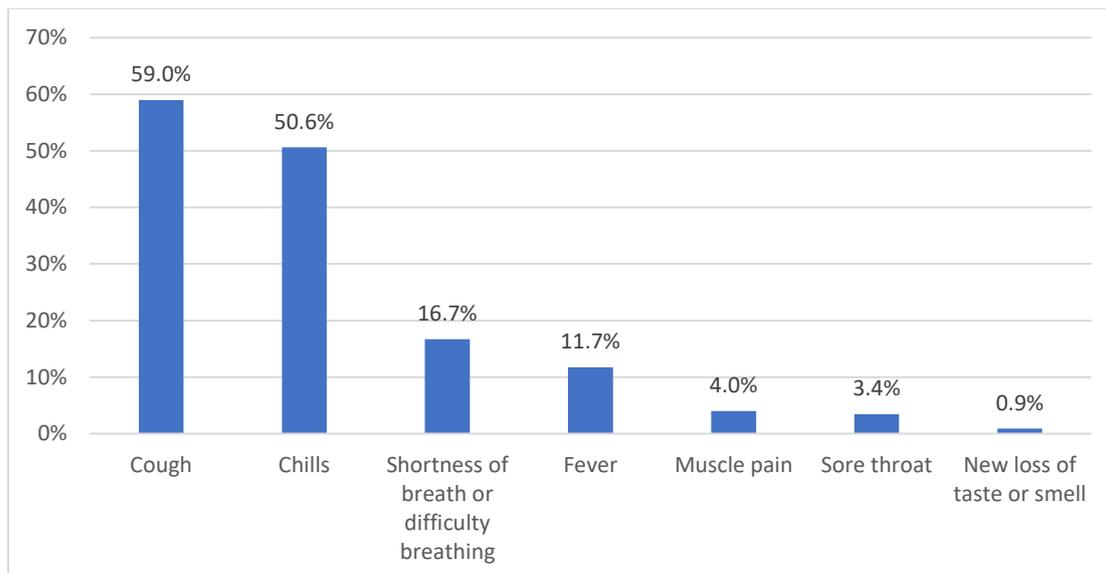
When a person shows one or more symptoms of COVID-19, the GoTL recommends calling the hotline (119) and going to the health facilities to take the test. Among households with member(s) with symptom(s), 79.4 percent said they went to a health centre, which is in line with the finding from SEIA-1. The proportion of households who answered that they took action to 'inform people around me' was significantly lower than the result from SEIA-1 (20.6 percent).

Care-seeking behaviour varied by municipalities. For instance, while more than 90 percent of households in Manufahi answered that they went to the health centre, around 60 percent in Dili said so. On getting a COVID-19 test, no households in Ainaro, Baucau, or Viqueque answered that they took a test. There were also concerns that a number of COVID-19 positive pregnant women were at health facilities, pointing to the need to increase COVID-19 testing coverage in hotspot sucos and communities in Dili (UN RCO 2021).

Figure 69 Percentage of actions that households took when having symptoms
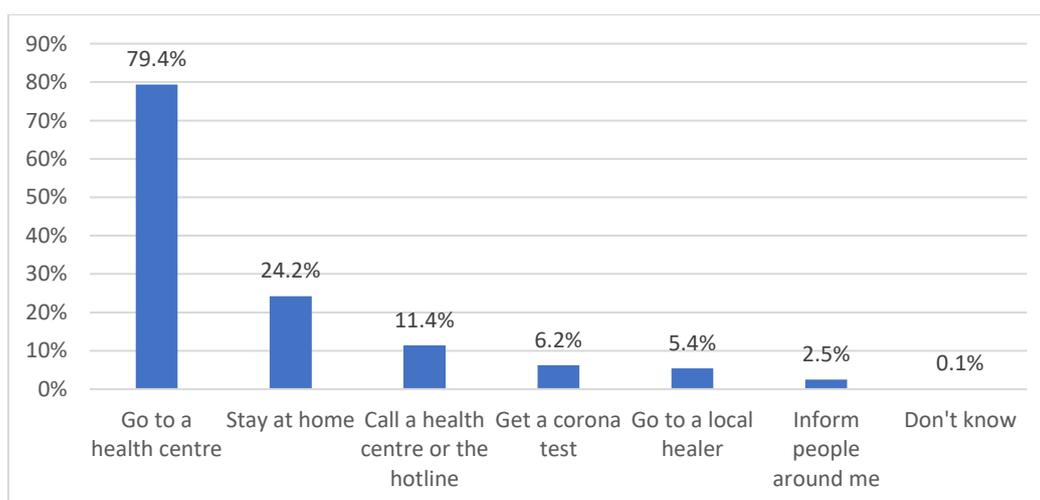
It is also important for the public to know how to protect oneself from contracting COVID-19. The GoTL, together with development partners, have used different methods to raise awareness since

the beginning of the SoE, such as TV commercials, community radio, distributing brochures, community discussions, and so on.

To assess what personal prevention methods the households had been taking, we asked which prevention measures they regularly followed over the one month prior to the interview. The most common method was wearing face masks, followed by using hand sanitizer or washing hands with soap and water. The proportion of households that answered 'wearing face masks' increased from SEIA-1 (80.8 percent in Dili and 50.6 percent outside Dili). While 'using hand sanitizer and washing hands' decreased slightly in Dili by 1.4 percentage point, it increased by 16.4 percentage points outside Dili compared to SEIA-1. 'Following the 1.5-meter policy', 'staying at home', 'avoiding public spaces', 'avoiding handshakes/physical greetings', 'reducing the number of visits to friends or relatives', and 'covering sneeze or cough in elbow or tissue/less spitting' decreased in Dili as well as outside Dili from SEIA-1.

Figure 70 Methods used by households to prevent transmission of COVID-19
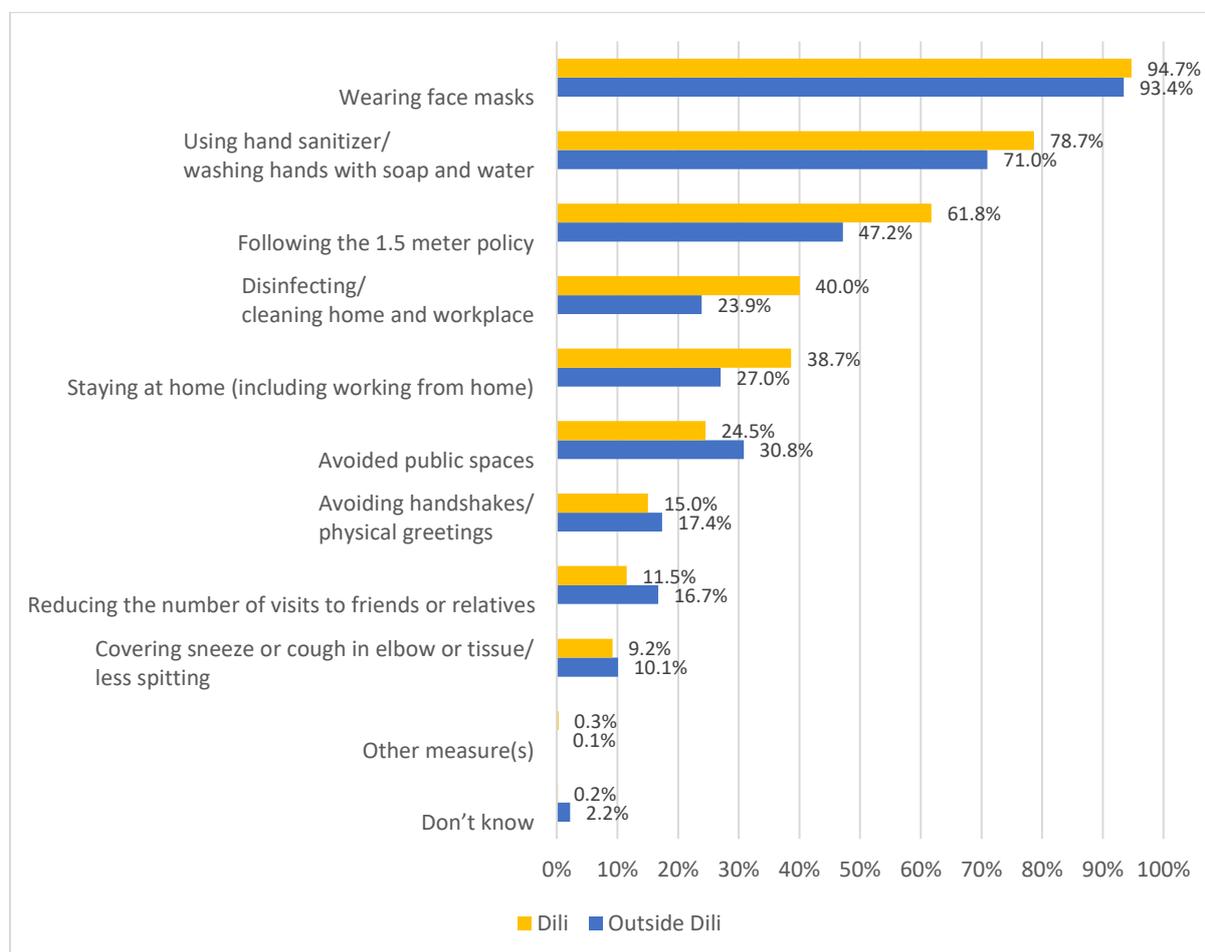
Throughout data collection in the field, the supervisors of the SEIA interviewers for the household survey conducted observations regarding COVID-19 prevention measures in the areas where the interviews took place. A total of 220 checklists were completed by supervisors in all municipalities.

Some of the observations conducted include prevalence of mask usage by gender, in which a total of 37 percent of males and 40 percent of females observed used masks incorrectly. Whilst in terms of physical distancing, in 76 out of 220 (34.5 percent) areas where the observations took place, the

supervisors observed people gathering in groups of 9 or more people without physical distancing, i.e., closer than 1.5 meters. Regarding the presence and use of WASH facilities, 68 percent of areas observed did not have washing facilities with water, 72 percent of observation areas did not have soap, and 76 percent of observation areas did not have hand sanitizer. Additionally, 68 percent of observation checklists indicated that no COVID-19 information, e.g., brochures, banners, or pictures, was seen within 50 meters of the location selected for observation.

6.2.3. COVID-19 vaccine

Timor-Leste received 24,000 doses of the COVID-19 vaccine on 5 April 2021 through the COVAX Facility[39,] and the nationwide vaccination programme started on 7 April 2021 with a goal of vaccinating the total population by the end of 2021. So far, vaccines from AstraZeneca and Sinovac are available in the country, with plans to bring the Pfizer-BioNTech vaccine to vaccinate adolescents.

When the data collection started in the beginning of July, 3.45 percent of the adult population nationwide were fully vaccinated in the country and 6.67 percent in Dili (Ministry of Health 2021). To assess community awareness of the COVID-19 vaccines, we asked whether households had heard about the deployment of the COVID-19 vaccine in Timor-Leste; 91.7 percent of them said they had heard about it.

- There were two municipalities (Manufahi and Ermera) where COVID-19 vaccine awareness was less than 90 percent. Ermera was the lowest at 80.8 percent, where the fully vaccinated population is also the lowest at 13.5 percent as of 12 October (Ministry of Health 2021).
- There was a small difference based on the wealth index. Households in the highest quintile were more likely to have heard about it than households in the lowest quintile (statistically significant).
- There was no statistically significant difference based on the social vulnerability index.

People used various sources to get information on the vaccine. The most common source (23.6 percent of households) was television (government communication), followed by a government official (15.4 percent) and internet/social media (14.7 percent). This pattern is consistent with the general COVID-19 related information sources reported in Chapter 7.1.1.

We then asked whether respondents would have concerns about receiving the COVID-19 vaccine when it becomes available for them. Half (50.4 percent) answered they would have concerns about receiving it. As Figure 71 shows, there was no statistically significant difference between respondents in terms of male and female and by broad age groups. Figure 72 shows the results by municipalities. Households outside Dili, especially in Aileu and Ainaro, were more likely to say they would have concerns than households in Dili.

- There was a small difference based on the wealth index. A greater proportion of households in the lowest quintile answered they would have concern(s) than households in the highest quintile (statistically significant).
- There was no statistically significant difference based on the social vulnerability index or household headship.

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[39] COVAX is co-led by Gavi, the Vaccine Alliance, the World Health Organization (WHO) and the Coalition for Epidemic Preparedness Innovations (CEPI), with UNICEF as the key implementing partner.

Figure 71 People with concerns about COVID-19 vaccine, by gender and by age group
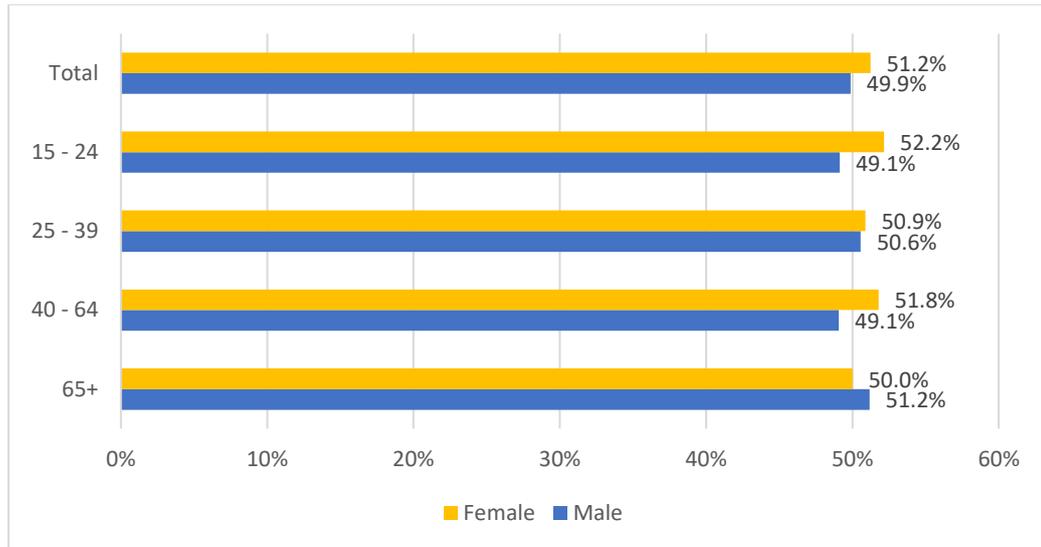
Figure 72 Proportion of households that would have concern(s) about the vaccination by municipality
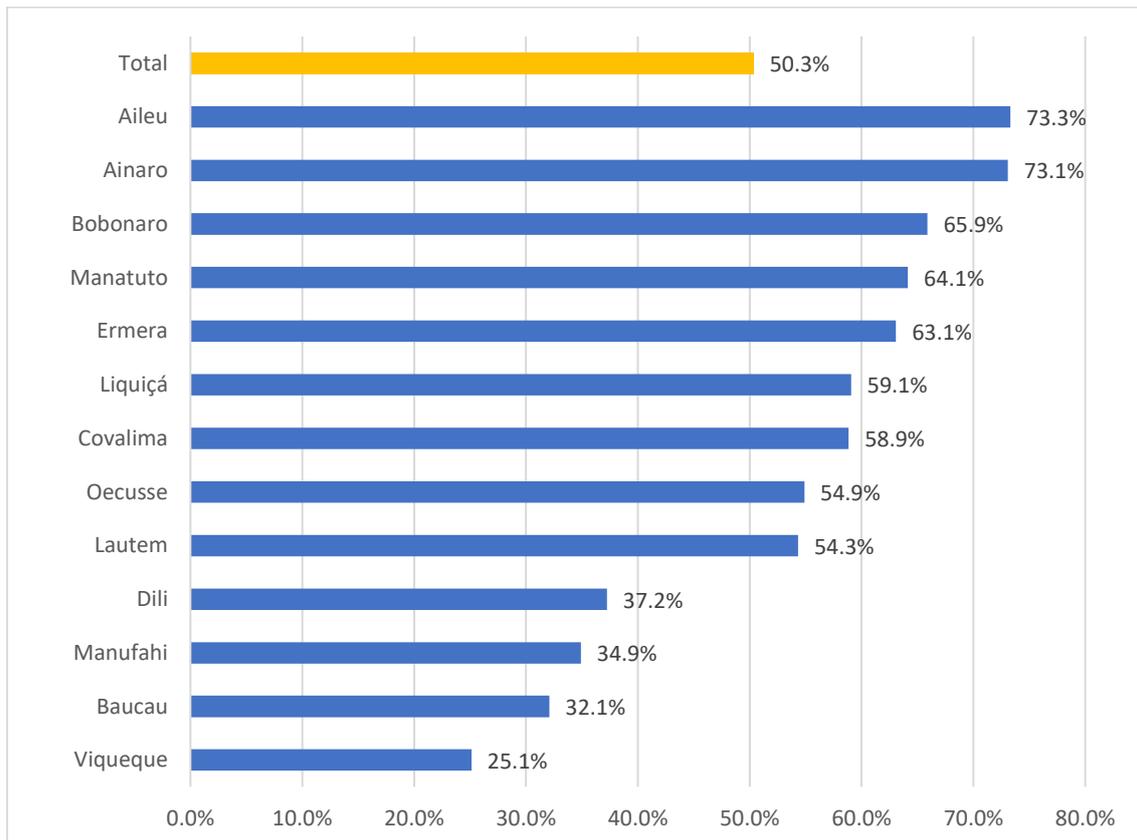
There have been concerns over misinformation about the vaccines. As the UN put it, 'People are reluctant to receive COVID-19 vaccinations due to false rumours and hoaxes' (UN RCO, 2021). As one of the health sector professionals interviewed pointed out:

'The country also needs to think about disinformation. Why are people afraid of swab tests? Whatsapp is commonly used and disinformation spreads very fast. People are on their phones and social media. Any fake information travelled so fast for even our own staff. So, in the health sector

this would present major challenges in the future. A systemic change is required to address this challenge'.

Among those who said they would have concerns, 46.6 percent chose health side effects (e.g., getting sick because of the vaccine, allergic reactions, etc.) as the main concern over getting the COVID-19 vaccine. Death or serious illness (e.g., physical impairment, mental impairment, infertility, etc.) was the second most frequent answer at 33.7 percent, followed by doubts about whether the vaccine would work or not (e.g., the vaccine has not yet been tested in Timor-Leste) at 13.8 percent.

- More households outside Dili had concerns about health side effects and death or serious illness than households in Dili.
- More households in the lowest wealth quintile had concerns about health side effects and death or serious illness than households in the highest quintile.
- More households in the most vulnerable category would have concerns about health side effects than households in less vulnerable category.
- There is no statistically significant difference based on household headship.

Figure 73 Type of concerns about receiving the COVID-19 vaccine, by residency
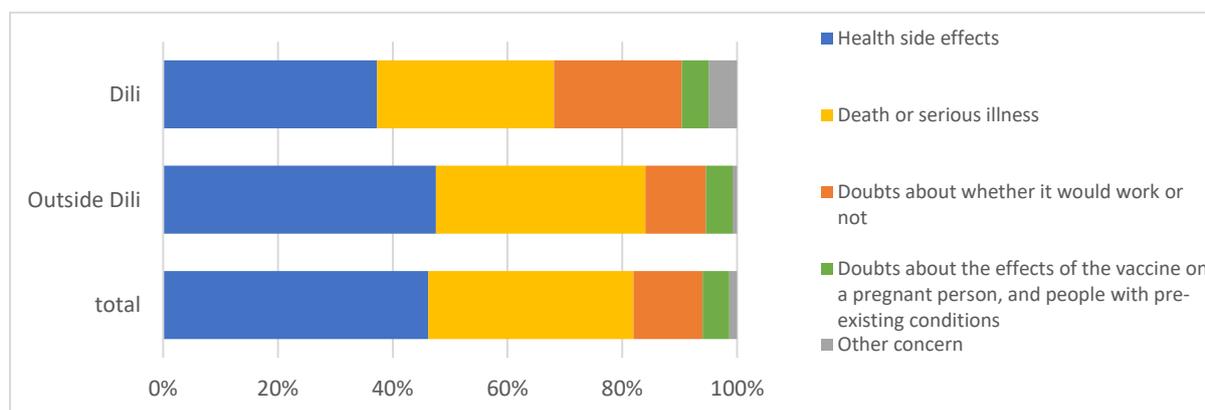
To support the vaccination campaign, the MoH has launched a multi-media awareness campaign on television, radio, social media and through advocacy meetings with national, municipal and community leaders. Figure 74 show people in the country still need clearer information on the COVID-19 vaccines as 58.1 percent of households want to know how the vaccine works. This is somewhat consistent with the results from the online survey (nonrepresentative of the population as a whole) conducted by MoH with support from UNICEF and WHO, in which the majority of respondents said they would like to receive information about how the vaccine works and whether the vaccine is safe (Ministry of Health 2021). While the most frequent answer was 'how long the vaccine will protect me for' in the same online survey, SEIA-2 revealed that only 6.6 percent of households had this question.

Figure 74 Percentage of households saying they would like to receive information by type of information

	Percentage
How the vaccine works	58.1%
Is the vaccine safe for everyone	28.3%
Who should get the vaccine	20.7%
Where does one get the vaccine	15.2%
When will the vaccine be offered	14.7%
How long will vaccine protect me	13.7%
Is there a fee for the vaccine	10.4%
Don't know	7.6%
Does not need information	6.9%
Will I still be able to get COVID after the vaccination	6.8%
How long will the vaccine protect me	6.6%
Other information	0.3%

6.2.4. Child vaccination

Timor-Leste promotes child vaccination and offers 11 kinds of vaccines for children. Since the first SoE was declared in March 2020, there have been concerns about children missing scheduled vaccinations. The proportion of children under 6 who completed immunization was 35 percent in 2019, increased to 75 percent in 2020 (Ministry of Health 2020b). The immunization coverage increased significantly in 2020 because of intensive immunization activities by MoH together with UNICEF and WHO to ensure access to immunization services during the SoE, especially in hard-to-reach areas in the country.

During the interviews, we asked households whether they had one or more children aged under 10. Among households with children aged under 10, 20.3 percent said one or more children missed vaccinations which was 6 percentage points higher than the finding from SEIA-1, 34.5 percent said all children received vaccination(s) as planned during the SoE, 25.3 percent said all children received vaccination(s) before the SoE, 5.0 percent said vaccination was not planned during the SoE, and 15.0 percent didn't know. When limiting to the households with children aged under 10 who needed vaccinations during the SoE, 37.0 percent said one or more children missed vaccinations, while 63.0 percent said all children received vaccination(s) as planned during the SoE.

- There was no significant difference based on residence, or whether the household had a child living with a disability/disabilities.
- There was a statistically significant difference based on the wealth index, and children in the lowest quintile were more likely to have missed vaccinations during the SoE than children in the highest quintile.

- There was a small difference based on the gender of the household head, but this was not statistically significant.

Figure 75 Proportion of households with children who needed scheduled vaccines who missed child vaccination during SoE by wealth index
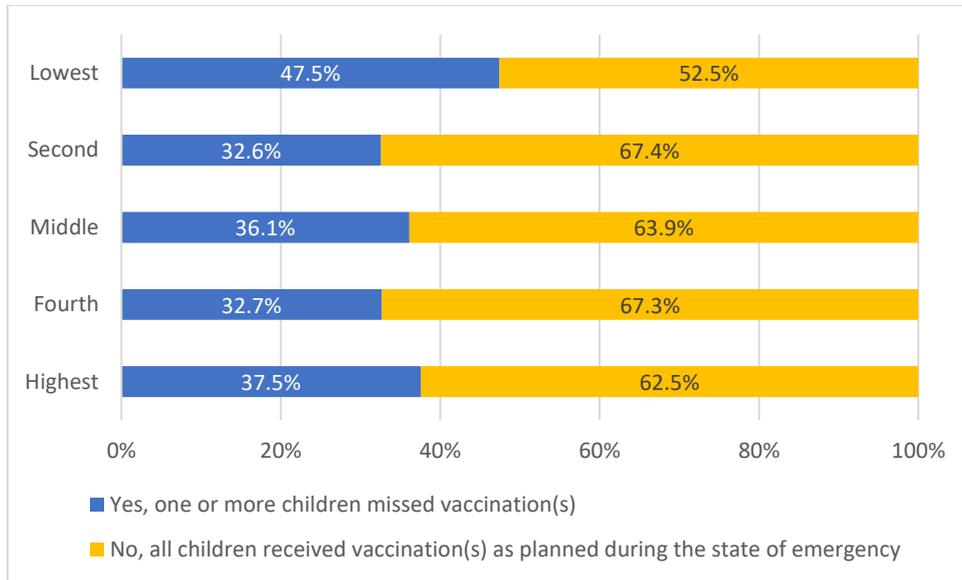
Among the 507 households with members who missed child vaccinations, 71.4 percent said the children missed vaccination only because of the SoE, and 11.3 percent said it was partly because of the SoE. Figure 76 shows that households outside Dili were more likely to report that the SoE was the reason.

- A greater proportion of households in the lowest wealth quintile reported one or more children missed vaccination(s) because of COVID-19 than in the highest wealth quintile.
- A greater proportion of male-headed households than female-headed households reported one or more children missed vaccination(s) because of COVID-19.

