



Timor-Leste's Subnational Children's Climate Risk Index - Disaster Risk Model

CCRI-DRM | TIMOR-LESTE

IN COLLABORATION WITH



United Nations
Satellite Centre

Timor-Leste Subnational Children's Climate Risk Index–Disaster Risk Model (CCRI-DRM) Report. INETL and UNICEF, with UNOSAT/UNITAR support, developed the CCRI-DRM report with line ministries.

The opinions expressed within this report are those of the authors and do not necessarily reflect the views of the Government or UNICEF.

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Timor-Leste's Subnational Children's Climate Risk Index–Disaster Risk Model (CCRI-DRM) aims to strengthen the evidence base for understanding children's exposure and vulnerability to climate- and disaster-related risks across Timor-Leste and to support child-sensitive, risk-informed planning and decision-making.

Special appreciation is extended to the National Institute of Statistics of Timor-Leste (INETL), as well as the sectoral ministries and national institutions whose administrative data, census information and survey findings formed the foundation of this analysis. The report also acknowledges the national and international partners who contributed their technical expertise to the development of the methodology and the review and validation of the findings.

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The development of Pillar 2 drew upon several national surveys, censuses and sectoral assessments. These included the Timor-Leste Demographic and Health Survey 2025 - 26, the Timor-Leste Population and Housing Census, the Timor-Leste Food and Nutrition Survey 2020, the Agricultural Census and the World Health Organization baseline survey for the Say No to 5S in Schools initiative in Timor-Leste.

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The findings and conclusions presented in this report are intended to support evidence-based dialogue, policy development and planning for child-sensitive climate change adaptation, disaster risk reduction and sustainable development in Timor-Leste

1. INTRODUCTION

Timor-Leste faces a complex and evolving risk environment shaped by recurrent natural hazards, climate change, environmental degradation, food insecurity, and persistent socioeconomic challenges. The country is exposed to a wide range of climate- and geophysical hazards, including floods, droughts, landslides, extreme heat, tropical cyclones, coastal hazards, earthquakes, and tsunamis. Between 1980 and 2020, floods accounted for approximately half of all recorded disaster events, while nearly 70 per cent of the rural population was exposed to one or more natural hazards.¹

The country's mountainous terrain, highly erodible soils, and extensive dependence on rain-fed agriculture increase its sensitivity to climate variability. Intense rainfall frequently triggers flooding and landslides, while prolonged dry periods contribute to drought, declining agricultural productivity, and food insecurity. Climate change is expected to intensify these risks through increasing temperatures, changing rainfall patterns, more frequent extreme weather events, and rising sea levels, placing additional pressure on already vulnerable communities.²

The April 2021 floods associated with Tropical Cyclone Seroja demonstrated the scale and interconnected nature of these risks. Flash floods and landslides affected all 13 municipalities, resulting in at least 44 fatalities and impacting more than 30,000 households. Damage to housing, transport networks, agriculture, schools, health facilities, and other critical infrastructure resulted in estimated losses exceeding US\$307 million, highlighting how hazard events can rapidly undermine development gains and strain national response capacity.³

¹ United Nations Office for Disaster Risk Reduction (UNDRR), *DesInventar Sendai Disaster Information Management System: Timor-Leste Disaster Records (1980–2020)*; Government of Timor-Leste and United Nations Development Programme (UNDP), *Multi-Hazard Vulnerability and Risk Assessment (MHVRA) for Timor-Leste*.

² Intergovernmental Panel on Climate Change (IPCC), *Sixth Assessment Report (AR6), Working Group II: Impacts, Adaptation and Vulnerability (2022)*; Government of Timor-Leste, *National Adaptation Programme of Action (NAPA)*; Government of Timor-Leste, *Nationally Determined Contribution (Updated NDC)*.

³ Government of Timor-Leste, *Timor-Leste Floods 2021: Recovery and Reconstruction Plan*; World Bank, Government of Timor-Leste, European Union and UNDP, *Timor-Leste: Cyclone Seroja and April Floods Post-Disaster Needs Assessment (PDNA) (2021)*.