Figure 76 Reason for missed child vaccination by residency
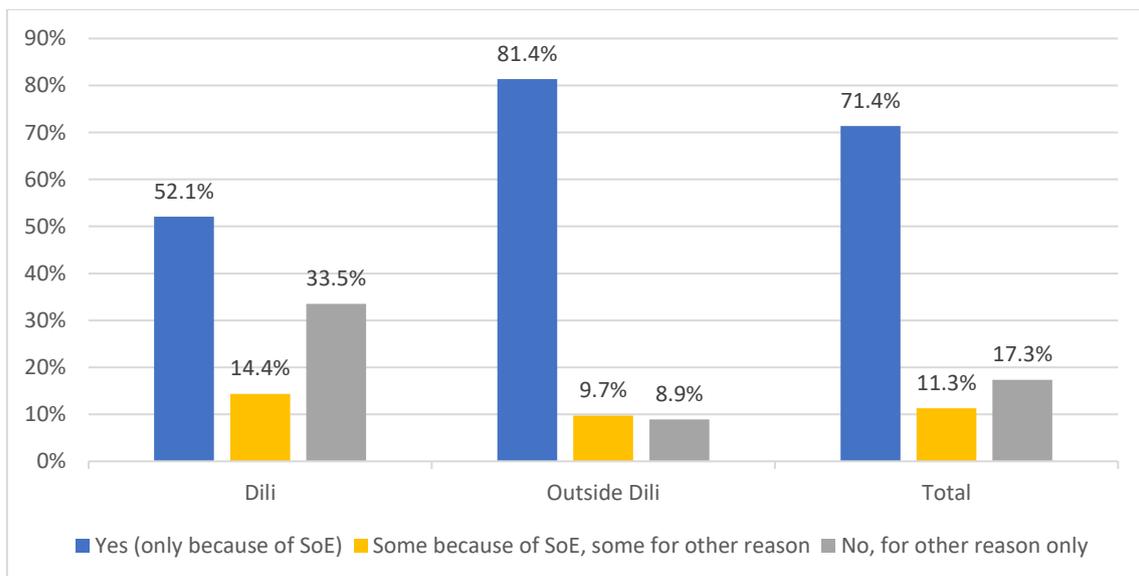
Figure 77 Reason for missed child vaccination by wealth index
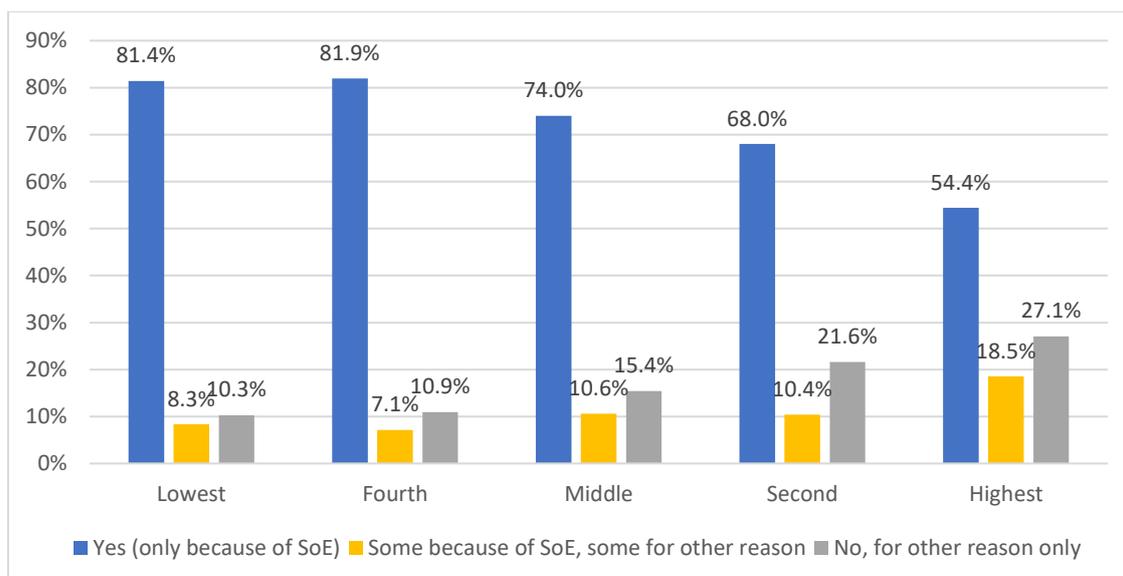
Figure 78 Reason for missed child vaccination by household headship
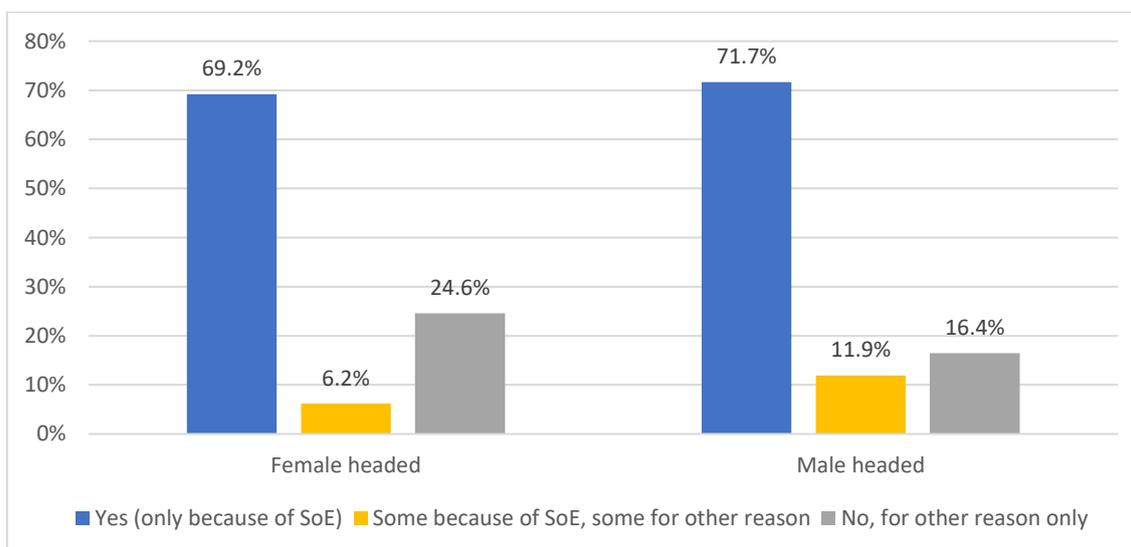
6.2.5. Reproductive health services and delivery assistance

Reproductive health services are essential for women's health and are often the only time they are seen by health care providers. The COVID-19 emergency may cause women to miss check-ups, or they may fear using health services. Reproductive health services include family planning and contraception, antenatal and postnatal check-ups (pregnancy/ maternal care), delivery/ childbirth care, gynaecological and breast exams, and treatments for infections. We asked whether female members of the household aged between 15 and 49 missed family planning or reproductive health services since the start of the SoE.

Among households with female members aged between 15-49, 29.3 percent said someone has missed family planning or reproductive health services, 27.2 percent said no one has missed the services, 19.1 percent said no one needed the services, and 24.4 percent did not know. When limiting to the households that needed reproductive health services during the SoE, 51.8 percent said they had missed the services. This is significantly different than the findings from the Timor-Leste Food

and Nutrition Survey 2020 (TLFN 2020), which was conducted from June to September 2020. TLFN 2020 found that 97.9 percent of the sampled women reported having accessed antenatal care during the last pregnancy. Among them, 64.1 percent had four to seven antenatal care visits in their last pregnancy, with 19.0 percent having 8 or more visits (Ministry of Health 2020a).

- A higher percentage of households in Dili had missed reproductive health services during the SoE. Households outide Dili were more likely to say they missed the services due to the SoE (Figure 79) (statistically significant). One possible explanation is that prevention measures including lockdowns and sanitary fences were implemented in a strict manner in Dili due to a higher number of positive cases of COVID-19 than outside Dili. Respondents might have been scared of catching the COVID-19 while traveling to or being at health facilities, or getting tested positive and sent to isolation facilities.
- A higher percentage of households in the most socially vulnerable category missed reproductive health services (statistically significant).
- There was a small difference based on household headship, though it was not statistically significant. Female-headed households were more likely to report they had missed the reproductive health services.
- There was a small difference in whether households' dwellings were partially or fully damaged due to floods, landslides or landslips during the Easter Flood in April 2021. A higher proportion of households with damaged dwellings missed reproductive health services during the SoE (statistically significant).
- There was no significant difference based on the wealth index or whether the household had a member(s) with a disability/disabilities.
- Households with adolescent women were less likely to report that they missed the services.

Figure 79 Proportion of households needing reproductive health services that missed those services during SoE, by residency
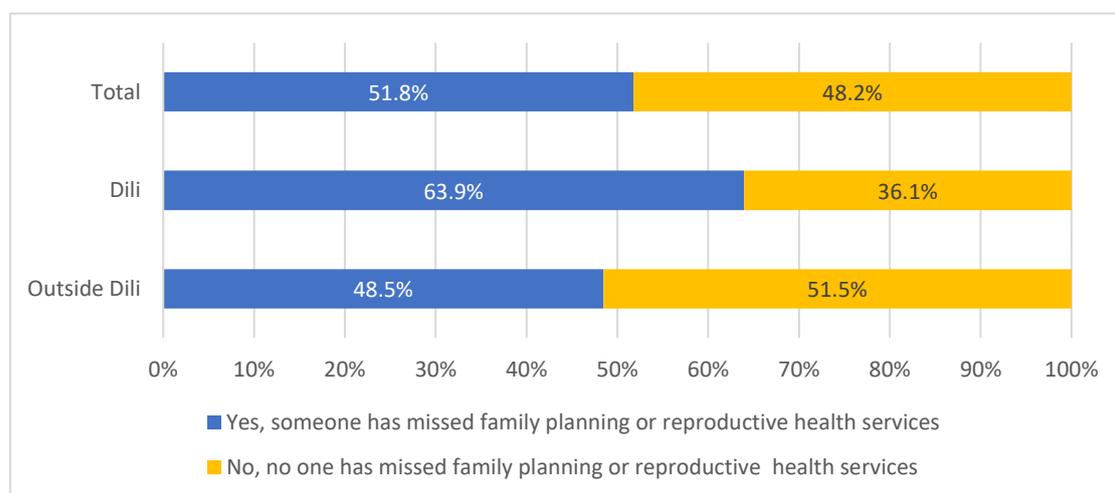
Figure 80 Reason for missed reproductive health services, by residency (n=1359)
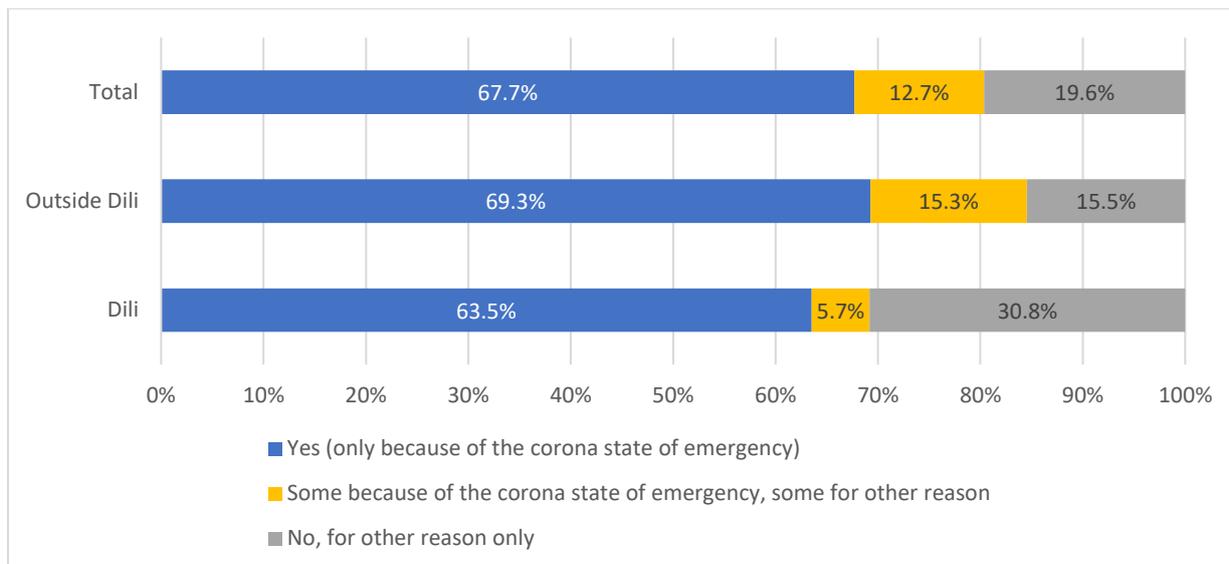
In KIIs, reproductive health care practitioners said that the number of pregnancies had gone up during the COVID-19 period in general and also among adolescent girls. One noted that teenage mothers normally accounted for 6-7 percent of total women delivering but reached 20 percent in some places after lockdown periods ended. Reasons that experts gave for the increase were that there was less supervision of adolescents while schools were closed, and parents were busy. In concert with more adolescent pregnancies, there was also reported to be an increase in child marriages.

Delivery assistance

Being assisted by a skilled birth attendant is an important indicator for the reduction of maternal and child mortality. We asked households with a child or children aged 0 by whom the woman was assisted during her last childbirth, because children aged less than 1 year were born during the SoE.

The most frequent answer was a midwife (34.4 percent), followed by a doctor (24.6 percent) a traditional birth attendant (11.3 percent), a friend or relative (10.7 percent), and a nurse (10.1 percent). A similar indicator from the TLFN 2020 shows that 72.0 percent of the sampled women reported midwives were their providers of antenatal care, followed by medical doctors (21.6 percent) and nurses (5.4 percent). Traditional birth attendants comprised only 0.2 percent (Ministry of Health 2020a). The TLFN 2020 was conducted from June to September 2020 and captured births from before as well as during the early phase of the SoE. The differences between the SEIA-2 and TLFN-2020 results may be due to the range of possible answers to the question in the surveys, social desirability bias, or another methodological factor. Alternatively, they may reflect a true difference in women's ability to access the formal health care system during the SoE.

- Households in Dili, the highest wealth quintile and the least vulnerable category were more likely to report having been assisted by a doctor (statistically significant).
- While no households in the highest wealth quintile chose traditional birth attendants, 25.8 percent in the lowest wealth quintile said that traditional birth attendants assisted their last childbirth (statistically significant).

Figure 81 Assistant for the delivery of child aged below 0
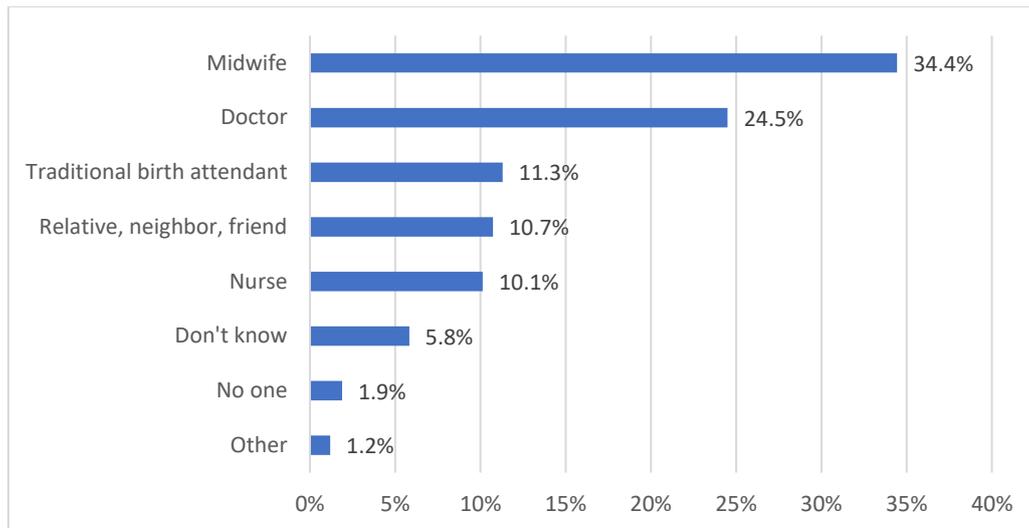
Table 15 Delivery assistance provider by residency, wealth quintile, social vulnerability, household headship and flood status

Delivery assistance provider	Residency		Wealth quintile		Social vulnerability		HH headship	
	Dili	Outside Dili	Highest wealth	Lowest wealth	Less	Most	Male HHH	Female HHH
Doctor	59.4%	20.9%	57.5%	11.5%	24.6%	8.1%	26.3%	12.2%
Nurse	20.3%	9.1%	14.8%	12.0%	4.1%	19.6%	8.2%	23.6%
Midwife	0.0%	38.0%	20.9%	28.9%	51.2%	31.8%	34.3%	35.0%
Traditional birth attendant	7.3%	11.7%	0.0%	25.8%	4.4%	12.5%	11.4%	10.7%
Relative, neighbour, friend	0.0%	11.8%	0.0%	18.1%	6.5%	10.6%	11.1%	8.2%
Other	0.0%	1.3%	0.0%	1.3%	2.6%	0.0%	1.4%	0.0%
No one	0.0%	2.1%	0.0%	1.0%	1.1%	3.5%	1.8%	2.7%
Don't know	12.9%	5.1%	6.7%	1.4%	5.5%	13.9%	5.6%	7.7%

6.3. Impact on other essential services

6.3.1. Protection services

Violence against women and girls (VAWG) remains one of the most widespread human rights violations and public health concerns for Timor-Leste. More than a third (38 percent) of women experienced physical/sexual intimate partner violence (IPV) during their lifetime, with 37 percent experiencing VAWG in the previous 12 months, more than double the average of 18 percent across 106 countries (GDS, MoH and ICF 2018). Lifetime experiences of partner violence sit at 59 percent, while over 80 percent of men and women in Timor-Leste believe domestic violence is justifiable (The Asia Foundation and the DHS 2016 2015).

Other countries experiencing COVID-19 have seen 20-30 percent increases in domestic violence due to economic stressors and isolation during lockdowns (UN Women 2020). Due to safety concerns,

the household survey did not ask respondents about their experiences of or responses to violence at home or in the community during the COVID-19 SoE. Guidance from UN Women and WHO states that stay-at-home orders can compromise the privacy of survivors of violence, precluding confidentiality, and that the risk of disclosure outweighs the benefits of household data (UN Women and WHO 2020). Instead, the SEIA-2 conducted KIIs with the staff of women's shelters and other service providers.

National data from Ministry of Social Solidarity and Inclusion (MSSI) (dated 18 October 2021) on the incidence of GBV show that the number of recorded cases of domestic violence dropped from 307 in 2019 to 187 in 2020. The number of cases for 2021 to date (143) suggest that this year's total will be similar to 2020's. MSSI data also show a decline in sexual violence against adults but a large increase in sexual abuse, rape and physical abuse of children compared to 2019 (data reported on 19 October 2021): The number of cases of child physical abuse rose from 36 to 80 to 143 in 2019, 2020, and the first nine months of 2021, respectively. Child sexual abuse cases totalled 38 in 2019, compared to 83 for 2021 (as of October); rape jumped from 31 to 64 cases. Child victims of incest dropped in 2020 but have exceeded 2019 levels in 2021.

The general consensus in the qualitative data was that violence had increased, including GBV such as domestic violence against women, although interviewees were not always specific about what kind of violence they were seeing or who the victims were. All five domestic violence shelters interviewed said that domestic violence against women and children had increased during the COVID SoE. A service provider in one municipality reported an increase in GBV and violence against children of 40 percent, and an Uma Mahon from another municipality reported having exceeded case numbers from 2020 by September of 2021. The Fatin Hakmatek network, which serves all 13 municipalities, recorded a 19.6 percent increase in cases across its facilities in the first 8 months of 2021 compared to the same months in 2020. Municipality representatives of MSSI and the National Police (PNTL), and nearly all other organizations that were asked, said that domestic violence cases had increased. Two NGOs and one suco chief reported the opposite, that domestic violence had decreased. Sexual violence and incest were also said to have increased by respondents in five municipalities: 'Incest, domestic violence, sexual violence and gender-based violence, all of them increased during COVID and also during the sanitary fence' (MSSI).

Therefore, the available data on violence against children are consistent, but the data on GBV and violence against women are not. Given the testimony from frontliners and the worldwide pattern of increased domestic violence during COVID-19, it is unlikely that the national MSSI data reflect a true decrease in violence against women. The discrepancies may be due to delays in reporting from municipalities and various agencies to MSSI headquarters. The budget crisis of 2020 may have also played a role in the adequate resourcing of services necessary for reporting to happen. In SEIA-1, Uma Mahon staff said that they were or had been operating without financial support; by 2021, protection services were considered essential services, and in SEIA-2, there were fewer complaints about delayed or missed funding. It is also possible that women were less likely to report experiencing intimate partner violence during the COVID-19 SoE because of their confinement with abusers, fear of retaliation, fear of contracting COVID-19 at a shelter, or problems reaching service providers during periods of restricted movement, as one interviewee suggested. Frontline service providers may be aware of cases that were not officially reported.

When asked about their capacity to meet present needs, one Uma Mahon said they had to send victims to other institutions because there were more than they could handle (specifically child survivors) and because they served as a quarantine facility for victims of domestic violence with COVID-19. Another stated, 'We had 106 cases that came directly from MSSI, but we needed to find new agencies to help us because we have too many cases.' Another two domestic violence shelters that were interviewed said that they had enough capacity to meet the needs of survivors.

However, a consistent theme was that outreach activities (such as for follow-up with survivors) were prevented for at least some periods of time, such as during the sanitary fence. Pre-existing problems with transportation due to a lack of vehicles and funding for gas were exacerbated by the lack of public transportation as well as movement restrictions. Legal processes were also suspended at times. In one municipality, the Uma Mahon relied on health care workers to reach survivors, because they were allowed to travel. However, those interviewed highlighted the role of family members, neighbours, local police, and community leaders in helping survivors access services. One service provider had started using previous clients to support new clients, further strengthening the community's role in protection.

In interviews, increases in violence were attributed to the lack of income, hunger, stress from COVID-19 restrictions, and, especially for sexual abuse, families staying at home together all the time. For example, an NGO staff reported that 'Although I don't have data, I can say that from what I observe, sexual violence in children and domestic violence rose, but sexual violence was what rose the most during the pandemic. This occurs because everyone spends more time at home with their families.' According to one interviewee, violence against children in the classroom also increased because of the stress that teachers were under.

6.3.2. Other services

While the GoTL has been taking mitigation measures by providing social security, COVID-19 poses potential disruption risks to public service delivery and essential services such as electricity and water supply. Therefore, this section aims to understand whether there have been changes in the quality of services provided due to the pandemic and SoE. Once participants indicated any change, we then asked the direction of the change - improved, deteriorated or disrupted/stopped.

More than 70 percent of households indicated that they experienced changes in the quality of service(s) since the start of the SoE. For 47.8 percent of the households, changes wherein the supply of drinking water, followed by electricity supply (30.4 percent) and public transportation (20.7 percent).

Figure 82 Changes in essential services quality
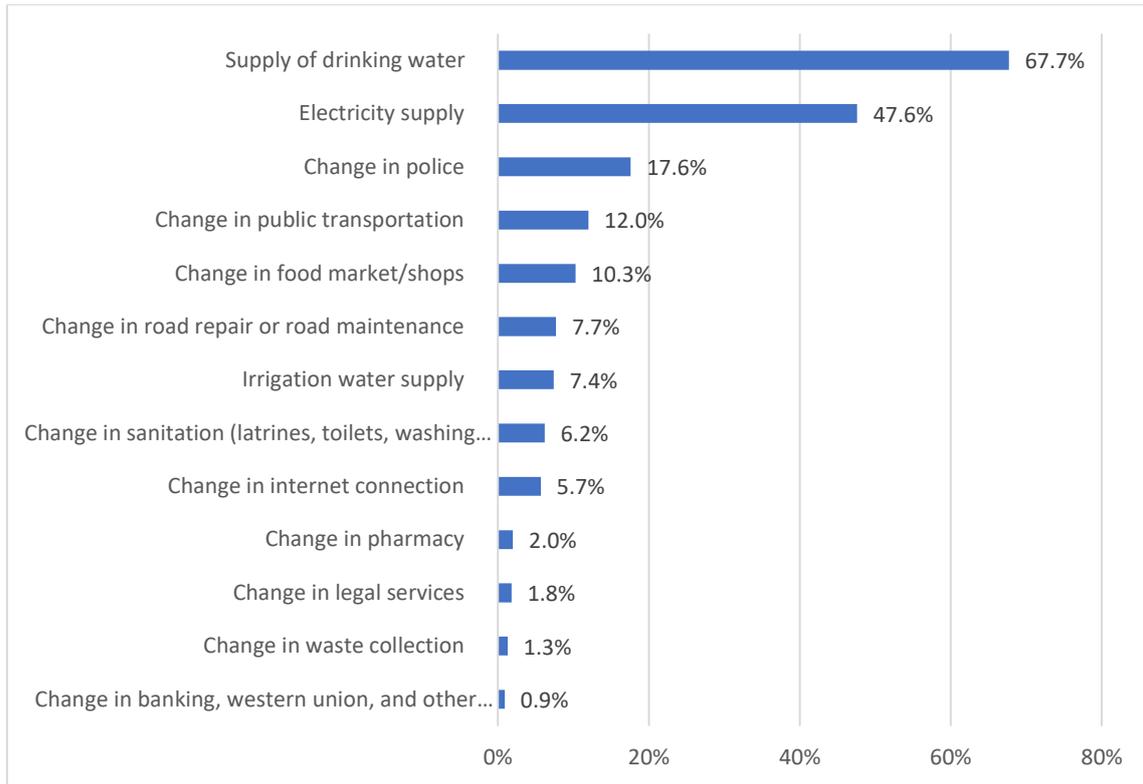
Among all households, 32.1 percent answered that the supply of drinking water quality had improved, while 15.6 percent responded that the quality had either deteriorated or disrupted/stopped. In addition to the supply of drinking water, more households reported positive changes in services related to electricity supply, police, food/market, irrigation water supply, and sanitation (latrines, toilets, washing facilities, etc.) rather than deteriorations or disruptions. More households reported negative changes in services (deteriorated and disrupted/stopped services combined) in public transportation, road repair or road maintenance, internet connection, and waste collection.

- A greater proportion of households in Dili and in the highest wealth quintile reported improved quality in the supply of drinking water.
- A greater proportion of households outside Dili, in the lowest wealth quintile, and in the most vulnerable category reported deteriorated or disrupted/stopped electricity supply.
- A greater proportion of households outside Dili reported deteriorated or disrupted/stopped public transportation services.

Table 16 Change in essential services during the SoE by residency and wealth index

Direction of change	Residency		Wealth index		Residency		Wealth index	
	Dili	Outside Dili	Highest	Lowest	Dili	Outside Dili	Highest	Lowest
	Supply of drinking water				**Irrigation water supply**			
Improved	64.2%*	25.2%*	54.4%*	22.0%*	6.3%*	2.9%*	6.3%*	3.3%*
Deteriorated	18.0%*	12.5%*	16.5%*	11.9%*	0.2%*	1.6%*	0.2%*	2.6%*
Disrupted/stopped	1.2%*	2.3%*	2.00%	1.30%	1.00%	0.60%	0.70%	0.50%
	Electricity supply				**Sanitation (latrines, toilets, washing facilities)**			
Improved	63.5%*	13.8%*	51.6%*	9.2%*	10.2%*	1.4%*	10.1%*	0.3%*
Deteriorated	4.0%*	4.5%*	2.7%*	5.9%*	2.0%*	2.3%*	1.9%*	3.0%*
Disrupted/stopped	0.8%*	3.9%*	0.9%*	4.0%*	0.10%	0.10%	0.10%	0.20%
	Public transportation				**Road repair or road maintenance**			
Improved	10.8%*	4.6%*	7.90%	3.80%	1.90%	4.00%	3.50%	3.80%
Deteriorated	2.4%*	9.0%*	6.00%	5.60%	2.40%	8.90%	5.30%	8.30%
Disrupted/stopped	0.9%*	8.5%*	3.80%	4.50%	1.50%	3.00%	3.60%	2.20%
	Waste collection				**Food market/shops**			
Improved	1.2%*	0.5%*	1.10%	0.50%	4.6%*	5.0%*	4.60%	3.10%
Deteriorated	0.3%*	2.1%*	2.50%	0.40%	1.50%	3.30%	2.20%	2.80%
Disrupted/stopped	0.00%	0.00%	0.00%	0.00%	0.1%*	1.1%*	0.60%	1.00%
	Internet connection				**Police**			
Improved	5.7%*	2.0%*	6.7%*	1.0%*	12.70%	7.40%	8.00%	6.30%
Deteriorated	3.0%*	5.3%*	2.9%*	5.0%*	2.9%*	0.6%*	2.30%	1.00%
Disrupted/stopped	0.0%*	1.2%*	0.0%*	1.0%*	1.20%	0.30%	1.50%	0.00%

6.4. Impact on social cohesion and subjective well-being

This section aims to explore how communities are responding to the COVID-19 pandemic. Whether there is much prosocial behaviour, as neighbours and communities organise for mutual support to help the vulnerable and each other, or groups are overlooked and isolated. These questions seek to understand the level of social cooperation, experience, and action in support of others. Understanding the social and psychological situation in responses to COVID-19 will support policy to build resilience and recovery.

6.4.1. Trust and support

The question 'In general, how much do you trust people in your community or in your aldeia?' asked the respondents' personal views about 'general trust' within the community. The majority of the respondents' trusted (75.1 percent) or strongly trusted their community (14.5 percent). There was no statistically significant difference based on respondents' gender or age. Those reporting they neither trusted nor distrusted their community were relatively more common among those outside Dili, irrespective of gender and age (Figure 83).

Figure 83 *Respondents*' trust in community, by residence (Dili - outside Dili)
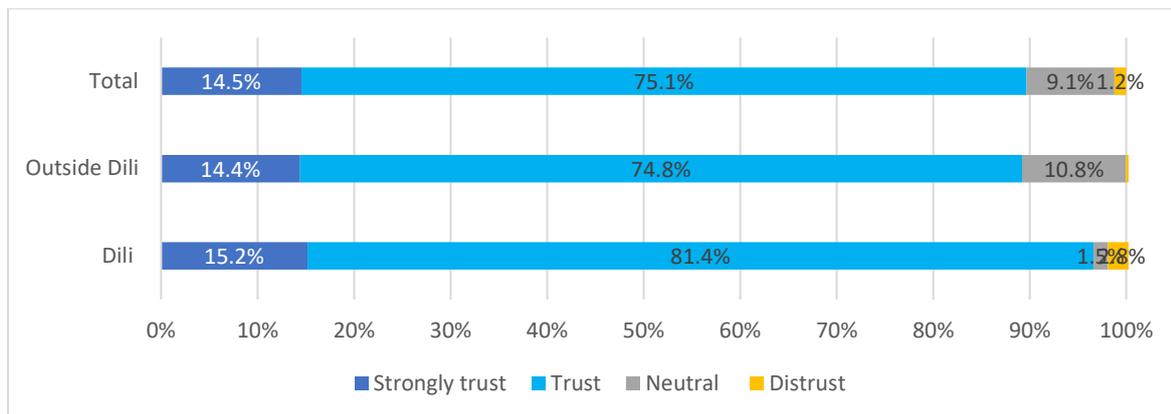
Then we asked if there had been any change in people's trust in each other since the SoE. Overall, 20 percent said that trust is much better, 53 percent better and 26 percent said there was no change (Figure 84). Only 38 respondents, less than one percent of respondents, said that trust had deteriorated. Those affected by floods were more likely to report a positive change.

- There was no significant difference based on age, gender or marital status of the respondent.
- There were small differences in whether the respondent had a disability or not (those with a disability were more likely to say there was no change), based on residence of the respondent (in Dili, more people reported there was positive change in trust) and those from households affected by flood.

Figure 84 Change in trust in community, by residence (Dili - outside Dili)
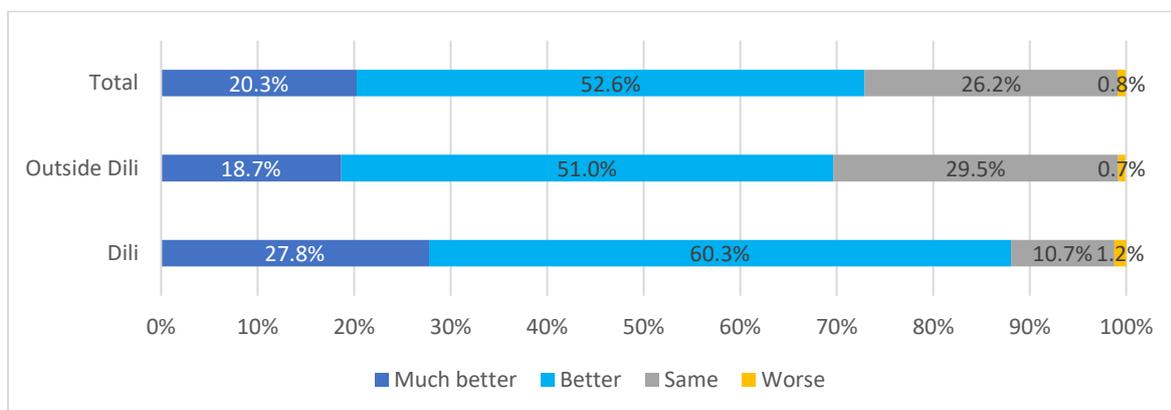
While we did not ask about trust in the qualitative interviews, people mentioned being afraid that others would get them sick. This fear seemed to be focused on strangers rather than known people. For example, a male farmer said, 'We are still afraid to help each other, and we are frightened when someone is sick. So only people from the same household help each other'. Similarly, Uma Mahon staff said:

> *'We are ready to support the vulnerable people in society but sometimes we are also scared because we do not want to get sick'. However, many people felt that they had received good support from neighbours: 'With my family and community everything is fine and I feel supported' (elderly woman).*

Help received. In total 68.4 percent of households had received help of some kind since the SoE was declared. As Figure 85, Figure 86, and Figure 87, show, nearly all households in Dili had received help (95 percent), whereas over half of households in other municipalities had received help (56.5 percent). The most vulnerable households received the least help compared to more vulnerable and less vulnerable households, and those in the poorest quintile also received the least help. This shows a significant disadvantage in accessing support from communities and the government for poor and most vulnerable households (statistically significant). There was no significant difference at the 95 percent level based on whether the head of the household was male or female.

Figure 85 Households that received help, by residence (Dili - outside Dili)
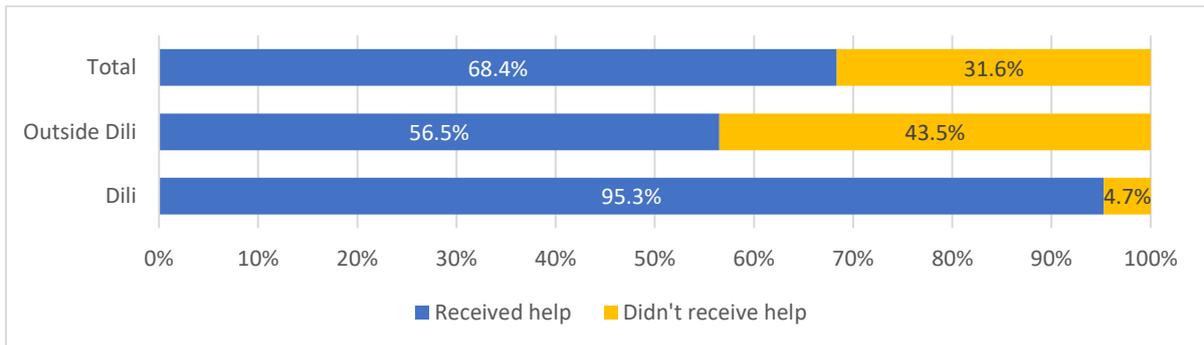
Figure 86 Households that received help, by vulnerability
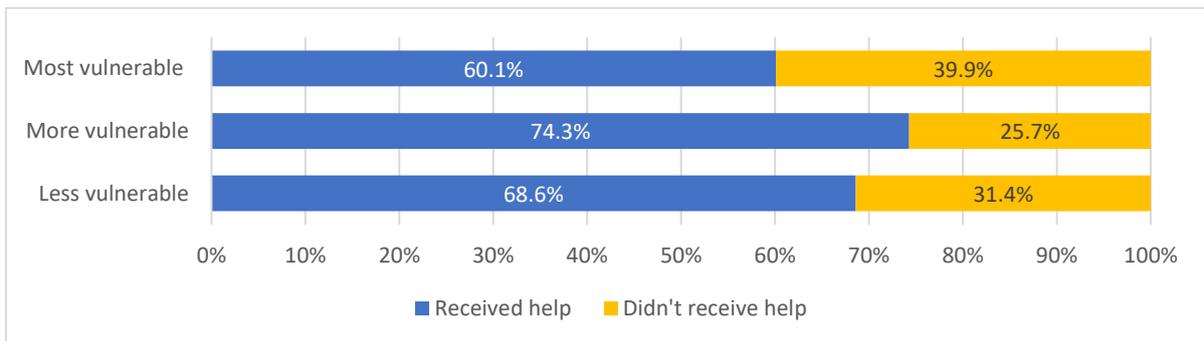
Figure 87 Households that received help, by wealth quintiles
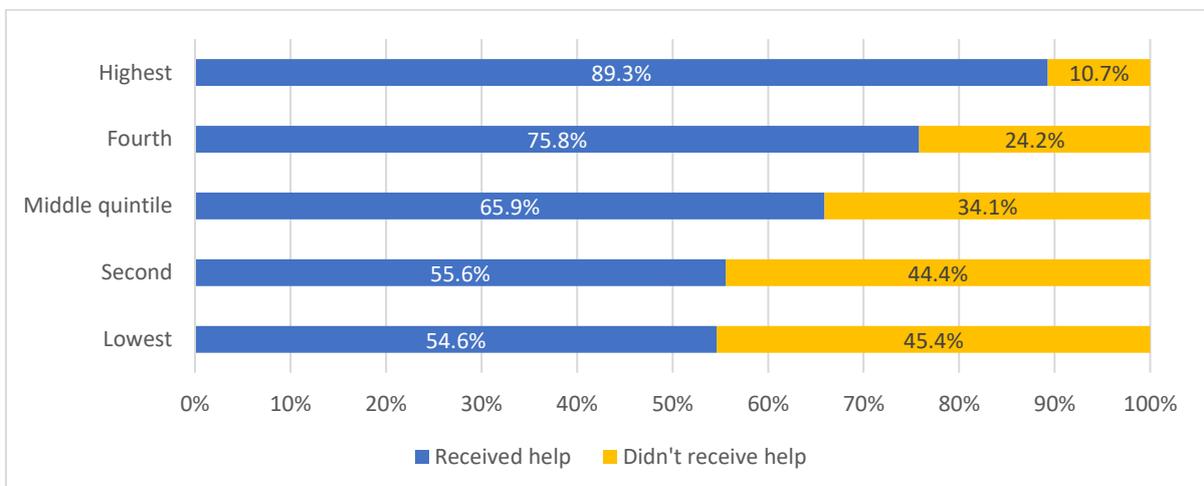
Type of help received. The most common type of help received by households was food support, followed by cash support. Of the households that received help, 96.0 percent had received food support and 48.0 percent received cash support (37.9 percent and 19.0 percent respectively of all households). When examining whether food support differed based on social and economic group, nearly all those who received help had received food support. However, looking at total households reveals a different picture, in which the lowest wealth quintile and those outside Dili were less likely to receive food support. Cash support, in contrast, differed based on group – when support was received, cash support was more common outside Dili and for the poorest wealth quintile. Other types of support were negligible – up to 3 percent of households had received other types of support including agricultural inputs, household items, clothing, emotional support, PPE materials and medicine.

Table 17 Households by type of assistance received (of total households and those who received help)

Status	Food support		Cash support	
	of total HHs	of those who received help	of total HHs	of those who received help
Dili	56.2%	97.5%	22.3%	38.8%*
Outside Dili	30.4%	94.9%	17.7%	55.1%*
Male headed household	37.9%	96.1%	18.8%	47.8%
Female headed household	38.2%	95.3%	20.2%	50.4%
Flood affected	35.0%	96.7%	19.3%	34.5%*
Not affected	50.0%	95.8%	17.7%	52.8%*
Richest wealth quintile	27.4%	98.2%	23.1%	41.6%*
Poorest wealth quintile	19.0%	94.5%	22.3%	55.7%*
Total	37.9%	96.0%	19.0%	48.1%
Total number of HHs	**1,626**		**815**	

Table 18 shows the percentage of households by support provider. The most common support provider was the national government (68.3 percent of those who received help) across all groups - wealth quintiles, male- and female-headed households, different vulnerable households - and support from the national government was more common outside Dili. The church was a more common provider of support in Dili and for the highest wealth quintile. For the poorest wealth quintile and those living outside Dili, relatives were the main support provider after the national government. Friends and neighbours accounted for 6.9 percent of support providers for households that received help, more commonly for those in Dili and in the highest wealth quintile. In terms of social vulnerability, there were no significant differences based on level of vulnerability. It should be noted that during the interview, respondents may not have recognized international organizations, as they mostly operated through NGOs or the national government.

Table 18 Support providers, by residency, wealth quintile and HH headship

Support providers	Residency		Wealth quintile		HH headship		Total
	Dili	Outside Dili	Highest wealth	Lowest wealth	Male HHH	Female HHH	
National government	63.8%*	71.6%*	67.0%	71.6%	68.7%	66.0%	68.3%
Relatives	3.7%	9.3%*	3.2%	11.8%*	7.1%	5.6%	6.9%
Church or other social institutions	11.9%*	1.7%	8.0%*	2.7%	6.0%	6.8%	6.1%
NGOs	4.1%	6.9%	4.6%	5.9%	5.5%	7.4%	5.7%
Friends or colleagues	7.1%*	2.7%	9.3%*	1.7%	4.5%	5.0%	4.6%
Neighbours or community members	4.4%	2.5%	4.7%	2.0%	3.4%	2.8%	3.3%
Local authorities	3.0%	1.4%	1.8%	1.7%	2.0%	2.9%	2.1%
International organizations	0.2%	0.9%	0.0%	0.3%	0.7%	0.6%	0.6%
Other support providers	0.4%	0.6%	0.3%	0.8%	0.4%	1.0%	0.5%
Don't know	1.2%	2.3%	1.1%	1.5%	1.8%	1.9%	1.8%
Total number of HHs	**723**	**973**	**453**	**327**	**1460**	**236**	**1696**

Statistically significant

Did you help others outside your household since the start of the SoE with food, money or other essential items or activities? Although the question did not specify how much the respondent helped others, it indicates community support and status of the household among different groups within the community, beyond kinship and household. In total, 30.2 percent of all households had helped others outside their households. The percentage of households that helped others was highest in Manatuto (62.4 percent), followed by Aileu (50.6 percent) and Ainaro (36.6 percent), and lowest in Lautém (4.7 percent), Viqueque (14.2 percent) and Covalima (16.1 percent). It is interesting to note that municipalities that had high percentages of those who helped others overlapped with a high number of buildings and agricultural land damaged by the Easter Flood.

6.4.2. Subjective well-being

This section asked about the respondent's emotions the day before the interview. The answer choices range from not feeling the given emotion 'at all' yesterday to experiencing the emotion 'all of the time' yesterday. These questions helped to understand how the respondents experience life and recent events. For positive affect, the survey asked whether the respondent felt calm and happy; for negative affect, we asked to what extent they felt worried, sad, and tired. It should be noted that there is a tendency to provide positive answers for subjective questions. Nonetheless, by looking at the difference in responses, we can identify the different effects of COVID-19 on different groups.

Overall, the majority of respondents indicated they felt happy and calm the day before the interview (Table 19). However, nearly 14 percent of the respondents indicated they felt agitated or very agitated. There was no significant difference at the 95 percent level based on gender, age group, residence of the respondents or social vulnerability of the household and wealth quintiles. There was a statistically significant difference among persons from households that had major difficulties in their lives were more unhappy than those who did not have major difficulties.

Table 19 Feeling calm and happy, by gender

Feeling calm				Feeling happy			
	Male	**Female**	**Total**		**Male**	**Female**	**Total**
Very calm	1.4%	1.0%	1.2%	**Very happy**	1.6%	1.3%	1.4%
Calm	84.5%	84.5%	84.5%	**Happy**	75.8%	77.9%	76.8%
Agitated	8.1%	9.6%	8.9%	**Unhappy**	16.1%	15.4%	15.8%
Very agitated	5.8%	4.6%	5.2%	**Very unhappy**	6.3%	5.4%	5.8%

To reveal if negative feelings were widespread or uncommon among people during the COVID-19 SoE, we asked respondents if they felt tired, worried and stressed[40] or sad the day before the interview. The results are shown in Figure 88. The majority (62.8 percent) of respondents had felt tired, and around one third had felt sad (29.4 percent) or worried and stressed (31.3 percent). Although not directly comparable, in SEIA-1, more women indicated feeling tired than men (72 percent and 60 percent, respectively); in SEIA-2, the proportion of men reporting feeling tired remained the same (61 percent), whereas for women it was lower at 64 percent. Compared to the first lockdown during the field interviews, schools had reopened, there was no strict sanitary fence and therefore routine activities had continued relatively normally over the prior one year, especially in municipalities outside Dili and those less affected by containment measures. It is interesting to note that there was no significant difference based on gender, residency (Dili and other municipalities), or social vulnerability.

Figure 88 Negative feelings experienced by respondents, by gender
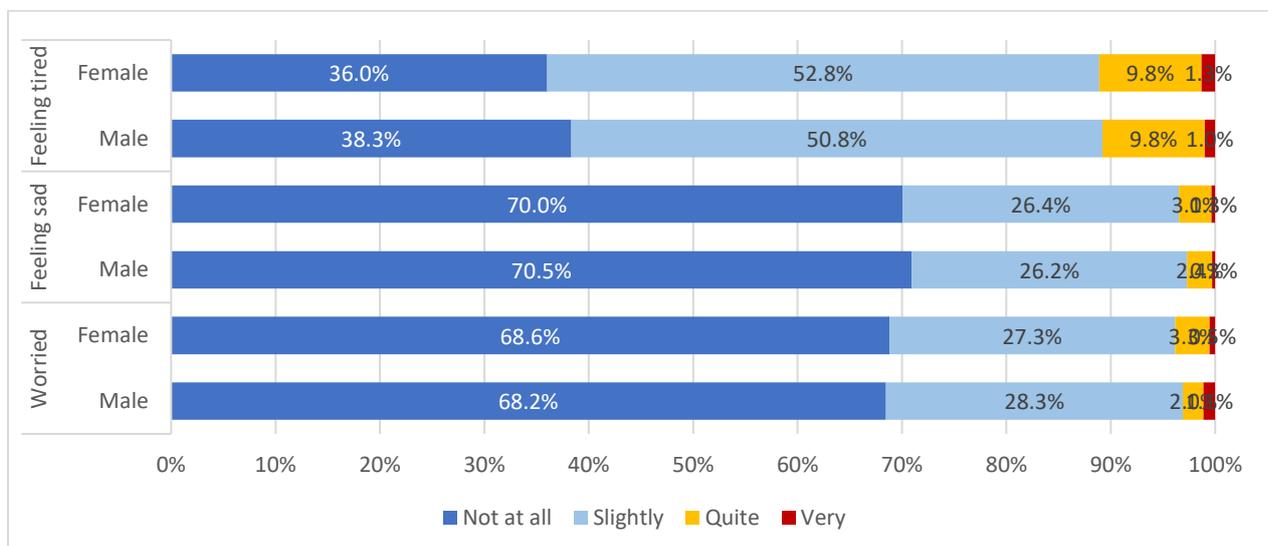
The two poorest wealth quintiles had more negative feelings compared to the two richest wealth quintiles. Understandably, there was a clear pattern in how the respondents felt – those feeling unhappy or very unhappy also felt other negative emotions including feeling sad and worried. However, there was no clear association between feeling happy or unhappy and feeling tired.

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[40] In other surveys, worried and stressed are asked in different questions. However, in this survey, we combine both because in the case of Timor-Leste, emotions of worry and stress were considered as similar and used interchangeably.

6.4.3. Life satisfaction

Questions on life satisfaction aimed to collect people's evaluative judgements on how well different aspects of their life were going. Such assessment is the result of a judgement by the individual rather than the description of an emotional state (OECD 2013). Questions about life satisfaction can include many life domains; however, the study only asked about five areas, using five-point Likert scales ranging from very satisfied to very dissatisfied. To avoid bias, 'Don't know' and 'Can't answer' options were added. The question referred to 'yesterday' – the day before the interview.

When asked, 'Overall, how satisfied are you with life as a whole these days?', 6.5 percent said they were 'Very satisfied' and 77.6 percent said 'Satisfied'. The most satisfied domain in respondents' lives were health and being part of the community; the domains with the least satisfaction were financial situation and employment position of the respondent.[41] Given the major difficulties respondents faced in livelihood, income, and employment, as discussed in the Economic impact chapter, this is not surprising.

Figure 89 Satisfaction with different domains of life, all respondents[42]
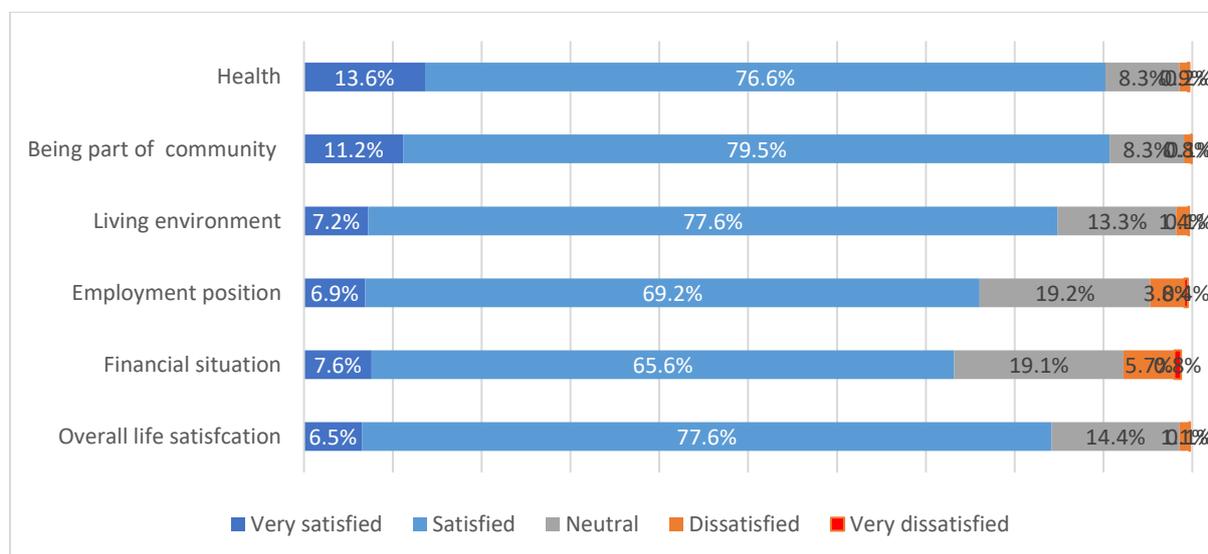
Although not statistically significant, a higher proportion of youth aged 15-24 years old were 'neither satisfied nor dissatisfied' across different domains of life, including employment situation (22.8 versus 16 percent for other age groups), living environment (16.0 percent versus 12.2 percent for others), being part of the community (10.3 percent versus 7.4 percent for others), and overall life (17.2 percent versus 13.3 percent for others).

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[41] SEIA 1 also reveals similar trend – yet it is interesting to note a four-point Likert scale was used without the Neutral (neither satisfied, nor dissatisfied) answer category. Therefore, the proportion of those dissatisfied was similar to the findings of the Neutral.

[42] Feeling of belonging, a feeling that members matter to one another and a shared belief that members' needs will be met through their commitment to be together. Financial situation can include different meanings related to finance such as income, financial security, ability to make financial decisions etc. Local environment can mean the natural environment respondent lives in (e.g. water, soil, air, natural resources). Employment situation refers to broad issues related to employment including whether the respondent is employed or unemployed, has a job, satisfied with their job, satisfaction with type of employment, chances of finding work etc.

Respondents from households affected by floods were more satisfied across all domains of life in the study, including being more satisfied with feeling part of the community compared to non-affected households (97.5 versus 89.2 percent). However, respondents from flood-affected households experienced more negative affect, including feeling less happy (34.1 percent versus 19.5 percent) and more agitated (20.8 versus 11.7 percent). This may indicate the psychological burden of the Easter Flood on communities.

Overall, those who were overall dissatisfied with their life were also likely to report they were unhappy the day before the interview. It should be noted for those who were feeling dissatisfied with their life and experiencing negative affect (comprising one fifth of the study respondents or nearly 1000 respondents), having emotional support may be important. However, according to the study's results on support received, only 40 respondents had received emotional support from others.

IDIs conducted with different representatives of communities, especially in municipalities most affected by movement restrictions including Baucau, Dili, Covalima and Viqueque, revealed the feelings of worry and sadness were related to losing livelihoods, not being able to sell their products in markets and concern for their children's education due to school closures. For young people, the worry and sadness were more related to education and being able to find jobs. Older people also expressed a sense of isolation and sadness at not being able to visit children in other municipalities.

> *I feel sad because my kids are in Dili and it is hard for them to come and visit me. Also it is hard to meet other family members. They feel worried about COVID-19. My kids also don't have any work even though two of them have university degrees. I feel stressed because I have no income. -Female farmer*

> *Now it feels like the Indonesian times. Now we need to show the vaccination card to be able to travel. No freedom. I cannot visit my kids in Dili due to me not being able to get vaccinated. -Elderly woman*

III. Government response

7. Government response to reduce impacts

This chapter considers the communities' and stakeholders' perceptions of the relevance and implementation of the Government's COVID-19 response and recovery measures; their satisfaction with various measures and institutions' response; how the COVID-19 support measures and the SoE measures were implemented; the role of the national and local government, development partners, and local NGOs; and the opportunities and challenges during the implementation of the SoE and other measures.

7.1. Coverage and satisfaction with government response

7.1.1. Access to COVID-19 related information

In this section we focus on the information and measures implemented to face the COVID-19 pandemic in Timor-Leste and how this was experienced by the households.

First, we asked if the households received information about COVID-19, such as government measures to support households and businesses, movement restrictions and health-related information, at the same time they were communicated or published and to what extent the information received was useful. Overall, 44.9 percent said they received information in a timely manner (in SEIA-1, the proportion of those who received timely information was 64.2 percent), 36.8 percent somewhat timely, 15.4 percent said that information was too late to be useful and 2.9 percent did not receive information at all (not shown in figure). Slightly more than half (54.3 percent) of the households who received information about COVID-19 and relevant government measures found the information useful, 40.9 percent found it somewhat useful, and 4.4 percent found it a little or not useful.

Breaking down how timely households received information and how useful the information was by municipality, significant variation was observed. Figure 90 and Figure 91 indicate Manatuto and Oecusse had the highest proportion of households receiving **timely information** (86.4 percent and 72.1 percent) and found the **information very useful** (91.4 percent and 86.0 percent). The percentage of households that received timely information and found the information useful was lowest in Ermera and Covalima. Despite a majority indicating that they received timely information, the largest proportion of households in Baucau and Aileu (nearly half) found the information somewhat useful.

There was no significant difference depending on the gender of the respondent, social vulnerability (although statistically not significant, most vulnerable households' proportion of receiving timely information was lower than the less vulnerable households), or headship of the household. However, there was a clear association between wealth quintile and the timeliness of receiving information, as the richest quintile received relatively timely information and the poorest quintile 'somewhat timely' or late information, as shown in Figure 92.