Although climate and disaster risks affect the entire population, children are disproportionately vulnerable because of their physiological sensitivity, developmental needs, and dependence on caregivers and essential public services. Climate- and disaster-related shocks can disrupt access to healthcare, nutrition, education, safe water and sanitation, social protection, and child protection services, with consequences that may extend well beyond the immediate aftermath of a disaster.⁴

Children's climate risk is determined not only by their exposure to hazards but also by the underlying social, economic, and environmental conditions that influence their ability to anticipate, cope with, and recover from shocks. Factors such as poverty, malnutrition, inadequate housing, limited access to basic services, and inequalities in infrastructure can significantly increase children's vulnerability to climate- and disaster-related impacts. The *Children's Climate Risk Report 2026* identifies Timor-Leste as one of the Small Island Developing States (SIDS) facing both high exposure to climate-related hazards and elevated levels of child vulnerability. The report further highlights the importance of subnational assessments that combine hazard exposure with child-specific vulnerability indicators to identify where children face the greatest climate risks and to support evidence-based policies and targeted investments.⁵

1.1. Development of the Timor-Leste CCRI-DRM

Recognising the need for geographically detailed and child-centred climate and disaster risk information, UNICEF partnered with the UN Satellite Centre, a programme of the United Nations Institute for Training and Research (UNITAR), to develop the Timor-Leste's Subnational Children's Climate Risk Index–Disaster Risk Model (CCRI-DRM). The model draws on the conceptual foundations of UNICEF's 2021 Children's Climate Risk Index and the INFORM Risk Index methodology, adapting these approaches to Timor-Leste's national and subnational context. The CCRI-DRM is therefore a nationally contextualised subnational risk model rather than a direct downscaling of a current global CCRI.

The CCRI-DRM integrates geospatial information on children's exposure to climate-related, environmental, and geophysical hazards with indicators measuring multiple dimensions of child vulnerability, including health, nutrition, education, water, sanitation and hygiene, child protection, household living conditions, and access to essential services and infrastructure. Together, these dimensions provide a more comprehensive understanding of where children face overlapping exposure and vulnerability.

⁴ UNICEF, *The Climate Crisis Is a Child Rights Crisis: Introducing the Children's Climate Risk Index (CCRI)* (2021).

⁵ UNICEF, *Children's Climate Risk Report 2026*. Link: https://data.unicef.org/wp-content/uploads/2026/07/CCRR-2026-4.pdf?client_id=506528.1788705203&session_id=1788705202

The current model cycle primarily assesses existing and present-day risk conditions using the most recent suitable hazard and vulnerability datasets available, including observed and modelled hazard information and probabilistic return-period scenarios. Future climate projections are not systematically incorporated as separate exposure inputs in the current version of the model. The resulting scores should therefore be interpreted as a relative assessment of current climate and disaster risk across Timor-Leste's municipalities, rather than as forecasts of future climate conditions or disaster impacts. Future iterations of the CCRI-DRM could incorporate climate projections where suitable spatially consistent datasets become available.

A key objective of the development process was to maximise the use of nationally produced data. Wherever possible, global proxy datasets were replaced with administrative records, census data, household surveys, and nationally recognised spatial datasets. The model was developed through close collaboration with government institutions and technical partners, ensuring that both the methodology and the selected indicators reflected Timor-Leste's risk context, policy priorities, data systems, and institutional context.

Within this framework, the project aimed to:

- Develop a subnational CCRI-DRM for Timor-Leste by adapting UNICEF's new framework on children's climate risk analysis and the INFORM risk methodology to the national context.
- Integrate nationally available geospatial, administrative, census, and survey datasets to produce a comprehensive assessment of children's exposure to climate and disaster hazards together with multiple dimensions of child vulnerability.
- Generate comparable municipal-level (Admin 1) risk scores and spatial products to identify geographic variations in children's climate and disaster risk.
- Improve access to climate and disaster risk information through a geospatial decision-support platform that supports risk-informed planning, policy development, and investment at both national and subnational levels.