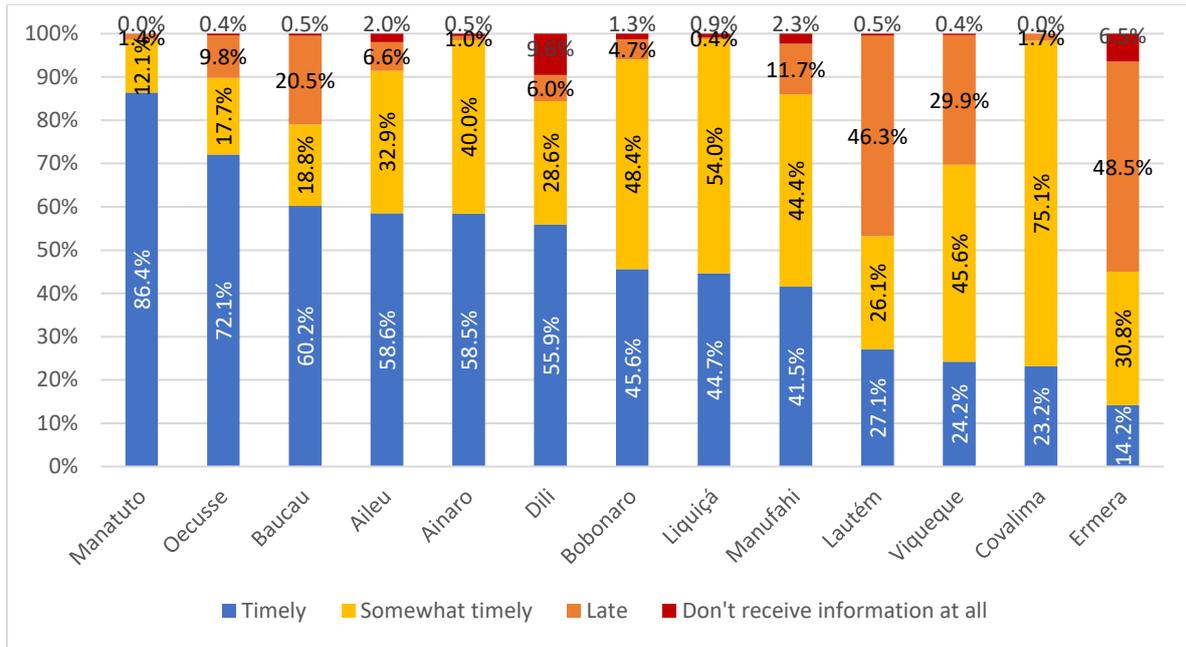**Figure 90 Timeliness of information about COVID-19, by municipality**

Figure 91 Usefulness of information about COVID-19, by municipality (n=4159)
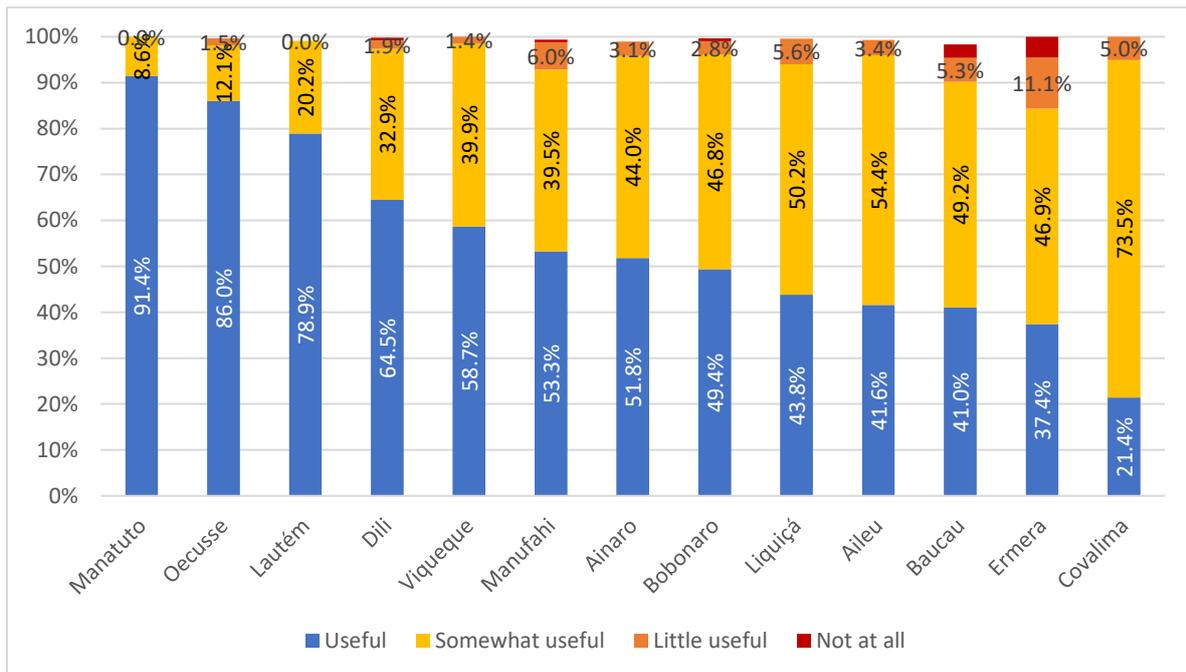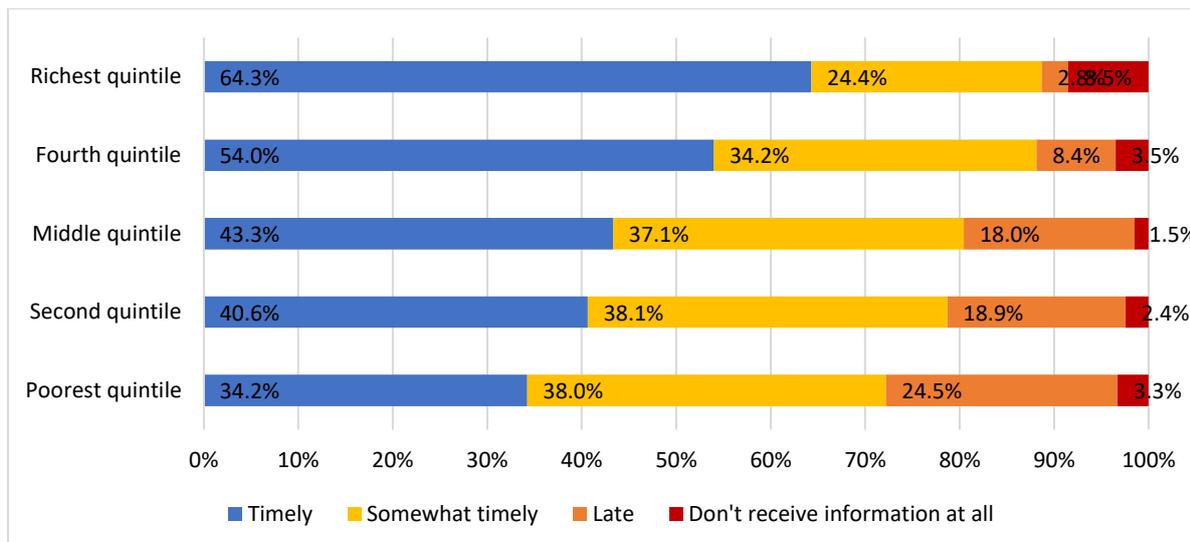
Figure 92 Timeliness of information related to COVID-19, by wealth quintiles

In addition to receiving timely and useful information, it is important to understand if households received information related to COVID-19 from diverse and official sources. The most common sources of information were television, health centres, internet/social media[43] and government officials.

The SEIA-2 results show inequalities in access to diverse sources of information by households' social vulnerability, residency (Dili or outside Dili) and, more significantly, by wealth. Households outside Dili, most vulnerable and the poorest households lag in terms of getting information from television and internet/social media; in contrast, they rely on word of mouth more than those in Dili (Figure 93), the least vulnerable group (Table 20) and wealthier groups. Health centres were also an important source of information for different groups, especially those outside Dili.

One of the experts working in the health sector who participated in the KII highlighted the increasing risk of disinformation within the country. The fact that more than one third of respondents get information through internet/social media and the expected increase in the use of social media presents risks in disseminating reliable information. Indeed, there were indications in other interviews that not everyone trusted what the government said about COVID-19 because different parts of the government gave different information, Facebook or WhatsApp were also sources of information, or people did not understand all the information given (for example, not everyone uses metres for measurements and therefore social distancing guidelines were ineffective). People also noted when government agencies made mistakes, as a *suco* chief noted:

> '*One of the latest issues is the issue regarding the expired Astra Zeneca Vaccines. The MoH needs to explain the issues of expired vaccinations, which has caused a lot of panic for the community. People here have heard news about expired vaccines on social media, causing distrust.*' – Suco chief

However, several interviewed respondents felt that the available COVID-19 information was sufficient and well understood by people.

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[43] The reason internet and social media are under one category is people use social media as official sources and government's various agencies communication is mainly done through Facebook and Whatsapp rather than their official websites.

Table 20 Top six sources of COVID-19 information, by households' social vulnerability

	Less vulnerable	More vulnerable	Most vulnerable	Total
Television (government communication) *	71.6%	67.7%	54.4%	66.6%
Health centre	41.7%	44.5%	46.5%	43.7%
Word of mouth *	17.8%	18.3%	30.0%	20.5%
Internet/social media*	41.9%	38.9%	27.9%	37.9%
Government official	23.4%	27.6%	24.9%	25.2%
National radio	26.5%	24.1%	21.8%	24.6%

Difference statistically significant

Figure 93 Sources of COVID-19 information, by Dili and other municipalities
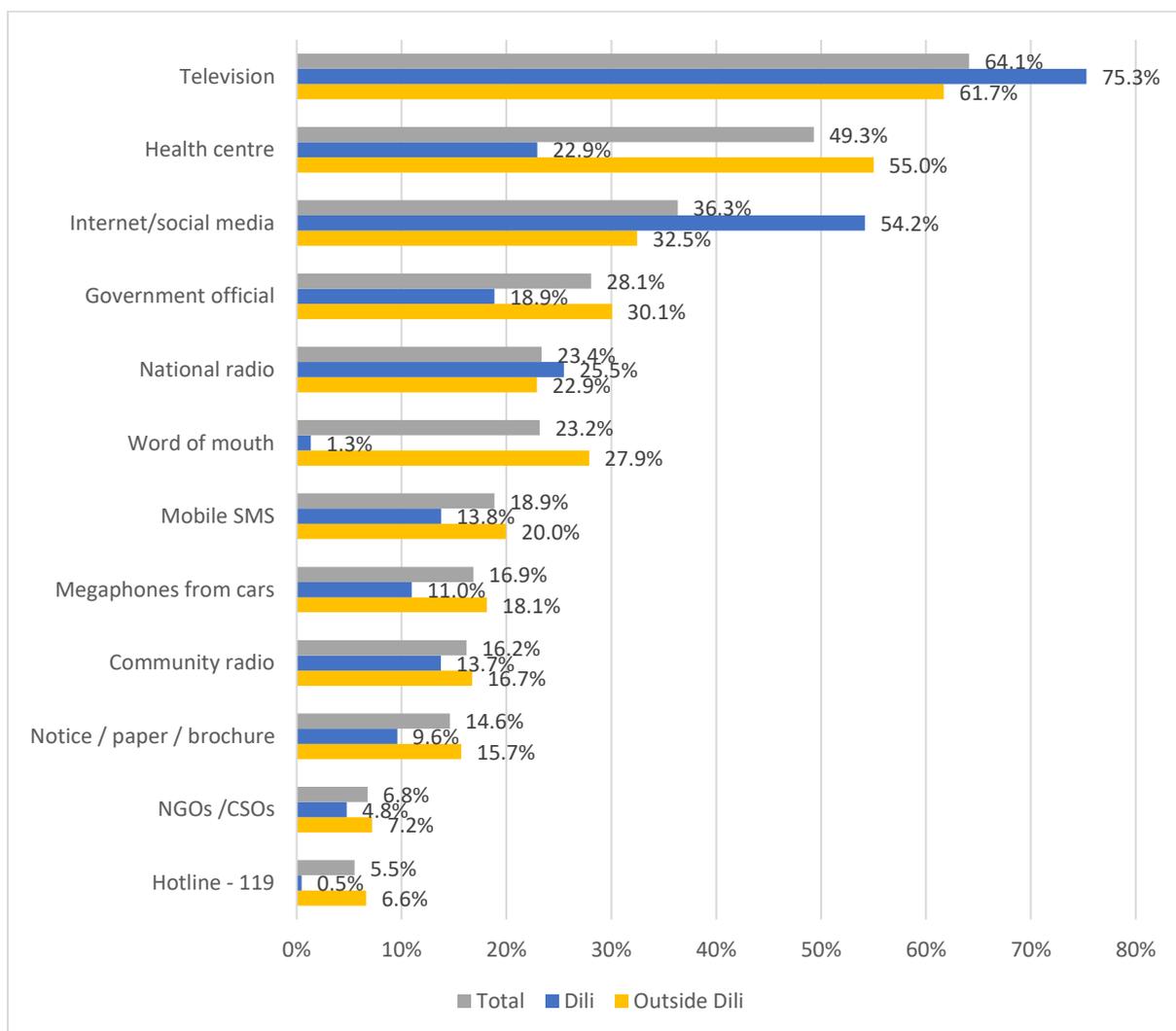
7.1.2. Satisfaction with government's response to COVID-19

In the face of the pandemic, like many other governments, the GoTL had to make difficult decisions to prioritize protection of the people, and to keep the economy open and sustain livelihoods. The views of political parties, CSOs and the people also varied. For example, following the decision to impose home confinement in September 2021 in response to a surge of COVID-19 cases and the

spread of the Delta variant among the community, the Forum of NGOs (FONGTIL) criticised the government, arguing 'People should be free to move and do economic activities to support their families,' and called on the government to end the confinement (FONGTIL 2021). Whereas previously in February 2021, when COVID-19 cases were increasing, members of the Parliament were asking the government to not let people in the capital and other municipalities roam around at the market, shop freely, and [...] to impose more restrictions to curb the virus spread (Independente 2021).

Therefore, it is important to hear community views on how responsive COVID-19 prevention, protection, and recovery measures are to the diverse needs of groups. This section presents community satisfaction with different institutional responses. A five-point Likert scale ranging from 1 (very satisfied) to 5 (very dissatisfied) with a 'Don't know' and 'No opinion' option was used.

As shown in Figure 94, overall satisfaction with different institutions was high. Respondents were most satisfied with health facilities (89.9 percent satisfied and very satisfied) and less satisfied with schools (66.2 percent satisfied and very satisfied). Although not directly comparable, this is consistent with SEIA-1's results in which respondents were most satisfied with hospitals and health facilities (93.6 percent) and less satisfied (50.8 percent) with schools. It is interesting to note that in SEIA-1, satisfaction with police was higher and with government lower, whereas in SEIA-2, this is reversed; satisfaction with government was higher than with police.

Figure 94 Satisfaction with institutions' COVID-19 response (%)
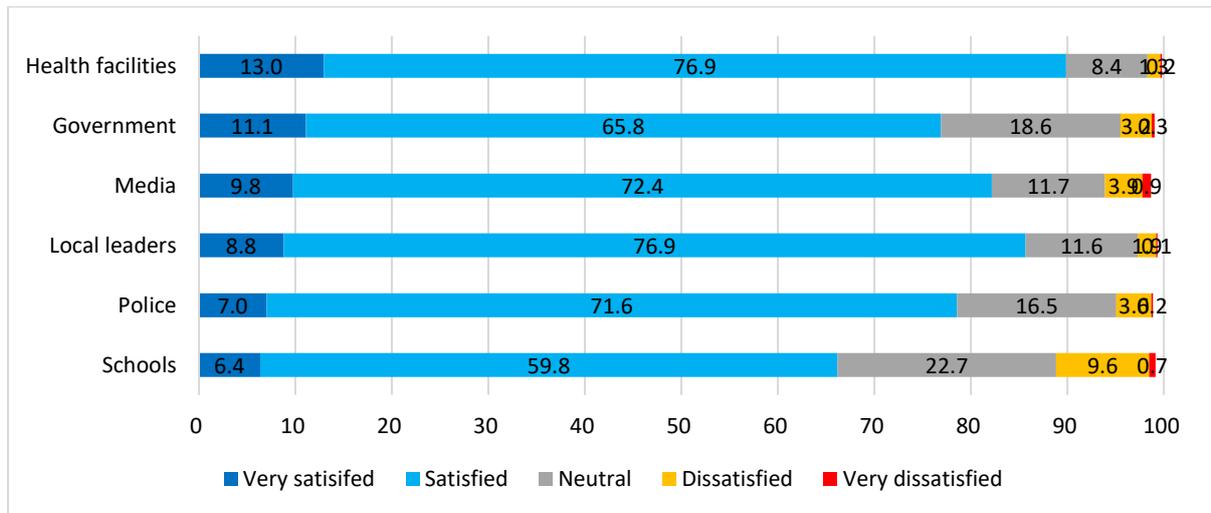
Although satisfaction levels appear generally high, there were differences based on gender, residence in Dili or other municipalities, and the respondent's household wealth level. As shown in

Table 21, men were overall slightly more satisfied than women with government and police; those in Dili were more satisfied with institutions except for schools. Respondents in the poorest households were less satisfied than those in the wealthiest quintile, except with regards to school. It is worth noting the proportion of respondents indicating satisfaction with the police was much lower than for those in the highest wealth quintile. Furthermore, those aged 15-24 were less satisfied with schools compared to other age groups (not shown here).

Table 21 Satisfaction with institutions, by gender, by residence and by HH wealth quintile

	Male	**Female**	**Dili**	**Outside Dili**	**Lowest**	**Highest**
Health facilities	84.0%	86.6%	95.2%*	89.0%*	89.9%*	93.8%
Government	78.3%*	75.5%*	64.9%*	79.5%*	76.4%	76.9%
Media	82.4%	81.9%	92.6%*	79.9%*	77.0%*	90.9%*
Local leaders	85.4%	85.9%	88.4%	85.0%	82.1%	92.1%*
Police	80.2%*	77.1%*	84.7%*	77.4%*	73.2%*	86.5%*
Schools	66.1%	66.2%	47.4%*	70.2%*	73.1%*	57.7%*

* Difference statistically significant

Figure 95 shows respondent satisfaction with Government response by municipality. Manatuto and Oecusse had highest proportion of respondents indicating they were very satisfied with the Government response (37.0 and 28.1 percent, respectively) while Ainaro and Dili had the highest number of those indicating that they were neither satisfied nor dissatisfied with the Government's response (35.5 percent and 34.8 percent).

Figure 95 Satisfaction with Government's response, by municipality
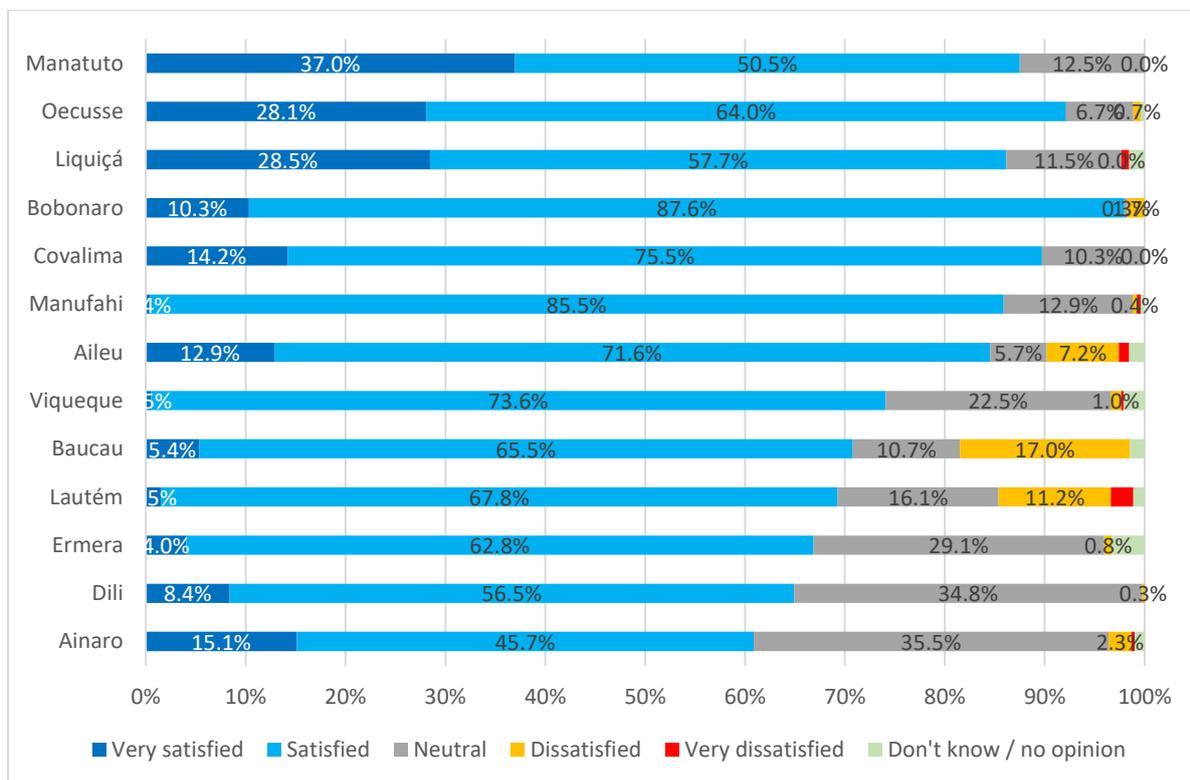
Respondents saying that they were very satisfied or satisfied with police were highest in Covalima and Bobonaro, while those dissatisfied was highest in Baucau, Aileu and Lautém. Although satisfaction with health facilities was generally high across all municipalities, Ainaro and Lautém had the lowest number of respondents indicating they were satisfied (Table 22).

Table 22 Satisfaction with police, health facilities and schools' COVID-19 response, by municipality[44]

	Police		Health facilities		Schools and education	
	Satisfied	**Dissatisfied**	**Satisfied**	**Dissatisfied**	**Satisfied**	**Dissatisfied**
Aileu	71.8%	15.4%	90.2%	1.7%	82.5%	11.3%
Ainaro	56.3%	2.3%	69.8%	2.8%	38.5%	22.0%
Baucau	64.2%	18.0%	82.2%	9.3%	23.8%	48.4%
Bobonaro	97.4%	0.9%	97.8%	2.2%	95.7%	1.1%
Covalima	98.2%	0.0%	100.0%	0.0%	90.1%	0.0%
Dili	84.6%	0.1%	95.3%	0.0%	47.4%	4.3%
Ermera	69.2%	0.5%	89.4%	0.7%	73.3%	3.0%
Lautém	68.9%	11.6%	67.1%	1.2%	71.6%	13.8%
Liquiçá	79.2%	1.5%	89.1%	0.0%	86.5%	0.4%
Manatuto	87.0%	0.0%	87.8%	0.0%	87.6%	0.0%
Manufahi	88.6%	0.8%	95.4%	0.0%	96.1%	0.4%
Oecusse	79.9%	3.7%	94.3%	0.5%	81.3%	9.7%
Viqueque	74.9%	0.0%	92.7%	2.4%	52.5%	11.3%

*Cells in green indicate high levels of satisfaction, cells in orange indicate relatively high levels of dissatisfaction.

During the pandemic, for many vulnerable groups and the poor, it is hard to practice self-isolation and strictly adhere to movement restrictions as they are forced to prioritise their economic needs and concerns over their health. To understand this situation and the main concerns the individuals have, the study asked 'What are your main concerns about COVID-19' (participants could choose only one answer option).

Vulnerable and lowest wealth quintile households were more concerned with lack of money and food.

- The most cited concern among the respondents was health (51.4 percent). More respondents living outside Dili were concerned with theirs and their close ones' health than those in Dili (56.9 percent versus 38.6 percent as shown in Figure 96).
- Respondents in the poorest quintile (37.9 percent versus 30.1 percent of the wealthiest group) and those in Dili were the group more concerned with lack of money or food (Figure 96).
- The negative effects on the national economy– is the main concern for residents in Dili and wealthiest group.
- There was no statistically significant difference between male and female respondents' concerns. However, more women than men were concerned with the lack of money or food than men (35.9 percent versus 31.5 percent).

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[44] The table does not show results for the neither satisfied nor dissatisfied.

Figure 96 COVID-19 main concerns
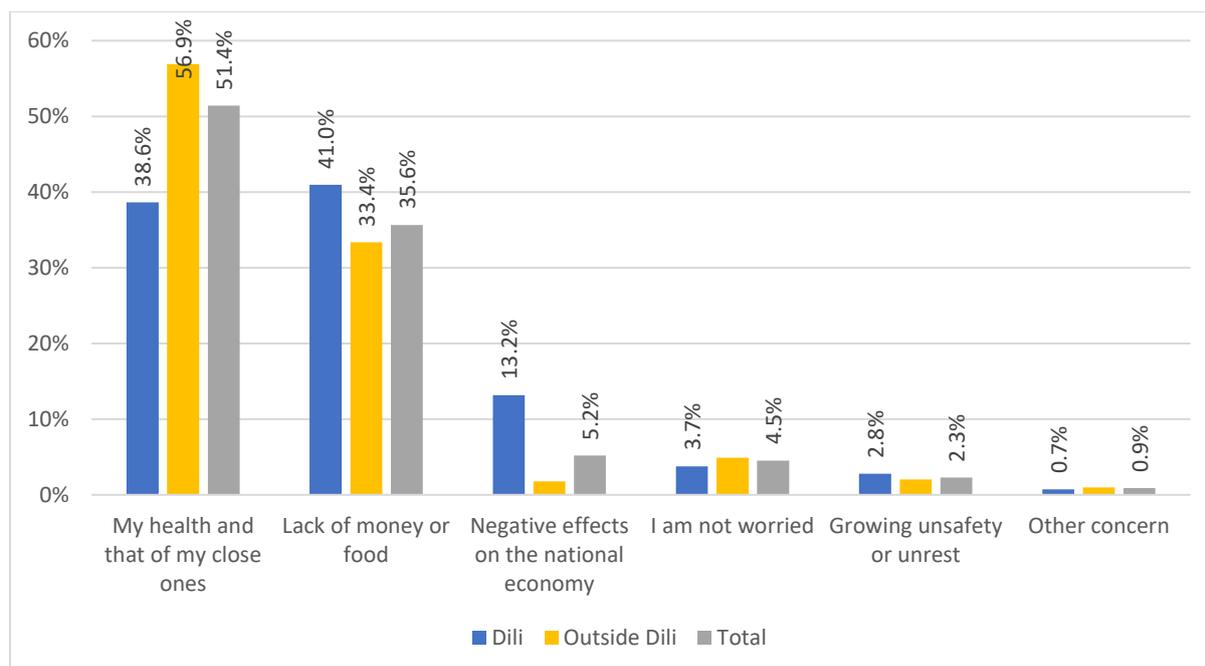
7.1.3. Uma Kain household subsidy

On 30 April 2020 through Decree Law No. 15/2020, the GoTL approved the Monetary Support for Households as part of the Government's effort to protect households from COVID-19 related economic shocks. This support consisted of the distribution of $200 per household with a condition that at least one member does not receive a monthly monetary value greater than $500 (through salary, subsidies, or institutional support). This grant was distributed during the third SoE, i.e., between May and July 2020, and each household was given a total amount of $200. According to official statistics, 318,527 families benefited from this grant, and a total of $63,705,400 was distributed.

Through this question, we wanted to know if households had received the benefit or not and the question grants us some sense of the impact and coverage of the programme. The answer to this question was simply 'yes' or 'no'. In total, 95.3 percent of all households had received the Uma Kain subsidy:

- 95.5 percent of male headed households and 93.8 percent of female headed households, although this difference is not statistically significant.

- More households outside Dili had received it (97.3 percent versus 90.4 percent in Dili).

- In terms of wealth quintile, less households in the highest wealth quintile had received the subsidy (89.0 percent in contrast to 97.2 percent of poorest wealth quintile). This could be due to the condition that no member should have a monthly monetary income greater than $500 and the wealthiest households are more likely to have high earning members.

When asked who received the household subsidy on behalf of the household, 87.7 percent were head of household and 10.7 percent the spouse of the head of household. In total, 74.6 percent were male, and 25.2 percent were female; 54.6 percent were aged 40-64 years old and 29.1 percent aged 25-39 years old.

Of the 202 households that had not received the subsidy, the major reasons included 'household was not qualified to receive it' (42.0 percent), 'household was not registered' (40.4 percent) and 'household did not know about the subsidy' (8.4 percent). Between August and October 2020, Rede Feto members interviewed 1,418 women about their experiences with Uma Kain; the results provide insight into the reasons why some who qualified did not receive Uma Kain. Four (4) percent had not benefited from the subsidy directly or indirectly; that is, neither they nor their households had received it. Women less likely to receive it were vendors, single mothers, widows, PWDs, LGBT persons, survivors of violence, and domestic workers. The primary obstacles identified were related to trouble registering the household and misapplication of the rules for distributing the benefit. For example, a woman in Bobonaro reported that 'The suco chief did not allow me to have the Ficha de Familia because my husband abandoned me.' Moreover, there was evidence that little to no information was provided to the aldeia level, especially in remote areas, information was not tailored for PWDs, and 20 percent of women said that they had not received any information about Uma Kain.

In SEIA-1, when government and non-government staff were interviewed, the advantages and disadvantages of the Uma Kain household subsidy were discussed. In the present study, the majority of KII respondents who mentioned the Uma Kain benefit were positive about it and appreciated the flexibility that cash provides. However, some of them expressed concerns about how the money was spent, suggesting that it was not always used for food but rather for cultural ceremonies or 'games'.

Yet, the household survey results show that nearly all households (96.9 percent) had used the $200 subsidy to buy food and drinks. As shown in Figure 97, in addition to buying food and non-alcoholic drinks, households had used the subsidy money to buy clothing and shoes (27.6 percent of all households who received the subsidy), and 16.9 percent had used it for health and education purposes. Among the households living outside Dili, 10.7 percent had spent on housing and utilities and 6.4 percent on buying phone and internet credit. This shows multiple uses of the subsidy for important development outcomes including food, education, health, access to internet, and housing services.

Vulnerable households were more likely to spend the subsidy on food and non-alcoholic drinks compared to the least vulnerable group (93.6 percent of most vulnerable, 95.2 of more vulnerable and 90.0 percent of least vulnerable had spent the subsidy on food). There was a statistically significant difference based on wealth quintiles in which the poorest households tended to use the subsidy for the following purposes:

- Health or education (13.8 percent for lowest two quintiles versus 9.5 percent for the highest quintile)
- Clothing and shoes (21.6 percent for lowest two quintiles versus 11.4 percent for the highest)
- Housing and utilities (11.3 percent for the poorest two quintiles versus 2.8 percent for the highest).

Figure 97 Households' use of 'Uma Kain' $200 household subsidy
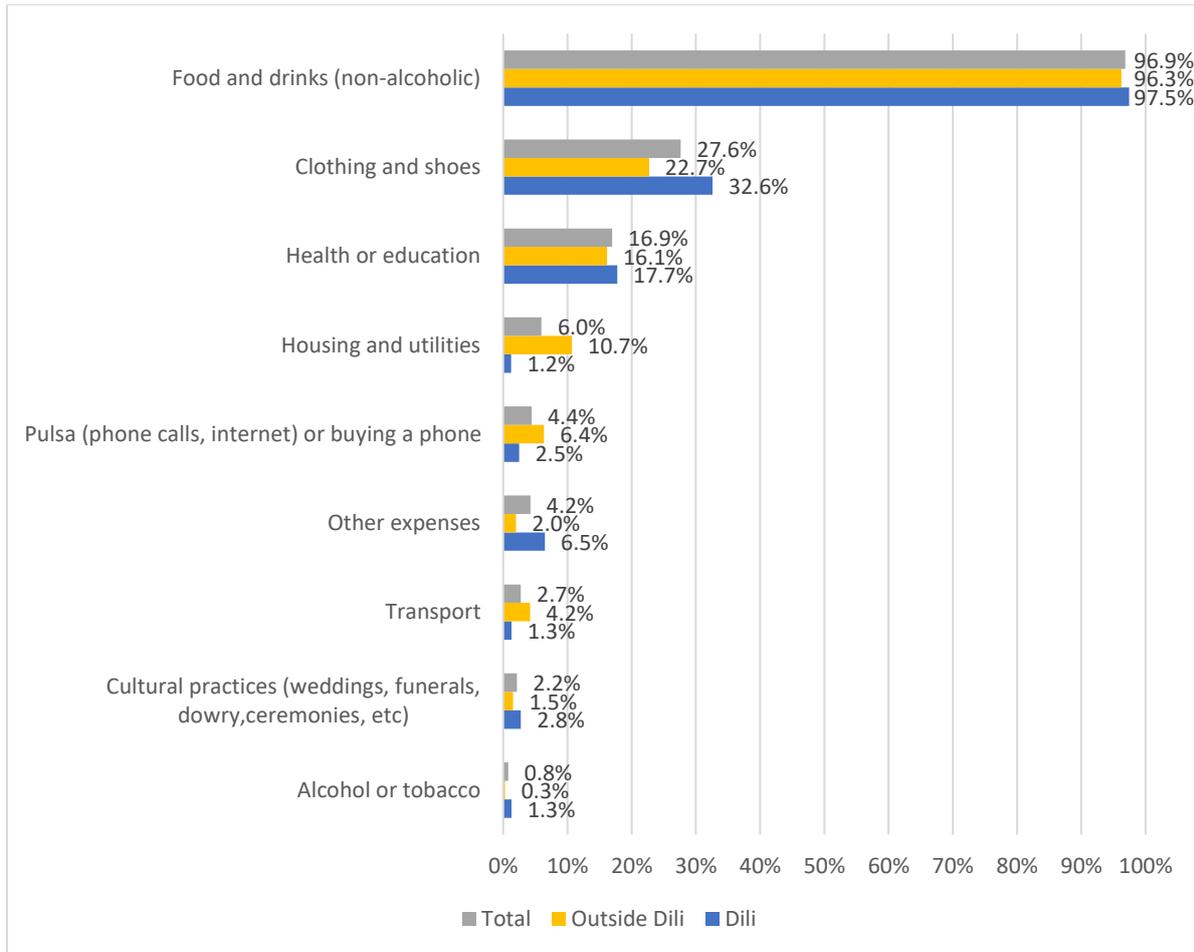
7.1.4. Satisfaction with Cesta Básica programme

As part of the GoTL's efforts to address the socio-economic impact of COVID-19 and the Economic Recovery Plan, the 'Cesta Básica' emergency response programme was initiated on 31 March 2020. The Cesta Básica consisted of a basket with food products and essential personal hygiene items or shopping vouchers corresponding to the same value of goods to be distributed among all Timorese citizens living in Timor-Leste. The basket was equivalent to a fixed amount of up to $50 (fifty US dollars) and distributed to each member of the household. The Cesta Básica was distributed between November 2020 and 30 July 2021. A total of $82.6 million was spent on the Cesta Básica programme (MCAE unpublished source, 2021).

Because various stakeholders in Timor-Leste were debating the relevance and efficiency of the Cesta Básica programme, the SEIA-2 asked communities and key stakeholders about their satisfaction and perception of the programme. The Cesta Básica programme had mixed reviews in KIIs and IDIs. While most respondents were grateful for the food, criticisms were made about the quality and origin of food and the need for customisation for different municipalities. For example, a MAF representative said, 'In general Cesta Básica was good and contributed to support the farmers; however, companies go directly to the community without consulting MAF, so they are distributing food that we already have. Some products they buy in other municipalities to distribute here when we already have it.' Other comments were that some of the food distributed was imported and that the vendors were the primary beneficiaries. Some questioned the means of distribution, saying that having people

congregate together to receive the food spread COVID-19 and prevented very vulnerable people, such as PWDs, from benefiting.

Of all the households in the survey, 95.5 percent had received the Cesta Básica, of which 96.6 percent fall in the poorest two quintiles and 91.8 percent in the wealthiest quintile. Similarly, 97.1 percent of households outside Dili and 91.5 percent within Dili had received the basket. Members who received the Cesta Básica on behalf of households were similar to Uma Kain: 77.6 percent were male and 25.2 percent female; 77.2 percent were the head of household and 19.0 percent the spouse of the head of household. Of the 195 households that had not received the Cesta Básica, the major reasons were that the household was not registered (39.7 percent) and the household was not qualified to receive it (28.6 percent).

Figure 98 Reasons households did not receive Cesta Básica by residence (Dili/outside Dili)
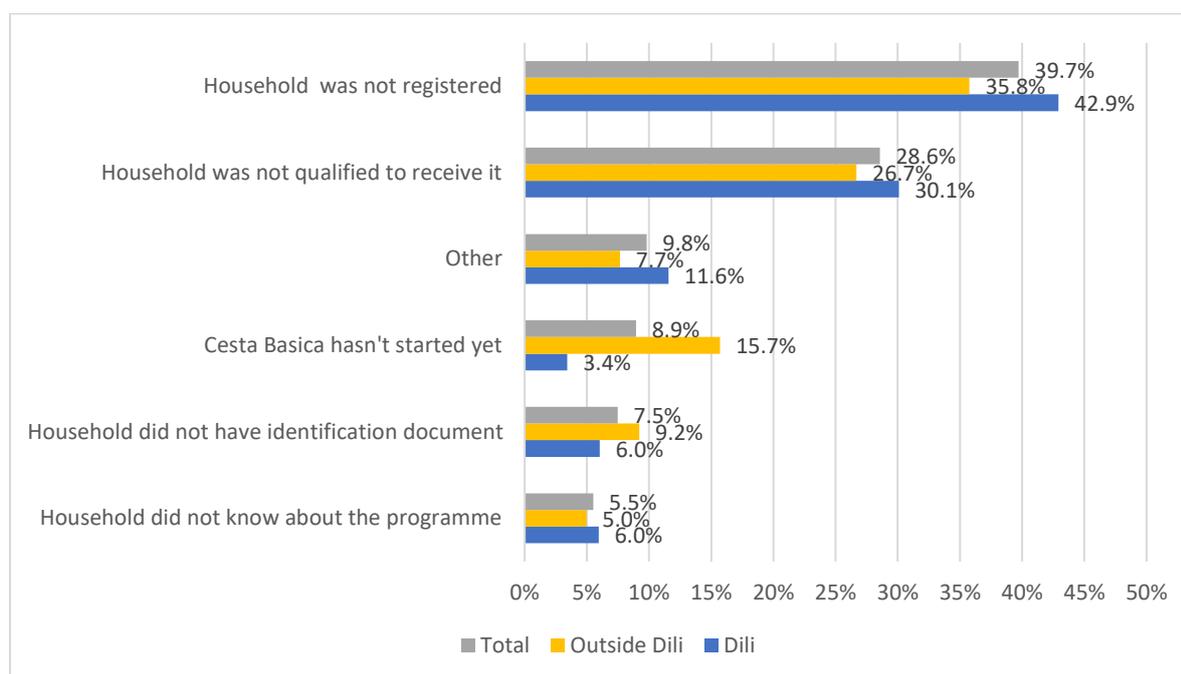
Cesta Básica is a GoTL economic recovery programme taken in response to COVID-19.

As the Cesta Básica programme should include every member of the household regardless of age, the survey asked how many members had received the food basket or shopping voucher. To estimate whether the programme covered all individual members within the households, we subtracted the answer from the total number of household members. According to a rough estimation, approximately 6.5 percent of members may have missed or were not able to receive the benefit[45].

The respondents were most satisfied with the quantity of items in the basket or the voucher allowance (11.2 percent very satisfied and 67.0 percent satisfied). Overall satisfaction was also high with 8.9 percent indicating very satisfied and 70.1 percent satisfied (Figure 99).

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[45] At the time of the survey, 4,096 households with 22,870 members indicated they received the Cesta Básica Yet when asked how many members in each household had received it, the total number was 20,239, indicating 2,632 individuals had not received it. In total, 270 members were newborn babies, and 804 individuals had moved into the household and may have missed the distribution. This leaves 1,558 individuals that should have received it but did not. Some of this could be due to recall and accuracy issues.

Figure 99 Satisfaction with Cesta Básica
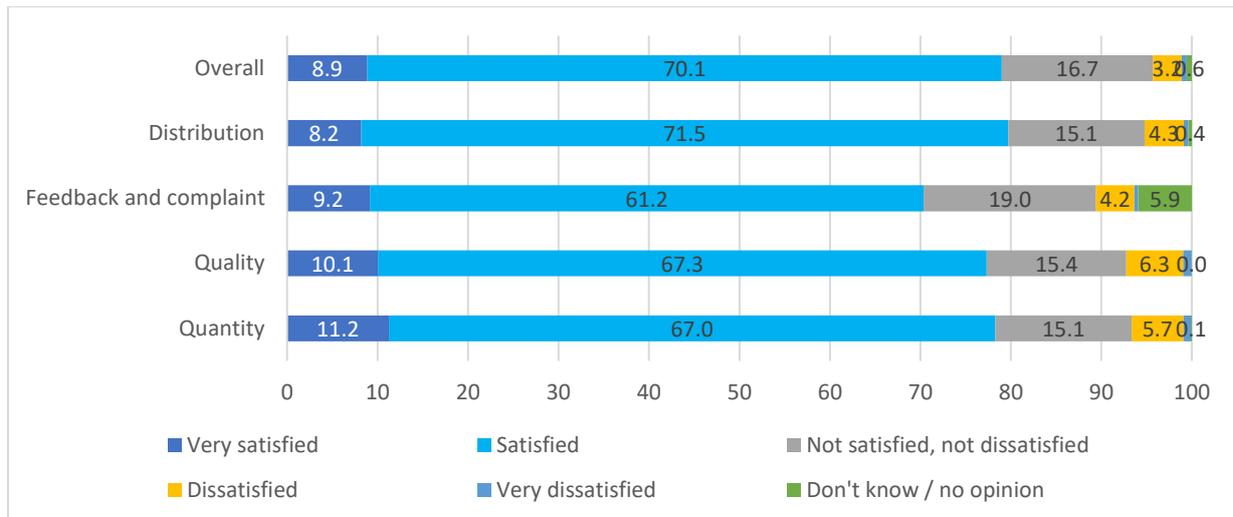
We looked for differences by household type with regards to satisfaction of the Cesta Básica:

- There was no statistically significant difference based on the gender of the head of the household or the gender of the respondent;

- There was a statistically significant difference for households within or outside Dili. More respondents that were dissatisfied were living in other municipalities than Dili. For example, for overall satisfaction, 10.4 percent and 77.8 percent of those in Dili said they were very satisfied or satisfied, and 0.4 percent said dissatisfied, whereas in other municipalities, the response was 8.3 percent very satisfied, 67.1 percent satisfied, and 5.0 percent dissatisfied.

When asked whether the Cesta Básica should continue, 88.0 percent of households agreed it should continue, 7.7 percent said 'no' and 5.3 percent said 'don't know'. Preferences abfor the modality of Cesta Básica diverged depending on household wealth, location in Dili or outside of Dili and, slightly, on the headship of the household (Table 23).

Table 23 Household suggestion of modality for Cesta Básica by head of household, residence (Dili/outside Dili) and wealth quintile

	Total	Household headship		Residence		Wealth quintile	
		Male HHH	Female HHH	Dili	Outside Dili	Lowest	Highest
Basket	**11.2%**	11.6%	7.8%	7.3%*	12.0%*	14.3%	11.5%
Voucher	**7.2%**	7.3%	6.3%	21.5%*	4.1%*	1.8%*	26.2%*
Cash	**75.9%**	75.4%	80.3%	67.7%*	77.7%*	80.9%*	58.7%*
Don't know	**5.7%**	5.7%	5.5%	3.5%	6.1%	3.0%	3.6%

The MSME survey conducted as part of the SEIA-2 asked MSME owners whether there has been any impact on their sales during the household subsidy payment period and the Cesta Básica distribution period. Of the 1100 MSMEs, 45.8 percent indicated their sales were increased while 32.8 percent said there was no impact during the Uma Kain payment. In contrast, only 5.4 percent of MSMEs said their sales increased, while 20.9 percent reported there has been a decrease in and 64.1 percent there has been no impact on their sales (UNDP Timor-Leste 2021). There were 101 households (2.3 percent) that did not receive neither the Uma Kain subsidy nor the Cesta Básica. For half of these households, the primary reason for not receiving the supports were 'household was not registered'.

7.1.5. Other COVID-19 related government support

In addition to household subsidy and the Cesta Básica programme, we asked households the following question: 'Which of the other following government support related to corona did your household receive?' Electricity subsidy had reached 56.4 percent of the households with more reach in Dili (56.4 percent) than other municipalities (51.7 percent).

Although several 'subsidy for workers' measures were implemented by the GoTL and were intended to reach self-employed and informal workers as well as employees in the formal sector, the proportion of households reporting participating in any form of subsidy for workers was significantly low (with 3.9 percent of all households). In terms of flood-related support, 3.4 percent of all households had received the support and from households whose dwelling was damaged by flood, 17.7 percent had received it. Support for micro-businesses also benefited small proportion of households, with 3.0 percent. These findings were similar in the SEIA-2 MSME survey from businesses where the awareness of government support measures was lower.

Figure 100 Households that received other types of government support during SoE, by residence (Dili or other municipalities)
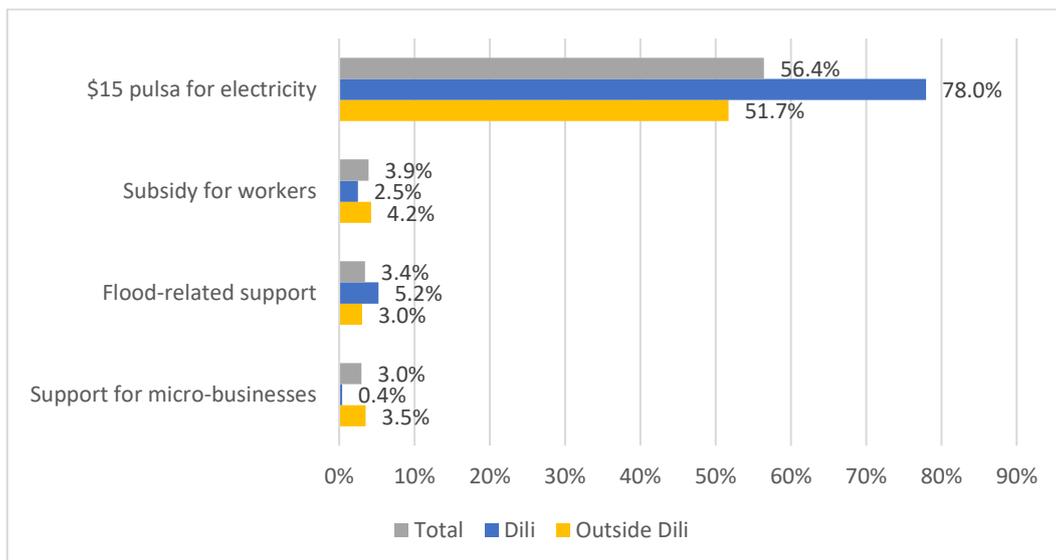

Figure 101 Households that received electricity subsidy during the SoE, by household social vulnerability
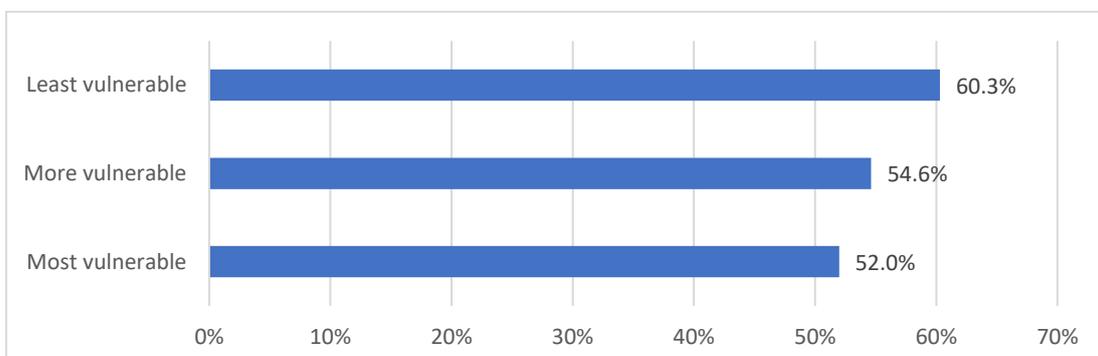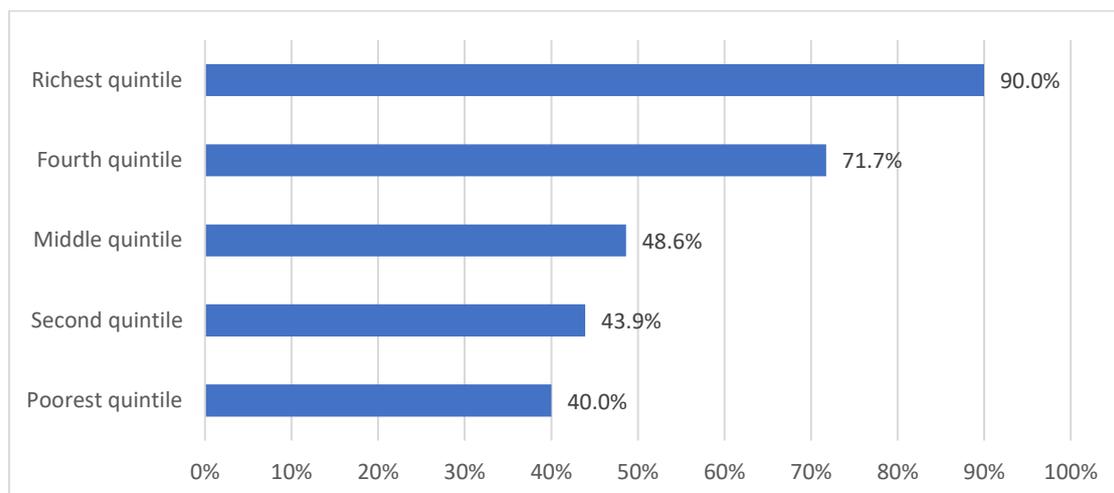
Figure 102 Households that received other types of government support during SoE, by wealth quintiles

7.2. Adaptation of stakeholders to COVID-19

7.2.1. Impact on organizations' operations

Respondents from organizations and government were asked about the impact of COVID-19 and the SoE on their normal operations and staff. An extremely common answer was that staff worked in shifts during lockdown periods. Some mentioned that staff worked from home as they were able and noted the challenges for female staff who had to take care of children and other household duties while they were home. Older employees were sometimes allowed to stay home and not expected to work. In another case, an NGO was struggling because their finance staff was pregnant and therefore could not be vaccinated and return to the office.

Problems with internet at home were frequently mentioned, especially by government agencies. People said they would have to leave home to find a spot with a signal or that speeds were too slow to work effectively. A couple of organizations said that they provided pulsa (phone credit) for staff working from home to connect to the internet, but pulsa was more often mentioned as an unmet need. Staff skills in using communication platforms like Zoom were another limitation for many government agencies. When asked if more public services should be accessible digitally, most respondents addressed the need for government workers to be trained or the lack of internet for much of the population.

Other human resources issues mentioned include special provisions for staff well-being such as extended leave, financial aid, and help cleaning after the Easter floods; the creation of COVID guidance for staff; the difficulty in filling vacancies during the COVID era; and greater job insecurity with reduced contract extensions. Organizations expressed relief that staff were able to get vaccinated.

Funding and spending. Decreased or interrupted funding from the government and other donors alike affected several NGOs. An Uma Mahon and a jobs skills training centre both said that MSSI funding for 2021 had not yet arrived and salaries could not be paid. Another NGO received payment late. A suco chief reported that they were still waiting for their regular allocation. However, other

NGOs funded by the government said that funding had continued normally, although it was common that higher costs meant that the usual funding was insufficient. Increased costs to organizations were in transportation—including for school bus fares—internet, and supplies. Salaries sometimes were reduced for a period to manage budget limitations; one NGO also had to limit the food items given to children. In the worst example, an NGO went from 52 to 9 employees and closed two offices. One NGO, one INGO, and a MoH official said that their funding had increased due to COVID.

Flood response. Many of the NGOs and INGOs were involved in flood response as well, although some of them focused on their staff rather than general community members. Others were already working at full capacity because of COVID-19. As an INGO representative mentioned: 'Our team was already stretched with COVID, so with the flood, we had to keep a bit of a back seat' (INGO).

COVID-19 prevention in government. Government officials were divided on how well trained and equipped they were to prevent the spread of COVID-19. Some mentioned receiving training on prevention protocols; others said that no training or special instruction had been given to civil servants. Likewise, it seems that some agencies were provided masks and handwashing stations and others were not.

> *'There are entities that received training on prevention of COVID-19 such as the MoH and police. But civil servants in general did not receive special training about the prevention of COVID-19. They only know about COVID-19 in general terms from TV. They need to share specific information with all civil servants.' (Oecusse)*

> *'The government didn't provide for protection of staff in the office.' (Bobonaro)*

> *'There is no sensibilisation from the health workers to civil servants. They should train the workers and suco leaders to also alert the community about COVID and to be vaccinated.' (Ermera)*

> *'In the first three months, we did training for them all, provided by the MoH.' (Manatuto)*

7.2.2. Adherence of COVID-19 measures to human rights

According to the Forum of NGOs (FONGTIL), since the declaration of the SoE in March 2020 till September 2021, 25 human right violations were filed involving National Police Force (PNTL) officers, sanitary fence and compulsory confinement (lockdown) in the country. Most cases occurred in the capital Dili and three in Covalima Municipality (Carmo 2021).

Police. In KIIs, representatives of human rights monitoring organizations and government departments were asked about the performance of police during the COVID era. A PNTL representative noted that more was demanded from police now; besides addressing crime, they were now responsible for ensuring people's compliance with movement restrictions. Some respondents indicated that the number of complaints against police had risen, particularly during the early phase of the pandemic: 'There was miscommunication between commanders and soldiers. Now is better but it was difficult in the beginning' (NGO). A few said that there had not been any complaints and that police were doing a good job. A PNTL representative said: 'We never hit people and it has never been reported that the police committed violence against the people. We only remind the population about the COVID-19 prevention measures.'

Yet, some respondents in IDIs said they were afraid of the police. A single mother said, 'I have no mask and I am afraid the police will beat me'. A PDHJ official explained that 'The implementation [of

restrictions] has been incomplete/problematic. The majority of the community is not afraid of sickness but of the police. Whenever there is no police, people take off their masks. As sometimes the police use force on the community as well.'

It was not clear in the data whether police allowed people to travel for needed services, such as health care or GBV response, during the SoE and sanitary fences. When asked, a PNTL representative replied, 'No. Only now with the yellow passport' [proving vaccination].

Unequal enforcement. Issues in enforcement were apparent in other ways as well. An NGO reported that COVID patients were removed from their homes by force if they did not cooperate with being moved to an isolation facility. Others said that there had been human rights abuses in enforcement of restrictions.

There were also reports of unequal application of movement restrictions, even for those fully vaccinated. 'The authorities are not applying the same rules for everyone,' said one government representative. Timorese Human Rights and Justice Ombudsman (PDHJ) reported that even vaccinated people are sometimes required to take a swab test before traveling to Dili. A fisherman as well as a *suco* chief said that politicians were able to travel between municipalities because they had private vehicles but ordinary citizens who were dependent on public transportation, even vaccinated like they were, could not.