By identifying municipalities where high hazard exposure coincides with elevated child vulnerability, the CCRI-DRM provides an evidence base for child-sensitive disaster risk reduction, climate change adaptation, preparedness planning, and resilient development investment.

1.2. Structure of this Report

This report documents the development of Timor-Leste's Subnational CCRI-DRM and presents the resulting assessment of children's climate and disaster risk at the municipal level. It describes the collaborative process used to develop the model, including stakeholder engagement, data review, methodological refinement, and technical validation. The report then presents the final methodological framework, key findings, and recommendations for applying and maintaining the CCRI-DRM as a decision-support tool for child-centred climate adaptation, disaster risk reduction, and development planning.

2. DEVELOPING OF THE TIMOR-LESTE SUBNATIONAL CCRI-DRM MODEL

2.1. Model Structure and Analytical Approach

The Timor-Leste Subnational Children's Climate Risk Index- Disaster Risk Model (CCRI-DRM) was developed to provide a systematic assessment of the relative climate and disaster risks faced by children across the country's municipalities.⁶ Drawing on established approaches to child climate risk analysis and the INFORM Risk Index methodology, the model was adapted to reflect Timor-Leste's hazard profile, nationally available datasets, and child development priorities. The resulting scores are relative measures intended to support comparison and prioritisation across municipalities; they do not represent absolute levels of risk, probabilities of disaster occurrence, or estimates of expected disaster losses.

The analytical framework comprises two complementary pillars that together define children's climate and disaster risk (Figure 1). Pillar 1 measures children's exposure to climatic and non-climatic hazards, while Pillar 2 measures child vulnerability, reflecting the social, economic, environmental, and institutional conditions that influence children's capacity to anticipate, cope with, and recover from adverse events. This distinction is applied consistently throughout the indicator framework: indicators describing the presence, spatial extent or intensity of a hazard and children's exposure to it are classified under Pillar 1, while indicators relating to preparedness, institutional readiness, access to evacuation and response mechanisms, and other capacities to manage the impacts of hazards are treated as vulnerability or coping-capacity indicators under Pillar 2.

Each pillar is represented by a set of indicators that capture different dimensions of climate and disaster risk. Exposure indicators describe the spatial distribution and intensity of hazards, while vulnerability indicators represent conditions related to child health and nutrition, education, water, sanitation and hygiene (WASH), child protection, livelihoods and social protection, and local coping capacity. Together, these indicators produce a multidimensional assessment of children's climate and disaster risk at the municipal (Admin 1) level.

The assessment combines secondary statistical datasets with geospatial analyses to generate standardised municipal risk scores, enabling comparison of relative climate and disaster risk across Timor-Leste. The resulting index is intended to support evidence-based planning, prioritisation, and investment by identifying

⁶ Composite risk indices integrate multiple indicators into a structured analytical framework, allowing comparison across geographic units while retaining the ability to examine underlying risk drivers. Adapted from the INFORM Risk Index methodology, European Commission Disaster Risk Management Knowledge Centre.

municipalities where high hazard exposure coincides with elevated child vulnerability. Because the assessment is conducted at the municipal (Admin 1) level, the results may not capture important variations in exposure and vulnerability within individual municipalities. The rationale for selecting this analytical scale and its associated limitations are discussed in detail in Section 2.7.