Conflicting medical advice and fears of the vaccine also seem to result in perceptions of inequity. For example, an elderly woman had been told by her doctor that she should not get the vaccine because of her high blood pressure. She said, 'Now it feels like the Indonesian times. Now we need to show the vaccination card to be able to travel. No freedom. I cannot visit my kids in Dili due to me not being able to get vaccinated.' Media have reported that patients who need to travel to Dili for specialised care (for HIV) but who have not been vaccinated are not able to do so. However, for some, it seems that the vaccination requirement has been effective: "I have been vaccinated twice. But it is because it is obligatory. If I don't get vaccinated, we do not get money and cannot move freely. No movement without vaccines, so I had to get two" (male fisherman).

7.2.3. Stakeholders' feedback on government measures and recommendations for recovery

The data from KIIs and IDIs include people's recommendations to the government on priority issues. There was a wide range of suggestions including agricultural recovery (particularly in light of declined prices for local produce), lessening restrictions so that children go back to school and local trade resumes, additional rounds of direct aid (food or money), fighting COVID-19 by strengthening the health care system or COVID-19 vaccine distribution, job training, equipment for government staff to work from home (such as laptops), educational recovery and better preparation for learning from home, improvements in public transportation and roads, and basic amenities like housing and water.

Attitudes about lockdowns. A common criticism of the government's response from KIIs and IDIs was that the government needed to allow more exceptions to movement restrictions, particularly for purposes of trade. Several informants said that markets should remain open so that people could continue earning a living and that home confinement was too restrictive. Some prioritized a return to normal schooling. When asked what the government should prioritize now, many of those interviewed said that preventing the spread of COVID-19 was the most important task. However,

they tended to suggest improvement of health services, vaccinations, and public health messaging to achieve that, rather than restrictions on public life.

People with disabilities (PWDs). As some people interviewed pointed out, PWDs face inequalities that were exacerbated by the SoE. PWDs were more affected by movement restrictions for several reasons, which both hindered their daily lives and prevented their participation in COVID-19 response. An unemployed male PWD expressed his frustration at not being included in his country's development and wanted to play a role in advocating for people like himself: 'Also in our municipality, there are no facilities for PWDs making it hard for us to access. For example, when we go to trainings and events in government buildings, we cannot access it because they are not designed for PWDs.'

PWDs also face discrimination in their own families and are sometimes fed last, meaning they may not be fed at all during times of scarcity. A man with a disability said, 'Many PWDs have no jobs, no support. Before the pandemic, PWDs were already stigmatized and vulnerable. Before COVID, many PWDs were already isolated themselves and with COVID they are even more isolated**.'**

The most common recommendations for the government related to PWDs was about access, including the accessibility of basic facilities such as toilets and buildings, and inclusion in community activities and basic services such as education. In an IDI, a disability activist celebrated the government's recent efforts to address the rights of PWDs and urged ratification of the Convention on the Rights of Persons with Disabilities.

Digitalization of services. During lockdowns, it was difficult for people to access public and financial services such as social security administration, public notaries, money transfers, and vital registration. At the same time, the GoTL incentivized informal businesses to register and enrol workers in social security. Online access to these services and to banking would enable the continuous functioning of basic government and financial processes. Therefore, we asked key informants what they thought about making some services available online.

The majority of respondents said that internet was not widely available or reliable enough to ask people to use it. A MEJD official said, '[We need] more internet, reduce the cost and put more internet signal because people have difficulty in communicating. Even in case of emergency, we cannot send messages sometimes.' Others spoke of modernizing the communication infrastructure in the country specifically to help fulfil the mandate of government agencies.

8. Conclusions and recommendations

A year and a half after the global pandemic was declared, much has been learned about COVID-19 and its effects on people and communities, exposing the systemic flaws and weaknesses in societies. Timor-Leste did not witness the extreme health disaster feared; rather, it was impacted more by the resulting socio-economic consequences than by the virus itself. The Easter flood natural disaster added significantly to the economic and social ramifications of the COVID-19 pandemic. The analysis clearly showed the dramatic effects on people's livelihood of the two-pronged disaster of COVID-19 and the Easter flood.

This SEIA-2 report builds on SEIA-1 and documents further important findings on the socio-economic impact of COVID-19 at a time when other nationwide sources of information are not available. SEIA-2 highlights key information provided by the respondents and reveals underlying vulnerabilities faced by the population. A separate report was developed to understand the impact of COVID-19 on MSMEs.

On the one hand, the response of the Timor-Leste Government to the COVID-19 crisis has been generous compared to other countries. It provided cushioning for communities and households, keeping essential services open and operational, and was responsive to COVID-19 spikes and protected people by implementing a mix of containment measures with varying severity between municipalities. On the other hand, pre-existing development challenges, including a high level of poverty and food insecurity, combined with a high vulnerability due to climate change, low resilience of agricultural systems, dependence on food imports, and little diversification of the economy, have exacerbated the impact of the COVID-19 crisis in Timor-Leste.

Barriers in accessing essential services and the labour market are increased by COVID-19 effects. Travel and movement restrictions, certain economic activities remaining closed due to the SoE and fear of getting infected or being tested for COVID-19 hinder people's access to health services (including essential child vaccination and reproductive health services), entering the labour market and finding jobs, seeking protection services, and continuing education. These gendered barriers were already high before COVID-19, while after the COVID-19 SoE, they became more pronounced among youth, women, people with disabilities, the poorest households, households with social vulnerability(ies) and those residing outside of Dili.

The fact that the general public's concerns about the COVID vaccines remain high, together with a fear of getting tested, shows that public health communication on COVID-19 prevention, vaccine, and treatment needs to be significantly improved, especially to reach remote and poor households. Large differences between public (adhering to COVID-19 protocols, vaccinating people, and opening the economy) and private interests (free travel, reducing the potential of side-effects and quarantine) can make control of COVID-19 transmission difficult and costly.

Households have borne the economic impact of the pandemic by resorting to strategies including selling livestock, spending savings, borrowing money, and reducing health and education costs. There were also households that resorted to the extreme measures of begging to find food. The income of poorer households has decreased, and they have fewer savings to cushion against financial difficulties.

With inadequate social security systems, few people can afford to be fully unemployed in Timor-Leste, and persons must settle for jobs that are insufficient to provide decent employment and an adequate livelihood. Young people, women and people with disabilities have difficulty finding paid employment in a context of limited diversification of the economy and availability of jobs.

The psychological burden and non-financial effects of the pandemic are also felt in Timor-Leste. Households and individuals who encountered major livelihood difficulties, affected by the Easter flood, and with reduced livelihood opportunities reported experiencing negative feelings and lower levels of happiness. Yet only a few of the individuals had received emotional support from others outside their own household.

People generally trust the Government and institutions. Many people were found to be satisfied with the response of the Government and various institutions, especially health facilities in terms of COVID-19. Government officials were the third most common source of information allowing in-person and community interactions reaching the remote locations, and the National Government was the main provider of support to the households. The national emergency support measures – household subsidy and the food and essential basket distribution (Cesta Básica) reached 95 percent of the households interviewed.

It should be highlighted that there were some concerns of inclusion and human rights issues in enforcing restrictions measures – especially among the poor and vulnerable households. The general registration system has hindered access to support for some households and individuals, especially those residing away from their households. The analysis shows the consistent disadvantages that the poor and vulnerable households face with regards to accessing essential services such as health and education, obtaining information about COVID-19 prevention and support measures, and, most importantly, how to sustain their livelihood.

Overall, it appears the dramatic effect of the first lockdown during March and June 2020 has slowed down, and society seems to have recovered a little over time with a more phased approach in the severity of containment measures and more support measures in place. With a sustained vaccination campaign and stronger social protection programmes that penetrate the most rural locations and reach the most isolated individuals, as well as political stability and budget continuity, the long-term effects of COVID-19 on the nation's progress in development can be minimized.

Recommendations

During the entire COVID-19 pandemic period, the Government of Timor-Leste has taken proactive measures to protect the population from spread of the virus and has implemented concrete steps to counteract the worst socio-economic consequences of twin shocks. While the COVID-19 crisis has exposed stark inequities that existed before the pandemic, it has also provided an opportunity for the Government of Timor-Leste to reconsider and re-prioritize resilience to climate, health, and economic shock in the framework of the economic recovery plan. The Government of Timor-Leste implemented an unprecedented package of interventions through its Economic Recovery Plan. Using

the SEIA-2 findings, a series of recommendations[46] for policymakers to consider in developing strategy for a robust socio-economic recovery from the COVID-19 pandemic are proposed below.

1. *Implement a variety of household livelihoods schemes*

- **Direct injection of cash such as Uma Kain household subsidy is the most popular and needed emergency support.** Using existing social protection schemes could be an effective way to reach the most vulnerable groups. The Government should continue implementing modalities such as short-time work schemes (cash for work) and establish unemployment benefits. Consideration should be made to ensure inclusion of different groups and reduce unintended consequences of exclusion. For example, women are at a disadvantage in receiving these financial supports. Because of their higher rates of informal sector work, own-account employment, and contributing family member employment, women are less likely to receive the support for workers.

- **Ensure accessibility of markets and establish temporary marketplaces between municipalities when a sanitary fence is enforced.** Because about 80 percent of economic activity takes place in or near Dili, exchanges between the capital and rural areas are important and must be weighed against the risk of spreading COVID-19 by people traveling from Dili to other municipalities. It is important that access to the local and regional markets is completely restored for small farmers in the rural areas.

  o As the effect of the virus on people's livelihood is disproportional between municipalities and between socio-economic groups, special attention should be paid to those regions where the effect of the pandemic is most severe and to the most vulnerable groups in society, that have been most seriously affected by COVID-19.

- **Invest in climate-resilient infrastructure:** irrigation, rural roads, reliable and affordable electricity, as well as storage facilities, are essential for pro-poor growth and improving rural livelihoods. Inadequate rural infrastructure leaves communities isolated, holds back food value-chain development, contributes to postharvest food losses, and is significantly associated with poverty and poor nutrition.

2. *Expand employment opportunities and promote decent work for all*

- **The labour market needs to prepare for a rapid increase in demand for employment,** in view of the current age composition of the population of Timor-Leste. In the years to come, the young age cohorts that become part of the working-age population (15-59 years) will be more than five times as large as the old age cohorts that move out of the working-age population.

- **Access to employment particularly needs to be improved for specific population groups** – persons with disabilities, women, and young adults. Special efforts should be made to provide paid, decent employment for young persons. The study showed that the paid employment to population ratio is very low in the age-groups below age 30.

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[46] These recommendations are complementary with those of the SEIA-2 MSME survey and therefore, do not focus on business development and MSME support.

- **Recognize, reduce, and redistribute unpaid domestic and care work**. The Secretary of State for Equality and Inclusion and relevant government agencies should provide technical support to line ministries in integrating policies to recognize the value of domestic work as part of the National Employment Strategy (2017-2030). Gender-transformative social norms and equitable sharing of unpaid care and domestic work between men and women should be promoted.

- **Prepare skilled labour force for the modern markets:** Rural entrepreneurship and employment diversification, especially for women and youth, should be promoted through development of general skills, such as those related to running a business, accessing market information, and using information, communications and technologies. A more skilled labour force enhances agricultural productivity, creates better paid jobs and stimulates the growth of high-productive off-farm services industries.

- **The economy of Timor-Leste needs to be diversified**. At present, the labour market is dominated by employment in the agricultural sector with generally low productivity and poorly paid employment. Economic activities in the industry sector should be expanded to enhance job creation, especially for women, and the national product.

- **Employment opportunities need to be improved**. According to the SEIA-2021, only 45 percent of the working-age population is engaged in paid employment, whereas an additional 16 percent is engaged in subsistence activities. The quality of employment – in terms of level of remuneration and productivity – needs to be improved.

3. *Expand social protection to target the vulnerable and poor individuals and households*

- **The implementation mechanisms of the General Social Security Scheme need to be further strengthened.** Social protection schemes, especially the old-age pension currently reaches vulnerable and poor individuals more than wealthiest households, but its coverage should be increased. Disability benefits should be significantly widened to reach eligible individuals who are currently left out from the benefits. Other schemes for supporting vulnerable groups' needs should also be widened and improved for effective recovery.

- **Promoting social cohesion and investing in community-led resilience and response systems:** Social protection initiatives should be designed from the perspective of a bottom-up/community-based approach using local networks to respond to immediate COVID-19 impact at the national and sub-national levels.

- **People with disabilities:** Ratify the Convention on the Rights of Persons with Disabilities (CRPD) and involve people with disabilities in development and economic recovery planning. Increase technical and financial investment in social inclusion initiatives and policies targeting the needs and rights of people with disabilities.

- **Social protection and closing the loops in local economies:** Social protection in the forms of food aid, cash transfers and inputs is crucial to smallholders' risk management during emergencies and rural transformation and for building resilient rural livelihoods. In a recent positive trend, social protection programmes link social transfers to the promotion of rural employment and agricultural production.

4. *Transform climate-resilient food systems and agriculture services*

- **Food and agriculture related services should be considered essential services under the SoE**. This will help reduce the disruption to agricultural markets and value chains throughout sanitary fences and mandatory home confinements.
- **Disparities between regions** and the important role played by subnational stakeholders during the crisis may accelerate the decentralization process and give more consideration to territorial approaches and local agri-food value chains.
- **The COVID-19 crisis has the potential to play a catalytic role in accelerating agri-food systems' transformation in Timor-Leste**. In the short term, this transition may be based on green value chains development, rural livelihoods' diversification, universal access to basic services (including water, sanitation and hygiene), and enhanced agricultural practice (e.g., adapted mechanization, sustainable plants and livestock protection).
- **Climate resilient and green food value chains:** Any sustainable and long-lasting recovery efforts in Timor-Leste need to be intrinsically linked with climate resilience. Stimulate investments for greener and climate resilient food value chains to address the short-term disruptions to food systems caused by COVID-19, while laying the foundation for an inclusive, green and resilient post-crisis recovery, including by introducing sustainability conditions to financial stimulus packages and financial products and by reducing high levels of risk.

5. *Strengthen equitable education services*

- **Prepositioning of education materials for future emergencies should be undertaken.** For future emergencies, educational materials can be prepositioned in strategic locations such as the municipal education directorate, which enables speedy delivery to households with students.
- **The communications strategy also needs to be revisited** as "no information on available TV/radio/online resources" was one of the main reasons for discontinuing study at home despite the sensitization efforts of Escola Ba Uma by the Ministry of Education, Youth and Sports (MoEYS) and UNICEF.
- **Technology can be a game-changer,** as the MoEYS offers an online platform (Learning Passport) for distance learning. MoEYS should explore the use of online devices to share the digital learning resources that have been developed during the closure of schools. These materials can and should be used as teaching-learning resources during face-to-face teaching. It is important to make sure that phone credit/pulsa reaches all students as part of the emergency response to enable them to use the internet, while conducting training on the use of technology.
- Improve the production and distribution of printed learning materials in Tetum across the country, reaching the poorest households, and remote locations. One of the main reasons students were not able to continue studying during the SoE was lack of materials. Whilst focusing on improving digital learning, the Government should also support different platforms and methods of distance learning.
- **Support or guide materials for households in 'home schooling' should be strengthened**. The fact that nearly one fifth of all students who ceased studying did so simply because they

did not want to study shows a need for the formal education system to encourage and monitor the progress of home schooling in communities. Messages for parents and caregivers on how they can support their children during home schooling should be strengthened as well.

6.   *Increase access to quality health services*

- **Increase the number of health facilities, especially in rural and remote areas, and continue funding for mobile clinics.** The Ministry of Health has been conducting outreach services in mobile clinics integrated with community health services. Outreach services are critical to ensure the delivery of health services continues during the pandemic, especially in very remote areas with unreliable transport services to reach health facilities, as the most frequent reason for the decrease in healthcare service utilization was "no health facility nearby."

- **Continuation of efforts to raise awareness of COVID-19 related information.** A high proportion of households still have concerns about taking the COVID-19 vaccines. Advocacy and sensitization should target municipalities with a higher proportion of households with concerns and lower coverage of the vaccine. It is also important for health facilities to have a backup plan when health workers test positive for COVID-19 to ensure no disruption of the healthcare services during the pandemic.

- **Community leaders, including village (Suku) and sub-village (Aldeia) chiefs, faith-based organizations (e.g., church), and community health volunteers** are essential partners and key to ensuring that messages about the importance of seeking healthcare when sick and receiving COVID-19 vaccines reach communities. As they are knowledgeable about the local context, messages can be tailored to each community to address the concerns and questions raised by households, including fears of health side effects and death or serious illness.

- **Sustaining and investing in Open Defecation Free communities returning to open defecation.** Due to limitations in water supply and affordability of improved sanitation during the SoE, there may be communities that have returned to open defecation, as 2.3 percent of households reported deteriorated or disrupted/stopped sanitation services. A study will identify communities in need of regaining Open Defecation Free status.

- **Ensure functionality of WASH facilities in schools, health facilities, and other public locations.** During the SoE, the Government of Timor-Leste and development partners donated and installed tanks and handwashing stations at various locations. Observation during data collection revealed that 68 percent of areas observed did not have washing facilities with water, and 72 percent of observation areas did not have soap. Assessment of the WASH facilities should be conducted to ensure water and soap availability.

- **Ensure continuous hand hygiene promotion.** During the COVID-19 response, hand hygiene has been promoted as a lifesaving behaviour. This has been a gain for conventional hygiene promotion in WASH with the target of preventing certain communicable diseases. Moreover, much investment has been done in providing hardware and supplies to facilitate hand washing with soap. Hence, resources should be allocated to continue hand hygiene promotion without losing momentum, along with regular follow up.

7. *Improve protection and reproductive health services*

- **Continue to ensure that protection services that respond to violence against children and gender-based violence are treated as essential services that must be funded continuously**. This includes staff salaries, as the staff are the backbone of response systems.
- **Work with Uma Mahons to find solutions to ongoing transportation issues**. The need to protect survivors' privacy and prevent their exposure to COVID-19, along with interruptions to public transportation, means that government and/or private vehicles and fuel should be made available for staff.
- **Investigate the decrease in reported cases of gender-based violence** to address any bottlenecks in the monitoring system and understand the reasons why, if any, women are less likely to report abuse during the pandemic.
- **Strengthen the capacity of healthcare providers, local leaders, and faith leaders** to recognise violence against women and children and refer survivors. Providers should be prepared to adapt referral systems during emergencies.
- **Monitor health system information for a probable increase in pregnancies**, particularly among adolescents, and prepare health services accordingly. Supplement adolescents' access to health information during school closures. Ensure that adolescents can access family planning and receive comprehensive sexuality education to prevent unplanned pregnancies.

8. *Improve the longer term sustainability and effectiveness of government response measures*

- **Ensure timely information reaches all segments of society and improve quality of communication**. The poorest and vulnerable households disproportionately lack access to timely information and communication, and outreach significantly varies by municipalities. Future government interventions should develop special strategies to reach these disadvantaged groups and municipalities, including through methods tailored for people with a variety of disabilities.
- **Strengthen community-based systems to help identify and meet the needs of the most isolated citizens** during sanitary fences and confinement periods, particularly the elderly and people with disabilities. Secure support to people with disabilities who might encounter difficulties in accessing information about government assistance programmes or registering for government support.
- **Emergency support and social protection programmes should be improved by considering the effectiveness of the government's subsidies** during the SoE. The social protection programmes rely on local officials to interpret programme parameters and determine eligibility, leading to ad hoc or subjective decisions and targeting errors. Monitoring tends to be weakly enforced. COVID-19 emergency cash transfers present an opportunity to improve the reach of benefits to those most in need but must be designed with target stakeholder input and with attention to addressing intra-household disparities.
- **The claiming and registration process of universal income support or other in-kind support should be improved**. In the context of the current pandemic crisis, it may be time

to scale up minimum-income benefit programmes. It is important to ensure better accessibility than before the crisis for poor and vulnerable groups, women, persons with disabilities and others. The GoTL should explore the feasibility of implementing short-term universal income schemes in future emergencies.

9. *Promote national data systems and capacities and digital technologies*

- **Build national data and statistical systems and capacities to inform decision-making, planning and investment**. A national programme or a strategic plan dedicated to strengthening national data systems and capacities should be developed and implemented by the Government. This will clarify and strengthen the institutional structure and ensure adequate funding to support data systems and capacity building, regular and coordinated processes of data production and collection (ensuring sex, age, and disability-disaggregated data), quality assurance, dissemination, and use.

- **Accelerate digital transformation**. This could be done through:
  - Promoting public and private stakeholders to build a more equitable and inclusive digital economy, through tax policies, licensing requirements and investments.
  - Supporting digital education of the population to ensure meaningful use of the Internet.
  - Extending digital technologies to remote areas, which can be a cost-effective way to connect rural-urban supply chains and redress pockets of informality and poverty in rural areas.
  - Support the Government in using ICT solutions to increase efficiency and improve coordination, reduce time spent in accessing government services and build infrastructure for national data systems. Continue initiatives such as 'Portal Municipal' to support data literacy and citizens' participation at local level.
  - A systemic change is required to fight disinformation and reduce the risks of disinformation (as the case of COVID-19 vaccine disinformation shows).

Finally, it is important to emphasize that one-off measures and quick fixes will only provide temporary relief. The worst effects of COVID-19 can be minimized if the country leadership commits to a new social contract and implements forward looking and comprehensive programmes to tackle critical tipping points to lift the population from multi-dimensional poverty traps.

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Annex 1. Glossary

Terms	Description
Easter Flood	Tropical Cyclone Seroja occurred between 29 March and 4 April 2021 across Timor-Leste. Commonly referred in Timor-Leste as Easter Flood. It also includes effects such as flood, landslide, and strong wind.
Female headed household	For the SEIA-2, female-headed households are those in which members say that the head is a female.
Flood affected households	Households with dwelling(s) that has been partially or fully damaged due to flood, landslide or landslip during the Easter Flood in April 2021. This definition omits those households whose agricultural land and income were affected and hence narrow definition. However, this allows to be consistent with the GoTL definition.
Household	Standard definition for household (e.g. as used in Census) was used: The concept of household is based on the arrangements made by persons, individually or in groups, for providing themselves with food and other essentials for living. A household consists of one or more persons who usually share their dwelling and share their principal meals. The distinction between a family and a household- family reflects blood descent and marriage, while household is used in this rapid assessment to identify an economic/social unit.
Household dependency ratio	The dependency ratio is calculated as the number of persons in the non-working-age groups of 0-14 and 65 and over divided by the number of persons in the working-age group of 15-64 and presented as a percentage.
A person with disability	For the SEIA-2, a person with a disability is a person who is reported to have great difficulty with or not be able to do at all one or more of the following, as used in the Washington Group questions: seeing, hearing, walking, and remembering.
Sanitary/health fence	Individuals who have received their full immunization (two doses) against COVID-19, and children under six, are free to move throughout the territory.
Subsistence farmers	Persons who sold their farm/fishing products or had paid work, were classified as having an income from work, persons who were active cultivating food products or raising animals or were fishing without selling these products, were considered subsistence farmers.
Social vulnerability	For the SEIA-2, the number of certain vulnerabilities of individuals in a household were counted, as explained in Chapter 4. Three categories were used in the analysis: less vulnerable, more vulnerable, and most vulnerable.
Statistically significant	Throughout the report, various statistical tests were conducted to identify if a relationship between two or more variables is caused by something other than chance. The relationship is reported to be statistically significant if the test results (e.g. chi-square test, Kruskal-Wallis test, t-test) are at the 95 percent significance level.
Uma Mahon	Uma Mahons are shelters providing a safe place for children and women who have been victims of domestic violence. They receive funding from the Ministry of Social Solidarity and Inclusion and other partners.
Wealth quintiles	A wealth quintile variable was created to describe households in terms of their living standard. In a way, this variable can also be considered as an indicator of vulnerability, with households in the lowest quintile being most vulnerable. The wealth index was created following the same methodology used in the Demographic and Health Survey, i.e., using Principal Components Analysis. In short, scores were given to individual households based on ownership of selected assets and characteristics of the dwelling. Then, quintiles were calculated for these household scores and each household was given a code according to the quintile to which it belonged.