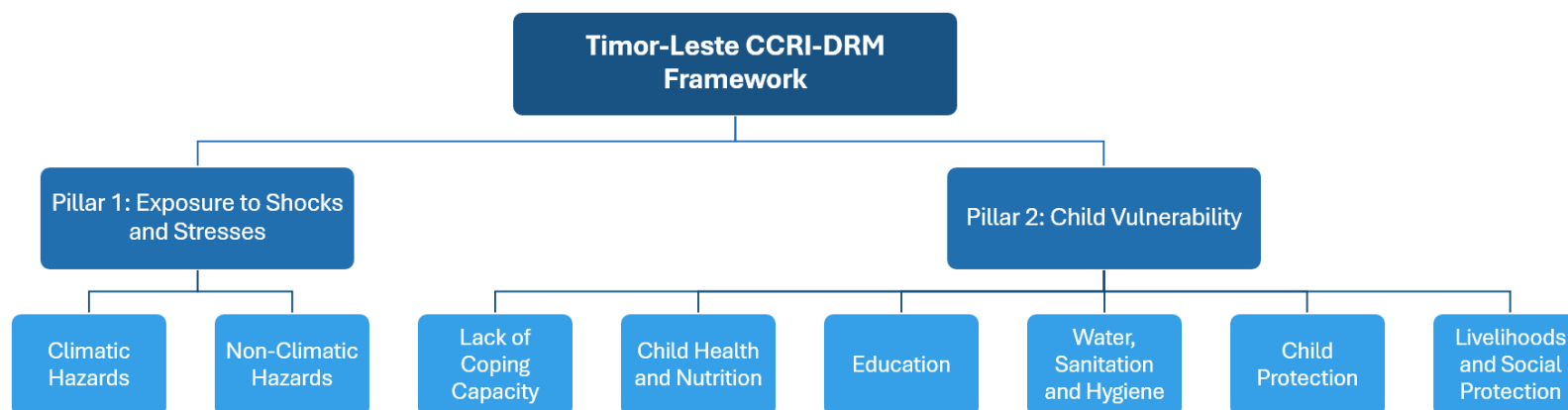


Figure 1: Conceptual framework of the Timor-Leste Subnational Children's Climate Risk Index–Disaster Risk Model (CCRI-DRM).

As a comparative planning tool, the CCRI-DRM is designed to assess relative differences in climate and disaster risk among municipalities within Timor-Leste. The scores should therefore be interpreted in relation to the other municipalities included in the national model rather than as absolute measures of risk. It is not intended for cross-country comparisons, real-time early warning, prediction of disaster occurrence or losses, or post-disaster needs assessments.

2.2. Initial Data Review and Preliminary Model Development

The first phase of the project focused on compiling and reviewing the datasets required to develop the Timor-Leste Subnational CCRI-DRM. Existing national and international datasets were identified and assessed for their relevance, quality, spatial resolution, temporal coverage, and suitability for municipal-level analysis.

This review included hazard information, demographic and socioeconomic statistics, census data, administrative records, and geospatial datasets relevant to children's wellbeing and disaster risk.

Based on the available information, a preliminary version of the CCRI-DRM was developed, to serve as a working prototype for validating assumptions, using the proposed analytical framework described in Section 2.1. Initial indicators were selected for each component of the model, and where nationally produced datasets were unavailable, globally recognised datasets were provisionally incorporated to ensure complete representation of the exposure and vulnerability dimensions.



Figure 2 Examples of national census, health, nutrition and development reports reviewed to inform CCRI-DRM indicator selection.

The preliminary model provided the basis for consultation with government agencies and technical partners during the national inception workshop. The initial indicator selection, data sources, analytical scale, and methodological approach were presented for review to identify opportunities to strengthen the model through the incorporation of nationally available data and technical expertise. This iterative approach ensured that the final CCRI-DRM was informed not only by available data but also by national expertise, institutional knowledge, and stakeholder consensus.

2.3. National Inception Workshop

On 22 April 2026, UNICEF and the UN Satellite Centre, in collaboration with the National Institute of Statistics of Timor-Leste (INETL), convened a national CCRI-DRM Inception Workshop in Dili. The workshop marked the beginning of the collaborative validation process for the development of the Timor-Leste Subnational Children's Climate Risk Index–Disaster Risk Model (CCRI-DRM), bringing together representatives from government ministries, technical agencies, academic institutions, development partners, and humanitarian organisations. Participating institutions included the Civil Protection Authority, Ministry of Health, Ministry of Education, Ministry of Agriculture and Fisheries, Ministry of Social Solidarity and Inclusion, the National Directorate of Meteorology and Geophysics, UNICEF, UNOSAT, and other national stakeholders.



Figure 3: Inception workshop for CCRI-DRM

The primary objective of the workshop was to introduce the CCRI-DRM framework, present the findings of the preliminary desktop review, and initiate a structured consultation process to validate the proposed analytical framework, indicators, datasets, and calculation methodology. The workshop also provided an opportunity to demonstrate the preliminary CCRI-DRM prototype and geospatial dashboard, illustrating how the model could support spatial analysis, identify areas where children face the greatest climate and disaster risks, and inform evidence-based planning and decision-making.

Following the technical presentations, participants were organised into thematic working groups covering (i) exposure to shocks and hazards and coping capacity, (ii) child health and nutrition, (iii) education, (iv) water, sanitation and hygiene (WASH), and (v) child protection, livelihoods, and social protection. Each group reviewed the proposed indicators against three principal criteria: relevance to Timor-Leste's context, availability and quality of supporting datasets, and suitability for municipal-level analysis. Participants also identified additional indicators, assessed data accessibility and institutional ownership, and highlighted opportunities to strengthen the framework using nationally available information. The workshop concluded with a plenary discussion that enabled participants to consolidate recommendations and identify priorities for inter-agency coordination and future data sharing.



Figure 4: Participants conducting a sectoral validation exercise during the CCRI-DRM inception workshop in Dili on 22 April 2026.

The consultation confirmed broad support for the development of a nationally contextualised, child-centred climate and disaster risk assessment for Timor-Leste. A consistent recommendation across sectors was to prioritise nationally produced datasets, particularly the 2022 Population and Housing Census and sectoral administrative information systems, in place of global proxy datasets wherever possible. Participants also recommended strengthening the representation of emerging and locally significant hazards, incorporating additional child vulnerability indicators where appropriate, improving the use of disaggregated data, and reinforcing institutional collaboration to support future updates of the model.

Following the workshop, each recommendation was reviewed against the technical requirements of the CCRI-DRM, including relevance, data quality geographic coverage, administrative resolution, methodological consistency and comparability across municipalities.

Several workshop priorities are reflected in the final model. Extreme heat and earthquake were retained as explicit hazard dimensions; WASH indicators were retained across community, school and health-care settings; social protection was included within Pillar 2; and coping-capacity indicators incorporated measures of access to critical infrastructure and transport networks. National census and administrative datasets were also prioritised where suitable and sufficiently consistent data were available

Other recommendations could only be partially addressed or were not incorporated as separate scored indicators in the current model. The workshop proposed further consideration of wildfire and tsunami exposure, mental health and food safety, disability-sensitive measures, shelter availability, and indicators of emergency preparedness, evacuation capacity and institutional readiness. These proposed additions were not included where suitable and comparable municipal-level datasets could not be validated within the project timeframe. Newly available DHS data, including child-functioning indicators, were subsequently identified for consideration in the model update. Similarly, WASH in schools was retained as recommended, although the final model continued to use the available nationally comparable dataset rather than replacing it with an alternative source where complete municipal-level data could not be confirmed.

The workshop also raised the role of the DRM Network and the need for stronger institutional coordination, emergency response planning and clearer responsibilities for disaster preparedness and response. As these recommendations relate primarily to institutional arrangements rather than directly measurable hazard or vulnerability conditions, they were not incorporated as standalone scored indicators. Instead, they informed subsequent engagement with the Civil Protection Authority and other national technical institutions, including further validation of hazard datasets and discussion of institutional data ownership, coordination and future model maintenance.

The final indicator framework therefore reflects a combination of stakeholder recommendations and the availability of technically suitable data. Recommendations that met the model's analytical requirements were incorporated or used to refine indicator and data-source selection, while recommendations requiring additional data collection, validation or institutional development have been documented as priorities for future updates. This provides a transparent link between the consultation process and the final structure of the Timor-Leste CCRI-DRM.