Annex 2. Survey population

Table 24 Survey population by age and gender

Age	Gender		Total	Age	Gender		Total
	Male	**Female**			**Male**	**Female**	
0	139	131	270	40	130	130	260
1	279	240	519	41	88	75	163
2	262	250	513	42	103	95	198
3	288	282	570	43	72	75	147
4	249	269	518	44	51	58	109
5	262	230	492	45	153	133	286
6	302	289	591	46	124	101	225
7	287	243	530	47	104	108	212
8	259	272	531	48	100	102	202
9	250	259	509	49	100	91	191
10	307	270	577	50	106	101	207
11	252	250	502	51	85	82	167
12	299	294	593	52	126	84	211
13	279	267	547	53	84	85	169
14	301	341	642	54	90	85	176
15	398	141	539	55	67	76	143
16	329	301	630	56	93	77	170
17	280	332	612	57	62	72	134
18	351	359	710	58	88	65	154
19	278	239	517	59	68	67	135
20	311	311	622	60	101	122	223
21	262	230	492	61	48	56	105
22	278	261	539	62	69	99	168
23	210	212	422	63	74	52	126
24	193	224	417	64	42	55	98
25	232	264	496	65	93	113	208
26	169	191	360	66	33	29	62
27	184	181	365	67	53	38	91
28	191	201	392	68	35	51	89
29	162	157	319	69	32	33	65
30	197	194	391	70	60	52	114
31	133	111	244	71	37	36	73
32	168	184	352	72	42	37	80
33	118	135	253	73	30	36	66
34	123	136	259	74	24	20	44
35	191	153	344	75	24	39	64
36	133	127	260	76	22	28	50
37	117	131	248	77	8	10	18

Age	Gender		Total	Age	Gender		Total
	Male	Female			Male	Female	
38	135	152	287	78	16	12	28
39	114	121	235	79	11	17	28
80	13	14	27	86	4	3	7
81	11	9	20	87	5	3	8
82	11	5	16	88	0	4	4
83	2	5	7	89	1	2	3
84	2	6	8	90+	14	8	22
85	8	14	22	**Total**	**12,091**	**11,705**	**23,812**

Table 25 Survey population by five-year age group and gender

5-year age group	Gender		Total
	Male	Female	
0 - 4	1217	1172	2390
5 - 9	1360	1292	2652
10 - 14	1437	1423	2861
15 - 19	1635	1372	3007
20 - 24	1254	1238	2492
25 - 29	939	995	1934
30 - 34	739	759	1498
35 - 39	690	684	1374
40 - 44	444	433	877
45 - 49	582	534	1116
50 - 54	490	437	929
55 - 59	379	357	737
60 - 64	334	385	721
65 -69	246	263	513
70 - 74	193	181	377
75 - 79	81	107	189
80 - 84	40	39	79
85 - 89	19	26	45
90 - 94	6	3	9
95+	7	5	12
Total	12092	11705	23812

Table 26 Population by municipality and gender

Age	Gender		Total
	Male	Female	
Aileu	476	440	916
Ainaro	672	662	1335
Baucau	1,189	1,236	2,425
Bobonaro	855	780	1,635
Covalima	508	553	1,061
Dili	4,001	3,827	7,828
Ermera	1,194	1,139	2,334
Lautém	526	541	1,068
Liquiçá	637	573	1,210
Manatuto	305	285	590
Manufahi	454	405	859
Oecusse	599	599	1,209
Viqueque	676	666	1,342
Total	**12,092**	**11,706**	**23,812**

Table 27 Population by relationship to the head of household and gender

	Gender		Total
	Male	Female	
Head of household	3564	719	4291
Spouse (wife/husband)	50	3195	3245
Daughter / son (adopted/step-child)	6496	5847	12345
Daughter-in-law / son-in-law	203	271	474
Grandchild	866	777	1643
Sister / brother	557	439	996
Sister-in-law / brother-in-law	36	48	84
Mother / father	67	169	236
Grandparent	20	40	64
Other relative	215	180	395
Live-in-domestic servant	3	3	6
Other non-relative	14	17	31
Total	12091	11705	23810

Table 28 Survey population by five-year age group, gender and migration status

Five-year age group	Male			Female			Total		
	Migrant	Non-Migrant	Total	Migrant	Non-Migrant	Total	Migrant	Non-Migrant	Total
0 - 4	44	1,173	1,217	46	1,127	1,173	90	2,301	2,391
5 - 9	39	1,321	1,360	41	1,252	1,293	80	2,573	2,653
10 - 14	64	1,373	1,437	56	1,368	1,424	120	2,742	2,862
15 - 19	90	1,545	1,635	77	1,295	1,372	167	2,840	3,007
20 - 24	93	1,161	1,254	88	1,150	1,238	181	2,311	2,492
25 - 29	43	897	940	39	955	994	82	1,852	1,934
30 - 34	40	699	739	35	724	759	75	1,423	1,498
35 - 39	42	647	689	30	654	684	72	1,301	1,373
40 - 44	21	423	444	22	411	433	43	834	877
45 - 49	26	556	582	20	513	533	46	1,069	1,115
50 - 54	17	473	490	19	418	437	36	893	929
55 - 59	18	360	378	13	344	357	31	705	736
60 - 64	20	314	334	13	372	385	33	688	721
65 -69	7	239	246	9	254	263	16	497	513
70 - 74	5	187	192	7	174	181	12	364	376
75 - 79	4	77	81	4	103	107	8	181	189
80 - 84	1	40	41	1	38	39	2	78	80
85 - 89	-	19	19	1	25	26	1	44	45
90 - 94	1	4	5	-	3	3	1	7	8
95+	-	7	7	-	5	5	-	12	12
Total	**575**	**11,515**	**12,090**	**521**	**11,185**	**11,706**	**1,096**	**22,715**	**23,811**

Table 29 Survey population by five-year age group, gender and educational attainment

Five-year age group		Educational attainment									Total
		Never attended school	Kinder-garten	Primary, not completed	Primary, completed	Pre-secondary	Secondary general	Secondary technical / Polytechnic diploma	Tertiary education / university	Don't know, no answer	
Male	5 - 9	316	603	396	33	-	-	-	-	11	1,359
	10 - 14	91	439	391	350	166	-	-	-	-	1,437
	15 - 19	94	68	114	306	663	373	5	10	2	1,635
	20 - 24	101	21	80	85	164	685	23	88	3	1,250
	25 - 29	104	22	74	42	56	423	39	177	-	937
	30 - 34	105	23	76	41	65	223	26	178	1	738
	35 - 39	133	24	66	36	63	226	25	115	-	688
	40 - 44	118	19	50	22	29	117	22	64	2	443
	45 - 49	141	29	92	45	52	132	16	70	1	578
	50 - 54	150	24	74	43	47	80	16	52	2	488
	55 - 59	174	18	40	31	25	50	13	25	1	377
	60 - 64	192	28	37	21	24	21	3	6	3	335
	65 -69	151	13	25	17	13	14	1	5	6	245
	70 - 74	148	6	16	2	5	8	1	1	6	193
	75 - 79	65	3	5	4	2	1	-	1	-	81
	80 - 84	37	1	2	-	-	1	-	-	-	41
	85 - 89	17	-	2	-	-	-	-	-	1	20
	90 - 94	3	-	-	-	-	2	-	-	-	5
	95+	7	-	-	-	-	-	-	-	-	7
	Total	2,147	1,341	1,540	1,078	1,374	2,356	190	792	39	10,857
Female	5 - 9	271	609	356	43	-	-	-	-	12	1,291
	10 - 14	78	411	338	383	207	3	-	-	2	1,422
	15 - 19	60	52	44	213	593	376	14	20	-	1,372
	20 - 24	84	20	63	51	150	696	37	134	4	1,239
	25 - 29	121	12	58	45	86	445	29	198	1	995
	30 - 34	124	24	67	47	81	245	29	139	3	759
	35 - 39	138	33	73	43	74	228	20	74	1	684
	40 - 44	152	17	45	25	55	96	7	31	5	433
	45 - 49	209	22	63	44	51	100	9	32	2	532
	50 - 54	234	17	50	27	34	54	10	8	1	435
	55 - 59	223	11	38	18	34	17	5	10	3	359
	60 - 64	300	24	15	9	17	9	2	3	1	380
	65 -69	219	5	8	6	11	7	3	-	3	262
	70 - 74	171	2	2	1	-	3	-	-	1	180
	75 - 79	99	3	-	-	-	4	-	-	1	107
	80 - 84	37	1	-	1	-	1	-	-	-	40
	85 - 89	23	-	-	1	1	-	-	-	1	26
	90 - 94	3	-	-	-	-	-	-	-	-	3
	95+	2	-	-	-	-	2	-	-	1	5
	Total	2,548	1,263	1,220	957	1,394	2,286	165	649	42	10,524
Total	5 - 9	587	1,212	752	76	-	-	-	-	23	2,650
	10 - 14	169	851	729	733	373	3	-	-	2	2,860

Five-year age group	Educational attainment									Total
	Never attended school	Kinder-garten	Primary, not completed	Primary, completed	Pre-secondary	Secondary general	Secondary technical / Polytechnic diploma	Tertiary education / university	Don't know, no answer	
15 - 19	154	120	158	519	1,256	749	19	30	2	3,007
20 - 24	185	41	143	136	314	1,381	60	222	7	2,489
25 - 29	225	34	132	87	142	868	68	375	1	1,932
30 - 34	229	47	143	88	146	468	55	317	4	1,497
35 - 39	271	57	139	79	137	454	45	189	1	1,372
40 - 44	270	36	95	47	84	213	29	95	7	876
45 - 49	350	51	155	89	103	232	25	102	3	1,110
50 - 54	386	41	124	70	81	134	26	60	3	925
55 - 59	398	29	78	49	59	67	18	35	4	737
60 - 64	493	52	52	30	42	30	5	9	4	717
65 -69	374	18	33	23	24	21	4	5	9	511
70 - 74	322	8	18	3	5	11	1	1	7	376
75 - 79	165	6	5	4	2	5	-	1	1	189
80 - 84	74	2	2	1	-	2	-	-	-	81
85 - 89	40	-	2	1	1	-	-	-	2	46
90 - 94	6	-	-	-	-	2	-	-	-	8
95+	9	-	-	-	-	2	-	-	1	12
Total	**4,707**	**2,605**	**2,760**	**2,035**	**2,769**	**4,642**	**355**	**1,441**	**81**	**21,395**

Table 30 Survey population by five-year age group, gender and urban-rural residence

Five-year age group)	Male			Female			Both sexes		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
0 - 4	785	432	1,217	790	382	1,172	1,576	814	2,390
5 - 9	912	448	1,360	850	442	1,292	1,762	890	2,652
10 - 14	961	476	1,437	941	482	1,423	1,903	958	2,861
15 - 19	967	668	1,635	819	554	1,373	1,786	1,222	3,008
20 - 24	715	539	1,254	710	528	1,238	1,425	1,067	2,492
25 - 29	537	403	940	581	414	995	1,118	817	1,935
30 - 34	424	315	739	427	332	759	851	647	1,498
35 - 39	391	299	690	368	316	684	759	615	1,374
40 - 44	253	191	444	277	156	433	530	347	877
45 - 49	371	211	582	342	192	534	713	403	1,116
50 - 54	338	152	490	298	139	437	638	291	929
55 - 59	270	108	378	251	106	357	522	214	736
60 - 64	260	75	335	295	90	385	557	165	722
65 -69	198	48	246	202	61	263	404	109	513
70 - 74	169	23	192	153	28	181	325	51	376
75 - 79	68	13	81	89	18	107	158	31	189
80 - 84	33	8	41	37	2	39	70	10	80
85 - 89	15	4	19	23	3	26	38	7	45
90 - 94	3	2	5	3	-	3	6	2	8
95+	7	-	7	4	1	5	11	1	12
Total	**7,677**	**4,415**	**12,092**	**7,460**	**4,246**	**11,706**	**15,152**	**8,661**	**23,813**

Table 31 Survey population by five-year age group, gender and marital status

Five-year age group	Male						Female						Both sexes					
	Never married	Married	Widowed	Divorced	Separated	Total	Never married	Married	Widowed	Divorced	Separated	Total	Never married	Married	Widowed	Divorced	Separated	Total
15 - 19	1,618	16	1	-	-	1,635	1,299	72	1	-	-	1,372	2,917	88	2	-	-	3,007
20 - 24	1,102	132	-	-	1	1,235	892	329	2	2	5	1,230	1,994	461	2	2	6	2,465
25 - 29	578	357	1	1	-	937	376	599	9	7	3	994	954	956	10	8	3	1,931
30 - 34	248	484	1	2	2	737	113	627	4	7	8	759	361	1,111	5	9	10	1,496
35 - 39	114	564	5	5	-	688	55	608	14	3	4	684	169	1,172	19	8	4	1,372
40 - 44	37	392	10	1	2	442	25	388	13	3	4	433	62	780	23	4	6	875
45 - 49	33	533	10	2	1	579	22	473	27	7	5	534	55	1,006	37	9	6	1,113
50 - 54	20	446	20	4	1	491	17	360	49	5	3	434	37	806	70	10	4	927
55 - 59	18	337	20	1	2	378	24	267	62	2	-	355	42	604	83	3	2	734
60 - 64	9	300	21	4	-	334	13	274	87	7	-	381	22	574	110	11	-	717
65 -69	10	199	34	2	-	245	5	163	88	3	2	261	16	363	124	5	2	510
70 - 74	6	164	22	1	-	193	6	100	71	1	1	179	12	264	96	2	1	375
75 - 79	2	65	15	-	-	82	7	55	45	1	-	108	9	120	61	1	-	191
80 - 84	2	26	11	1	-	40	2	15	22	-	-	39	4	41	33	1	-	79
85 - 89	-	14	5	-	-	19	-	10	15	-	-	25	-	24	20	-	-	44
90 - 94	1	3	1	-	-	5	-	-	3	-	-	3	1	3	4	-	-	8
95+	-	3	4	-	-	7	3	-	2	-	-	5	3	3	6	-	-	12
Total	3,798	4,035	181	24	9	8,047	2,859	4,340	514	48	35	7,796	6,658	8,376	705	73	44	15,856

Table 32 Survey population by five-year age group, gender and disability

Five-year age group	Male				Female				Both sexes			
	No disability	One disability	More than one disability	Total	No disability	One disability	More than one disability	Total	No disability	One disability	More than one disability	Total
0 - 4	1,217	-	-	1,217	1,172	-	-	1,172	2,390	-	-	2,390
5 - 9	1,356	2	2	1,360	1,285	7	1	1,293	2,641	9	3	2,653
10 - 14	1,426	7	4	1,437	1,410	4	9	1,423	2,837	11	13	2,861
15 - 19	1,626	8	1	1,635	1,367	5	1	1,373	2,993	13	2	3,008
20 - 24	1,243	7	3	1,253	1,234	1	3	1,238	2,477	8	6	2,491
25 - 29	933	4	3	940	989	3	3	995	1,922	7	6	1,935
30 - 34	736	3	-	739	755	4	-	759	1,491	7	-	1,498
35 - 39	687	3	-	690	681	3	-	684	1,368	6	-	1,374
40 - 44	442	2	-	444	432	1	-	433	874	3	-	877
45 - 49	576	6	-	582	532	2	-	534	1,108	8	-	1,116
50 - 54	479	8	3	490	427	8	2	437	908	16	5	929
55 - 59	366	9	4	379	352	4	1	357	719	13	5	737
60 - 64	323	6	5	334	372	11	1	384	697	17	6	720
65 -69	231	9	6	246	248	7	8	263	481	18	14	513
70 - 74	180	8	5	193	167	7	7	181	349	16	12	377
75 - 79	70	5	6	81	92	6	9	107	163	11	15	189
80 - 84	33	6	1	40	30	5	4	39	63	11	5	79
85 - 89	13	3	3	19	14	7	5	26	27	10	8	45
90 - 94	5	-	1	6	2	1	1	4	7	1	2	10
95+	5	-	3	8	3	1	1	5	8	1	4	13
Total	11,947	96	50	12,093	11,564	87	56	11,707	23,523	186	106	23,815

Table 33 Survey population by five-year age group, gender and activity status

Five-year age group	Male					Female					Both sexes				
	Employed	Un-employed	Inactive	Unknown	Total	Employed	Unemployed	Inactive	Unknown	Total	Employed	Un-employed	Inactive	Unknown	Total
15 - 19	398	78	1158	1	1635	275	43	1021	0	1339	673	121	2179	1	2974
20 - 24	407	105	723	19	1254	346	102	758	0	1206	753	207	1481	19	2460
25 - 29	392	145	400	3	940	343	128	522	0	993	735	273	922	3	1933
30 - 34	367	108	263	1	739	319	70	369	0	758	686	178	632	1	1497
35 - 39	405	86	198	2	691	285	72	327	0	684	690	158	525	2	1375
40 - 44	259	58	126	2	445	235	34	164	0	433	494	92	290	2	878
45 - 49	345	52	183	2	582	272	33	229	0	534	617	85	412	2	1116
50 - 54	296	50	143	0	489	204	11	217	1	433	502	61	360	1	924
55 - 59	223	30	124	1	378	175	5	163	0	343	399	35	287	1	722
60 - 64	191	16	128	0	335	186	7	184	3	380	378	23	313	3	717
65 -69	135	3	106	1	245	105	2	151	1	259	242	5	259	2	508
70 - 74	89	2	103	0	194	60	3	116	0	179	149	5	222	0	376
75 - 79	32	3	46	0	81	32	1	73	0	106	65	4	119	0	188
80 - 84	8	1	31	0	40	12	0	27	0	39	20	1	58	0	79
85 - 89	7	1	11	0	19	9	0	17	0	26	16	1	28	0	45
90 - 94	1	0	5	0	6	1	0	2	0	3	2	0	7	0	9
95+	4	0	3	0	7	3	0	2	0	5	7	0	5	0	12
	3559	738	3751	32	8080	2862	511	4342	5	7720	6428	1249	8099	37	15813

Table 34 Survey population by five-year age group, gender, and wealth quintile

Five-year age group	Male						Female						Both sexes					
	Lowest quintile	2nd quintile	Middle quintile	4th quintile	Highest quintile	Total	Lowest quintile	2nd quintile	Middle quintile	4th quintile	Highest quintile	Total	Lowest quintile	2nd quintile	Middle quintile	4th quintile	Highest quintile	Total
0 - 4	219	261	251	219	267	1,217	241	257	229	212	233	1,172	460	518	481	431	500	2,390
5 - 9	247	283	267	260	303	1,360	236	251	258	274	272	1,291	483	534	525	534	575	2,651
10 - 14	242	266	308	302	319	1,437	246	297	300	302	278	1,423	488	563	609	604	597	2,861
15 - 19	234	302	337	370	392	1,635	202	254	253	295	369	1,373	436	556	590	665	761	3,008
20 - 24	165	222	255	291	320	1,253	170	205	248	287	327	1,237	335	427	503	578	647	2,490
25 - 29	127	170	193	221	228	939	128	176	206	237	248	995	255	346	399	458	476	1,934
30 - 34	115	144	127	168	186	740	113	127	149	166	204	759	228	271	276	334	390	1,499
35 - 39	101	117	129	163	180	690	99	101	118	162	205	685	200	218	247	325	385	1,375
40 - 44	80	68	88	81	127	444	72	81	88	76	116	433	152	149	176	157	243	877
45 - 49	86	108	114	119	155	582	85	110	111	104	124	534	171	218	225	223	279	1,116
50 - 54	78	93	101	115	102	489	84	80	90	113	70	437	164	173	191	228	172	928
55 - 59	79	79	74	84	63	379	61	80	75	74	67	357	140	160	149	158	130	737
60 - 64	75	74	71	67	47	334	83	90	76	81	54	384	159	164	147	149	101	720
65 - 69	56	49	49	56	36	246	62	57	56	51	37	263	122	106	105	107	73	513
70 - 74	49	50	41	35	17	192	57	45	37	23	19	181	108	96	78	58	36	376

Five-year age group	Male						Female						Both sexes					
	Lowest quintile	2nd quintile	Middle quintile	4th quintile	Highest quintile	Total	Lowest quintile	2nd quintile	Middle quintile	4th quintile	Highest quintile	Total	Lowest quintile	2nd quintile	Middle quintile	4th quintile	Highest quintile	Total
75 - 79	19	15	19	17	11	81	24	20	34	16	14	108	44	35	53	33	25	190
80 - 84	11	10	9	6	4	40	11	8	11	8	2	40	22	18	20	14	6	80
85 - 89	4	5	3	6	1	19	6	7	7	3	3	26	10	12	10	9	4	45
90 - 94	2	-	1	2	-	5	1	1	1	1	-	4	3	1	2	3	-	9
95+	2	-	5	-	1	8	-	1	3	-	1	5	2	1	8	-	2	13
	1,991	2,316	2,442	2,582	2,759	12,09	1,981	2,248	2,350	2,485	2,643	11,707	3,982	4,566	4,794	5,068	5,402	23,812

Table 35 Survey population by five-year age group, gender and vulnerability status

Five-year age group	Male				Female				Both sexes			
	Less vulnerable	More vulnerable	Most vulnerable	Total	Less vulnerable	More vulnerable	Most vulnerable	Total	Less vulnerable	More vulnerable	Most vulnerable	Total
0 - 4	380	752	86	1,218	349	750	73	1,172	729	1,503	159	2,391
5 - 9	381	866	113	1,360	366	841	84	1,291	747	1,707	197	2,651
10 - 14	573	771	93	1,437	550	782	92	1,424	1,124	1,553	185	2,862
15 - 19	1,193	380	62	1,635	968	369	35	1,372	2,161	749	97	3,007
20 - 24	922	274	58	1,254	841	322	76	1,239	1,763	596	134	2,493
25 - 29	583	293	63	939	533	363	98	994	1,116	656	161	1,933
30 - 34	353	336	51	740	248	428	83	759	601	764	134	1,499
35 - 39	236	394	60	690	252	384	48	684	488	778	108	1,374
40 - 44	220	206	19	445	221	171	42	434	441	377	61	879
45 - 49	334	215	34	583	331	143	59	533	665	358	93	1,116
50 - 54	353	114	23	490	268	117	53	438	621	231	78	930
55 - 59	302	63	14	379	188	105	64	357	490	168	79	737
60 - 64	247	62	26	335	129	135	120	384	377	198	146	721
65 -69	-	107	139	246	-	71	192	263	-	178	335	513
70 - 74	-	73	120	193	2	36	143	181	2	111	264	377
75 - 79	-	16	65	81	1	27	79	107	1	43	145	189
80 - 84	-	17	23	40	-	15	25	40	-	32	48	80
85 - 89	-	5	14	19	-	9	17	26	-	14	31	45
90 - 94	-	4	2	6	-	2	2	4	-	6	4	10
95+	-	5	2	7	-	3	1	4	-	8	3	11
	6,077	4,953	1,067	12,097	5,247	5,073	1,386	11,706	11,326	10,030	2,462	23,818

Table 36 Number of households included in the survey, by rural and urban, by municipality and number of agricultural households

	Rural	Urban	Total	Of which number of agricultural households
Aileu	183	12	195	145
Ainaro	234	70	304	171
Baucau	344	67	411	299
Bobonaro	316	31	347	192
Covalima	239	43	282	159
Dili	90	671	761	138
Ermera	355	15	370	364
Lautém	217	50	267	156
Liquiçá	236	23	259	209
Manatuto	178	15	193	104
Manufahi	205	49	254	93
Oecusse	220	47	267	178
Viqueque	355	27	382	166
Total	3172	1120	4292	2375

Table 37 Number of households by headship, by municipality

	Male headed households	Female headed households	Total
Aileu	168	26	194
Ainaro	279	25	304
Baucau	362	49	411
Bobonaro	317	31	348
Covalima	254	28	282
Dili	682	80	762
Ermera	323	48	371
Lautém	233	34	267
Liquiçá	221	38	259
Manatuto	177	16	193
Manufahi	238	17	255
Oecusse	234	33	267
Viqueque	348	34	382
Total	3836	459	4295

Table 38 Household respondents' by municipality, age group and gender

Municipality	Age group	Male	Female	Total	Municipality	Age group	Male	Female	Total
Aileu	15 - 24	9	13	22	**Lautém**	15 - 24	8	23	31
	25 - 39	25	41	66		25 - 39	23	45	68
	40 - 64	69	50	119		40 - 64	55	72	127
	65+	16	8	24		65+	33	19	52
	Total	119	112	231		Total	119	159	278
Ainaro	15 - 24	13	26	39	**Liquiçá**	15 - 24	8	18	26
	25 - 39	32	32	64		25 - 39	33	71	104
	40 - 64	72	48	120		40 - 64	50	43	93
	65+	17	15	32		65+	18	15	33
	Total	134	121	255		Total	109	147	256
Baucau	15 - 24	16	33	49	**Manatuto**	15 - 24	8	14	22
	25 - 39	47	73	120		25 - 39	23	29	52
	40 - 64	118	109	227		40 - 64	86	32	118
	65+	25	14	39		65+	12	9	21
		206	229	435		Total	129	84	213
Bobonaro	15 - 24	16	27	43	**Manufahi**	15 - 24	13	18	31
	25 - 39	60	61	121		25 - 39	38	41	79
	40 - 64	95	59	154		40 - 64	75	45	120
	65+	22	15	37		65+	12	7	19
	Total	193	162	355		Total	138	111	249
Covalima	15 - 24	13	26	39	**Oecusse**	15 - 24	10	10	20
	25 - 39	41	52	93		25 - 39	56	34	90
	40 - 64	54	48	102		40 - 64	93	63	156
	65+	15	23	38		65+	24	18	42
	Total	123	149	272		Total	183	125	308
Dili	15 - 24	30	67	97	**Viqueque**	15 - 24	19	23	42
	25 - 39	140	130	270		25 - 39	35	55	90
	40 - 64	192	146	338		40 - 64	85	57	142
	65+	20	15	35		65+	29	36	65
	Total	382	358	740		Total	168	171	339
Ermera	15 - 24	17	39	56	**Total**	15 - 24	180	337	517
	25 - 39	64	63	127		25 - 39	617	727	1344
	40 - 64	89	69	158		40 - 64	1133	836	1974
	65+	11	9	20		65+	254	200	457
	Total	181	180	361		**Total**	**2184**	**2100**	**4292**

Annex 3. Sampling methodology and weighting

Introduction

The SEIA-2020 was a relatively small exercise – based on 419 household interviews – and used purposive sampling of suco's with specific socio-economic and ecological characteristics in only five of the 13 municipalities of the country. Consequently, the survey results are not nationally representative and give only a rough indication of the situation of the sampled areas. In this sense, the operation can be better characterized as a rapid assessment than a full-blown household survey.

The more extended lead-up time to the SEIA-2 and the broader funding allowed for more comprehensive sampling procedures and a larger sample size. Therefore, the objective of the second SEIA was to produce results that are at least representative at national level for selected key indicators.

Sample frame

The main challenge of the sampling plan was the construction of the sampling frame. The latest sampling frame information for Timor-Leste can be obtained from the Population and Housing Census 2015 (PHC-2015). Unfortunately, inspection of the PHC-2015 EA listing showed that the household distribution by EA presented a large number of irregularities, many of which seem to be caused by misallocation of households to EAs. The occurrence of irregularities in the EA listing is such that it cannot be used as a reliable sampling frame.

An alternative listing based on the PHC-2015 is the distribution of buildings by EA. GPS-based allocation of buildings enumerated in the PHC-2015 seems to be more reliable and robust than the household distribution. In order to produce a household sampling frame for municipalities other than Dili, a number of assumptions were applied to convert the building listing to a household listing. The PHC-2015 output tables produced information about the number of private households and the total number of households per municipality. In combination with the building distribution for each municipality a household-building ratio was calculated. As the information about households and buildings is separately available for urban and rural areas, the ratio was further specified for urban-rural residence. At national level this resulted in an average of 1.07 households per building. The municipality- and urban-rural specific household-building ratio was applied to the number of buildings per EA as a factor to estimate the number of households per EA in 2015.

In the second half of 2020, the General Directorate of Statistics (GDS) has updated the mapping of Dili in preparation of the PHC-2021. This map update produced information of the number of buildings and dwellings per administrative post, suco and aldeia. Since aldeia's are often close to EAs in terms of population size, the aldeia information can be directly used as sample frame for SEIA-2 in Dili.

The map update resulted in numbers of buildings and dwellings that are substantially higher than the corresponding figures obtained from the PHC-2015. It would imply an increase of 67 percent, compared to the projected population increase in Dili of 23 percent. It is unlikely that the difference

can be explained with underestimating the migration flows to the capital, although it could be part of the explanation. As the digitized mapping procedure is likely to result in more reliable information, it is likely that the PHC-2015 grossly under-covered the number of households and population in Dili. It is also likely that under-coverage has occurred in other municipalities, although it can be expected that the effect is smaller than in the more urbanized and cluttered situation of the capital.

For the construction of the SEIA-2 sampling frame, the number of dwellings per aldeia is used as a proxy for the number of households, with the underlying assumption that the number of empty dwellings is compensated by the number of dwellings with more than one household. Applying the average PHC-2015 household size for Dili, the estimated population in 2020 amounts to 461 thousand, compared to 338 thousand according to the national population projections. The corresponding figures for the number of households in Dili are an estimated 71 thousand, compared to 52 thousand according to the national population projections. These updates have also a significant effect on the population and household estimates at national level.

In order to align the sampling frames for Dili and other municipalities, the derived 2015 household distribution of municipalities other than Dili were forward projected to 2020, using medium variant of the national population projections. The medium variant presents a 10-percent growth of the population at national level, ranging from 2 percent in Bobonaro to 23 percent in Dili (GDS and UNFPA 2018). Although these growth rates apply to the total population per municipality – including the population living in collective living quarters – in the absence of other specific information, it was assumed that the same rates apply to private households. The underlying assumptions were that average household size and the proportion of the population living in private households has not changed between 2015 and 2020.

Based on the above considerations, the sampling frame constructed for the SEIA-2021 consisted of primary sampling units – being aldeia's (241) for Dili and EAs (2,080) for other municipalities – with estimated number of households as the measure of unit size. Conversion of dwellings (for Dili) and buildings (for other municipalities) to households and update of 2015 EA information to the 2020 situation (for other municipalities) provided the standardised unit size measure that allows compiling one consolidated sampling frame. Table 39 provides the resulting estimates of population and households in 2020.

Table 39 Population and households, by urban-rural residence, and by municipality (in thousands, 2020 estimates)

Municipality	Population			Households		
	Total	Urban	Rural	Total	Urban	Rural
Timor-Leste	**1,416.3**	**515.5**	**900.7**	**241.8**	**80.0**	**161.9**
Aileu	55.1	2.9	52.2	8.6	0.4	8.2
Ainaro	65.0	6.4	58.7	11.0	1.1	9.9
Baucau	126.2	17.8	108.3	23.6	2.9	20.8
Bobonaro	99.3	12.9	86.3	18.0	2.1	15.9
Covalima	69.4	9.7	59.7	13.4	1.7	11.7
Dili	461.0	406.4	54.6	70.6	62.1	8.6
Ermera	137.3	9.7	127.6	22.7	1.5	21.2
Lautém	66.7	12.7	54.0	12.4	2.0	10.3
Liquiça	79.7	5.7	74.0	13.2	0.8	12.4
Manatuto	48.9	3.9	45.0	7.9	0.7	7.2
Manufahi	57.3	7.8	49.4	9.6	1.2	8.4
Oecussi	71.6	12.9	58.7	14.9	2.3	12.6
Viqueque	78.8	6.8	72.1	15.9	1.2	14.7

Sampling strategy

The sampling design that was applied for the SEIA-2021 planned for a nationally representative, stratified two-stage cluster sample. Stratification of the total sample into relatively homogenous strata tends to improve the precision of the survey results by reducing intra-strata variance and the associated sampling error. It also assures the representation of each of the strata in the sample and allows the flexibility of combining different sampling procedures, such as constructing the sampling frame from different sources to. The 13 municipalities and urban and rural areas made up the strata for SEIA-II, effectively resulting in 26 strata. The strata samples were drawn independently from one another.

Cluster sampling is a more efficient strategy for survey logistics, as it reduces travel time of the field staff, as well as fieldwork costs. However, it is a less effective strategy, as clustered observations tend to have lower variance (final sampling units tend to be more similar). Because of this 'design effect' a larger total sample is required to capture the population variance than when simple random sampling would be applied.

For the SEIA-2021 sampling strategy, in the first sampling stage primary sampling units (PSUs) consisted of aldeia's for Dili and EAs for the other municipalities. As these PSUs are unequal in size, they were drawn with probability proportionate to size (PPS). In the second sampling stage, 20 households were randomly selected from each of the sampled PSUs, using systematic sampling to optimise intra-cluster variance of the sample. The number of 20 households per cluster strikes a balance between efficiency and effectiveness of the sampling design.

Sample size

To determine the SEIA-2 sample size, tests were performed on several key indicators[47], taking into account the expected indicator value and associated design effect, the required confidence level and allowed margin of error, the size and proportion of the target population, and the expected level of non-response. Information from these parameters were obtained from the Timor-Leste 2016 Demographic and Health Survey and the SEIA-I analytical report (GDS and ICF, 2018; United Nations Timor-Leste, 2020).

The analysis showed that a total sample size of around 5,000 households would suffice to produce statistically representative results at national level for eight out of nine of these indicators[48], with a 95-percent confidence level and a 10-percent margin of error, which are generally accepted levels for household surveys. As the calculation included an expected level of non-response (8 percent), no replacement of non-response households was supposed to be required.

Sample allocation

The 13 municipality strata are very different in size: around 8 thousand households in Aileu and Manatuto, compared to more than 70 thousand in Dili (see Table X.1) – a ratio of 1 to 9. This would imply that a strategy of proportional allocation of the sample to the municipalities – which implies the optimum strategy for national-level indicators – would result in very few observations in the smaller municipalities. An equal-size distribution would be best strategy for comparison between the municipalities but may affect precision at national level. Application of a Kish power-level strikes a balance between these two strategies.

For SEIA-2021, a power value of 0.5 was chosen, which resulted in the allocation of households presented in Table 40, left panel. Given the defined cluster size of 20 households, the cluster allocation resulted in the distribution of 250 clusters in the right-hand panel of the table. Allocation for urban-rural residence is done within municipalities proportionally to population size.

Table 40 Allocation of households and clusters, by urban-rural residence, and by municipality (power allocation 0.5 and total sample size 5,000 households)

Municipality	Households			Clusters		
	Total	Urban	Rural	Total	Urban	Rural
Timor-Leste	**5,000**	**1,134**	**3,866**	**251**	**57**	**193**
Aileu	276	13	263	14	1	13
Ainaro	312	31	281	16	2	14
Baucau	458	55	403	23	3	20
Bobonaro	400	47	353	20	2	18
Covalima	344	43	302	17	2	15

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[47] Literacy rate, aged 15-49, employment-to-population ratio, aged 15-64 (COVID situation), percentage of households with at least one person with a disability, percentage persons aged 15+ who lost income due to COVID, percentage of households without income, percentage of households with moderate or severe food insecurity, percentage of households loosing employment due to COVID, percentage of households with children below 10 years old who missed a vaccination, percentage of households with women aged 15-49 needing family planning who missed family planning.
[48] And for six indicators for rural areas.

Dili	792	696	96	40	35	5
Ermera	448	29	420	22	1	21
Lautém	331	55	277	17	3	14
Liquiça	342	22	321	17	1	16
Manatuto	264	22	242	13	1	12
Manufahi	292	38	255	15	2	13
Oecussi	364	57	307	18	3	15
Viqueque	375	27	348	19	1	17

Sampling weights

Since the SEIA-2 sampling design used a non-proportional sample strategy, it is required to apply sampling weights in the analysis of the survey results to ensure the representativeness of the sample. These sampling weights are the scaling factors that inflate the sampled households to the number of households that they represent in the survey.

The first step in the determining the sampling weights is the calculation of the household design weights that inflate the sampled households to the number of households in the sampling frame. The calculation was independently done for each municipality and urban-rural stratum. The calculation follows from the selection probability of the households, as defined in the sampling design. The probability of selecting a PSU (EA or aldeia) in the first sampling stage is:

$$p_{1si} = c_s * h_{si} / H_s$$

Where p_{1si} is the probability of selecting PSU i in stratum s, c_s is the number of clusters selected in stratum s, h_{si} is the number of households in PSU i from stratum s and H_s is the number of households in stratum s, as reported in the sampling frame.

The probability of selecting a household from a sampled PSU in the second sampling stage – with a cluster size of 20 households – is:

$$p_{2si} = 20 / h_{si}$$

The overall probability of selecting a household is the product of the selection probabilities in the two stages for any stratum:

$$p_{si} = p_{1si} * p_{2si} = c_s * h_{si} / H_s * 20 / h_{si} = 20 * c_s / H_s$$

The design weight for a sampled household in PSU i in stratum s ($_dw_{si}$) is the reciprocal of its selection probability, thus:

$$_dw_{si} = 1 / p_{si} = H_s / 20 * c_s$$

The design weights were adjusted for household non-response, by multiplying the design weight by the ratio of the planned number of households per cluster (20) to the actual number.

Weights for individual household members and respondents for household-level questions were based on the household weights, but for each stratum normalized for age and gender according to the PHC 2015 population distribution. All weights – household-, individual- and respondent weights – were normalized to obtain the total number of weighted cases that is equal to the total number of unweighted cases at national level.

Annex 4. FIES estimation statistical note

Measures are obtained using the **Food Insecurity Experience Scale (FIES),** which is an experience-based metric of severity of food insecurity that relies on people's direct responses to eight questions regarding their access to adequate food. Respondents are asked to report on the occurrence of conditions and experiences that are typical of a household or an individual facing 'food insecurity'. Each FIES question refers to a different experience and is linked to a different level of severity of food insecurity, which is treated as a measurable 'latent' trait.

The analysis of FIES data using the methods developed by FAO produces internationally comparable estimates of the **proportion of the population facing food insecurity at different levels of severity**.

Key concepts and methods

A concept essential to experience-based food insecurity scales is that the severity of the food insecurity condition experienced is treated as a 'latent trait'. Both the **items** (questions) and the **respondents** (individuals or households) are positioned on the **same underlying scale** of severity of food insecurity (Figure 103).

Figure 103 Food insecurity along a continuum of severity

Data, in the form of binary ('yes'/'no') responses, are analysed through the one-parameter logistic model (also known as the **Rasch model**). The probability of a respondent answering 'yes' to an FIES item is modelled as the logistic function of the distance along the scale between the severity of the respondent's condition and the severity of the item.

The model assumes that the more severe a respondent's food insecurity status is, the higher the probability they will respond affirmatively to any given item, and that the more severe an item is, the less likely it is to be affirmed by any respondent, as shown below.

> The probability of receiving an affirmative answer to the j-th question by the i-th respondent in a sample is given by:
>
> $$Prob(X_{i,j} = \text{Yes}) = \frac{\exp(a_i - b_j)}{1 + \exp(a_i - b_j)} \ , \ \forall \ i, j,$$
>
> where a_i and b_j represent, respectively, the position of the respondent and of the item on a one-dimensional scale of severity.

Statistical validation and parameter estimation

The relative position of items and respondents on the scale of severity is expressed by their respective estimated **parameters**, the mean severity level and of the related standard error that can be associated with each item and that can be assigned to each respondent, based on patterns of responses.

Note that the order of the FIES items in terms of the severity they reflect is not given a priori but is instead revealed by the ranking of the estimated item parameter. Under the truth of the Rasch measurement model, the severity of a given experience of food insecurity, relative to that of other experiences depends on the frequency with which people report the occurrence of that item. The rationale behind this is that more severe experiences are expected being reported less often than less severe ones. This implies that a respondent's **raw score**, that is, the **sum of affirmative responses given to the FIES questions** (an integer number with a value between zero and the number of valid items) is the simplest statistic that can be computed using the FIES. For data that pass the statistical validation tests, the raw score is an ordinal measure of food insecurity severity, with lower raw scores corresponding to less severe food insecurity. The estimated respondent parameter, on the other hand, provides an interval measure of the severity of food insecurity and is the proper metric to use to produce indicators of food insecurity that are formally comparable across countries and contexts.

Statistical validation is the assessment of whether the measures obtained are valid and reliable enough for the intended policy and research uses. Statistical validation assesses the quality of the FIES data collected by testing their consistency with the assumptions of the Rasch model and determining the extent of residual uncertainty around the measures. This analysis involves the interpretation of several statistics that reveal 1) if there is any item that do not perform well in a given context, 2) the possible presence of additional dimensions captured in the data, 3) cases with highly erratic response patterns, 4) items that may be redundant, and 5) the proportion of total variance in the data that is accounted for by the measurement model.

The **equating** procedure ensures that the standard thresholds – defined on the global FIES reference scale – are mapped to the national scales, so that the two categories ('moderate' and 'severe' food insecurity) are internationally comparable. Once thresholds are identified, each respondent can be assigned a probability of belonging to each of the corresponding food insecurity classes, based on their estimated severity parameter.

In the context of the global SGD monitoring framework, two thresholds are set that separate 'mild' from 'moderate', and 'moderate' from 'severe' levels. The probabilities of being *at least moderately* food insecure, or in other words, to be located beyond the 'moderate' threshold, and of being *severely* food insecure, are determined by assuming that a respondent reporting a certain raw score belongs to a group within which food insecurity severity is distributed normally, centred on the severity level corresponding to the estimated respondent parameter, with a standard deviation equal to the estimated standard error. The prevalence of food insecurity in the population is then given by **the weighted sum of the raw score-specific probabilities.** The weighted proportions of individuals living in a household reporting each raw score in the population are used as weights.

Two FIES-based indicators can be used for **national and global monitoring** purposes. Note that the first indicator is an estimate of the *sum* of the moderately food insecure and the severely food insecure segments of the population.

- **FI$_{mod+sev}$** The proportion of the population experiencing **moderate and severe food insecurity** (SDG indicator 2.1.2)
- **FI$_{sev}$** The proportion of the population experiencing **severe food insecurity.**

Data have been validated by testing adherence to the Rasch model's assumption and have been found to conform to quality standards required for reliable estimation of the prevalence of food insecurity in the population. However, problems with adaptation of the 'Skip meal' question in the local language and culture raised concerns on whether the item had actually conveyed the intended meaning, and therefore it was preferred to exclude the question from the analysis.

Table 41 reports the estimated parameters and infits for all seven items of the FIES module. All the infits statistics are withing the accepted range (0.7 to 1.3)

Table 41 Estimated severity parameters for the FIES items and corresponding infit statistics[49] for all 7 items

	Item Severity parameters	Infit statistics
E07. WORRIED	-0.958	0.955
E08. HEALTHY	-1.128	1.261
E09. FEWFOOD	-0.961	0.935
E11. ATE LESS	-1.031	0.949
E12. RUNOUT	0.885	0.897
E13. HUNGRY	1.363	0.903
E14. WHLDAY	1.831	0.931

Overall reliability of the scale (through the model reliability statistics, an R-squared type statistic, ranging from 0 to 1.). Values higher than 0.7 are considered the sign of good reliability of the measures produced by the scale. The data reveals the Rasch reliability statistics as 0.69, which confirms reasonable reliability of the data

Examine whether any additional dimension, other than food insecurity, is captured from the scale (through an analysis of the matrix of correlation among the residuals). The presence of a detectable structure of correlation among the residuals obtained once the contribution of the measurement model to the data has been taken into account, is taken as evidence of the fact that the data may

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[49] The infit statistics are commonly used to assess how well responses to items correspond to the Rasch-model assumptions (or 'fit' the model). They are chi-square-type statistics that compare the misfit of each item with the extent of misfit expected under model assumptions. The expected value of each item's infit statistic is 1.0 if the data conform to Rasch model assumptions. Values above 1.0 indicate that the item discriminates less sharply than the average of all items in the scale. An infit between 0.7 and 1.3 is considered acceptable and indicates that the item discriminate equally well (i.e., it is equally linked to the measure of food insecurity) compared to the rest of the items in the scale.

capture more than one latent dimension, and therefore the one-dimensional IRT measurement model may not be appropriate.

Table 42 shows the residual correlation among the items and all the correlation statistics are within the accepted range (accepted range is |0.4|), which shows data capture only one latent dimension that is food insecurity. The scree-plot also confirms this conclusion.

Table 42 Residual correlation among the FIES items (questions)

	Healthy	Fewfood	AteLess	RunOut	Hungry	WholeDay
Worried	-0.02	0.09	0	0.04	-0.05	-0.03
Healthy		0.13	-0.2	-0.25	-0.2	-0.21
Fewfood			0.11	-0.12	-0.07	-0.11
Ate Less				0.13	0.07	0.03
Run Out					0.21	0.22
Hungry						0.23
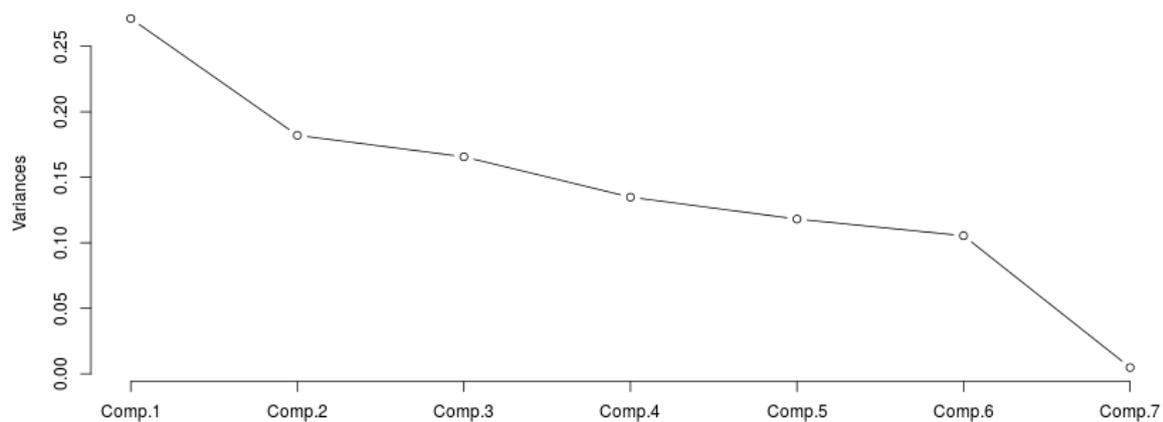
Except for ATELESS item, the alignment of the scale estimated in Timor-Leste with the FIES global standard is very good. The severity levels associated with remaining 6 items were found to be well aligned with the corresponding levels on the global reference scale. Figure below shows the item severity parameters as estimated in Timor-Leste, plotted against the global FIES scale and adjusted to the same mean and standard deviation of 6 common items.

Figure 104 FIES scale estimated in Timor-Leste, against the global standard, after adjustment
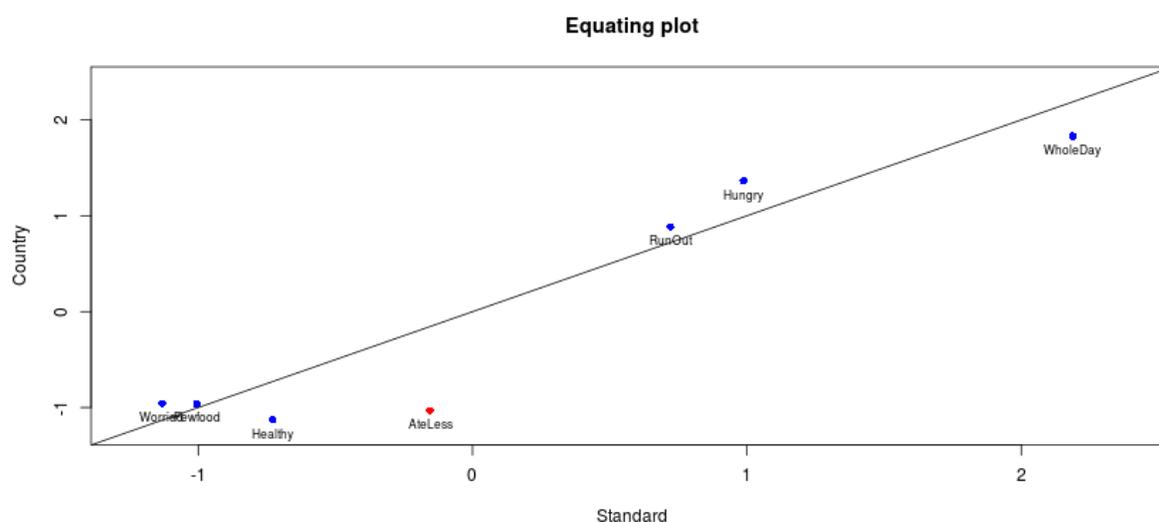
Table 43 Prevalence of moderate or severe and severe food insecurity (with margin of error) in Timor-Leste

	Food insecurity (Moderate or Severe)	Margin of error	Food insecurity (Severe only)	Margin of error
National (Timor-Leste)	**41.4**	**2.7**	**19.3**	**2.1**
Aileu	41.4	11.0	18.8	8.9
Ainaro	19.9	7.0	1.7	1.7
Baucau	34.4	7.4	11.1	4.9
Bobonaro	43.5	8.6	24.2	7.3
Covalima	51.8	9.9	26.9	8.3
Dili	41.1	6.0	20.4	4.7
Ermera	61.5	8.7	32.8	7.6
Lautém	38.8	9.9	15.2	7.0
Liquiçá	54.4	10.5	28.2	8.9
Manatuto	64.6	10.6	34.9	10.1
Manufahi	51.0	11.0	25.6	9.0
Oecusse	27.0	7.6	6.4	4.1
Viqueque	18.9	6.6	6.4	4.3

Annex 5. List of government COVID-19 response and recovery measures

In this report, we focus on the measures taken between September 2020 and August 2021. Key measures before September 2020 are listed in SEIA-1 report.

Table 44 List of government decisions related to COVID-19 response and recovery

Name of the scheme / measure	Approval date (duration of the measure)	Description
Establishment a set of preventive measures[50]	6 Feb 2020	Government established a set of Measures for Prevention of Coronavirus Outbreak Control
State of Emergency Implementing Measures[51]	28 Mar 2020	Implementation of necessary measures to prevent the disease, contain the pandemic, save lives, and ensure the subsistence of essential goods and services supply chains for Timor-Leste population. These measures included foreign and health control of national territory entry and exit; voluntary isolation; gathering, demonstrations, collective cult and religious activities prohibition; legislation on private enterprises and markets to regulate the access to commercial and services premises; regime of minimum and essential public services by the public administration human resources; suspension of in person classroom activities and closure of the education facilities; licenses and permits remain valid regardless of the expiry of their respective term of validity during the SoE.
Policies to reduce the negative economic impact of the COVID-19 pandemic[52]	31 Mar 2020	Ensure the continuity of the service provision transportation by air and sea; ensure the transportation of people and goods and the connection of the country abroad; ensure the continuity of distribution and supply of essential goods, food, medicine and clinical equipment; ensure the continuity of service provision of electronic communications accessibility in order to guarantee the permanent functioning of information channels; temporarily waive payment of electricity fees and water supply; create lines of credit at reduced interest rates and provide direct financial support to citizens and companies.

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[50] Government Resolution No. 2/2020 of 6 February – Approval of a set of Measures for Prevention and Control of COVID-19 Outbreak

[51] Government Decree No. 3/2020 of 28 March - Implementing Measures of the Declaration of the State of Emergency Made by the Decree of the President of the Republic no 29/2020, of March 27

[52] Government Resolution No. 12/2020 of 31 March – Policies for Reducing the Negative Economic and to Economic Recovery of the Covid-19 Pandemic Consequences

Name of the scheme / measure	Approval date (duration of the measure)	Description
COVID-19 Fund Approval[53]	14 Apr 2020	Fund to finance expenses related to preventing and combating COVID-19: 1) Purchase of medicines, materials and equipment for prevention and fight against SARS-CoV-2 and COVID-19, including contracting air transport services; 2) Installation and maintenance of the places allocated for quarantine and isolation; 3) Training and operationalization of professionals involved in preventing and fighting SARS-CoV-2 and COVID-19; 4) Acquisition and supply of essential goods.
Package of 19 strategic measures to economic response to the negative effects of COVID-19[54]	20 Apr 2020	Package approval of a stimulus and economic response to the expected negative effects of the coronavirus on the economy. The package includes 19 strategic measures for immediate implementation and had the objective to support families and businesses in the difficult times, cushioning the economic impact of health emergency. The economic stimulus was essentially designed with the objective of protecting people, save jobs, maintain consumption and help private sector activity.
Monetary support for households in the context of the Covid-19 Pandemic[55]	30 Apr 2020	Payment of $200 per household where no individual earned more than $500 per month (during the SoE). This reached approximately 300,000 households.
Employment support measures during the COVID-19 pandemic[56]	30 Apr 2020	An extraordinary allowance in the event of suspension of the employment contract or reduction of working hours; Exemption from the duty to pay social security contributions; Extraordinary allowance in case of loss of income to persons covered by the provision of nº 3 of Article 17 of Law No. 12/2016 of 14 November
Compensation supplement for Public Administration Employees, Agents and Workers[57]	30 Apr 2020	Creation of a remuneration supplement for employees, agents and employees of public administration providing the respective professional activity in the services of prevention or control of COVID-19 or direct conditions exposure to SARS-CoV-2 virus.

[53] Law-Decree No. 12/2020 of April 14 - Regulates the COVID-19 Fund
[54] Government of Timor-Leste: http://timor-leste.gov.tl/?p=24159&print=1&lang=pt
[55] Law-Decree No. 15/2020 of 30 April - Monetary support for households in the context of the Covid-19 Pandemic
[56] Law-Decree No. 16/2020 of 30 April - Employment support measures during the COVID-19 pandemic
[57] Law-Decree No. 17/2020 of 30 April - Remuneration supplement for officials agents and public administration workers who provide their professional activity in COVID19

Name of the scheme / measure	Approval date (duration of the measure)	Description
Creating a Temporary Allowance for Timorese citizens who meet or reside temporarily abroad[58]	6 Jun 2020	Financial support to be granted to Timorese citizens who reside temporarily abroad and depend exclusively on family income resident in Timor-Leste, while the SoE or the closure of borders lasts decided within the framework of measures to prevent and combat COVID-19 pandemic.
Sanitary Fences / Home confinement[59]	3 Dec 2020	The first sanitary fence in Timor-Leste started in Oe-cusse on 3rd December 2020 until 2nd January 2021. After that all Municipalities faced sanitary fences with exception of Manatuto Municipality
Extraordinary Financial Incentive for Sucos[60]	20 Dec 2020	Single basis financial and extraordinary incentive to each Suco which aims to ensure the compensation of community leaders for their collaboration with the State in the implementation of measures related to the preventing and combating disease COVID-19
Vaccination plan approval[61]	24 Feb 2021	Approval of the Vaccination plan for Timor-Leste territory
Administrative Post "Mão de Obra" Program[62]	5 Apr 2021	Programme with the objective of improving the socio-economic conditions of communities and economic recovery. These activities will be elaborated by local workers and contribute to improving the situation in the community and their standard of living and also for improvements in the quality of service provision, beauty, arrangement and security at the Administrative Post Level. The local government will pay between $5 and $7 USD
Vaccination programme started	7 Apr 2021	Vaccination programme started nationwide with the vaccines from AstraZeneca and Sinovac (COVAX Facility)
Public Support to be Granted by the State to Victims of Serious Accidents or Disasters.	22 June 2021	Approval and rules of the support to be granted to victims of serious accidents or disasters including the Easter Flood victims.

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[58] Law-Decree No. 21/2020 of June 5 – Approves a Temporary Allowance for Timorese citizens who meet or reside temporarily abroad
[59] All the Government Decree about sanitary fence and home confinement can be found at http://www.mj.gov.tl/jornal/?q=node/20
[60] Law-Decree No. 65/2020 of December 16 - Extraordinary financial incentive for Sucos
[61] Government Regulation No. 10/2021 of February 24 - Approve the Vaccination Plan against COVID-19
[62] Ministerial Diploma No. 12/2021 of April 5 - Approve the Administrative Post Mão de Obra Programme

Name of the scheme / measure	Approval date (duration of the measure)	Description
Extraordinary Financial Incentive for Sucos[63]	(21 July 2021 – until the end of SoE)	Temporary financial and extraordinary incentive to each Suco which aims to ensure the compensation of community leaders for their collaboration with the State in the implementation of measures related to the preventing and combating disease COVID-19
Socio-economic support measures approval[64]	2 May 2021	Budget change and approval of the socio-economic measures to mitigate the socioeconomic impact of the COVID-19 pandemic. The measures included the employment support, credit moratoria, student support and food safety measures.
Economic Recovery Measures[65]		
Cesta Básica (Basic basket)	(Nov 2020 - July 2021)	Allocation of a basic basket containing a specific set of essential food and personal hygiene goods or a shopping voucher, to be granted to all citizens or residents in Timor-Leste.
Recovery Subsidy	(Aug 2020 – Dec 2020)	Subsidy to support employers and individual entrepreneurs to resume economic activity and to increase the immediate liquidity of the beneficiaries' entities
Contributory exemption	(Jul 2020 – Dec 2020)	Employer's contribution exemption in 6% to Social Security. Support employers and individual entrepreneurs to resume economic activity and to increase the immediate liquidity of the beneficiaries' entities
Special support for informal workers	(Oct 2020 – Dec 2020)	Subsidy to support the self-employed and informal sector workers

[63] Law-Decree No. 11/2021 of July 21 - Extraordinary financial incentive for Sucos
[64] Law No. 8/2021 of May 3 – First Amendment to Law No. 14/2020, of December 29, General State Budget for 2021 and Approval of Socioeconomic Supporting Measures
[65] Government Regulation No. 28/2020 of August 19 - Short Term Measures to Mitigate the Impacts Economic Crisis of the Economic Recovery Plan

Annex 6. List of tables and figures

List of figures

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