2.4. Data Review and Model Refinement

Following the National Inception Workshop, the project team undertook a comprehensive review of the recommendations provided by participating institutions to refine the CCRI-DRM framework, datasets, and analytical methodology. The review focused on strengthening the robustness of the model while ensuring that it reflected Timor-Leste's national context and made maximum use of nationally available information.

Each proposed indicator and dataset was systematically assessed against a set of technical criteria, including relevance to children's climate and disaster risk, data quality, spatial and temporal coverage, consistency across municipalities, accessibility, and long-term sustainability. For each selected indicator, key data governance information including the data custodian, geographic level, reference year, update frequency, access status, and validation requirements will be recorded to ensure traceability and facilitate future updates of the CCRI-DRM. Where multiple datasets were available for the same indicator, preference was given to nationally produced administrative records, census data, and official sectoral information systems. Global datasets were retained only where suitable national alternatives were unavailable or where they provided greater spatial consistency.

2.5. Technical Validation Workshop

The final stage of model development focused on validating the CCRI-DRM methodology, datasets, and preliminary results to ensure that the model accurately represented Timor-Leste's climate and disaster risk context before finalisation. A technical validation mission was undertaken in Dili from 22 to 25 June 2026, bringing together government institutions responsible for climate, disaster risk management, statistics, and geospatial information. The mission sought to resolve outstanding methodological issues, validate the proposed hazard and vulnerability datasets, and identify the final refinements required before completing the municipal risk assessment.

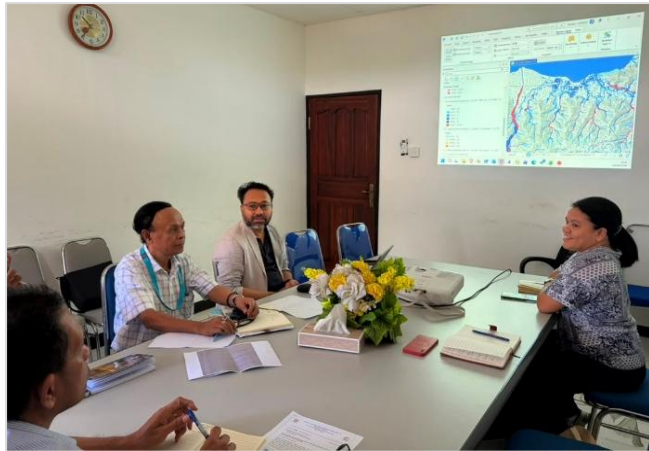


Figure 5: Technical consultation with national stakeholders

Technical consultations were held with the National Directorate of Meteorology and Geophysics (DNMG), the Civil Protection Authority (CPA), the National Climate Change Directorate (DNCC), and the National Institute of Statistics of Timor-Leste (INETL). Participants reviewed the analytical framework, assessed the suitability of the proposed datasets, and examined areas where national information differed from globally available products.

Overall, stakeholders agreed that the CCRI-DRM provided a robust representation of children's climate and disaster risk in Timor-Leste, with INETL estimating that the hazard component aligned with national working assumptions by approximately 90 per cent. The consultations also identified a small number of hazard layers requiring further refinement or additional technical verification before the model was finalised.

A key outcome of the validation process was the agreement to prioritise nationally produced datasets where these provided greater accuracy or better reflected local conditions than global products. Participants noted that several global hazard layers lacked the spatial resolution required to represent Timor-Leste's complex terrain, localised flood behaviour, coastal processes, and observed hazard patterns. As a result, the CPA Multi-Hazard Vulnerability and Risk Assessment was adopted as the principal reference for several hazard layers, while DNMG provided climatological observations and technical guidance for weather- and climate-related indicators. Where differences existed between national and global datasets, the final selection was based on technical evidence and validation by the responsible government institution.

The technical validation also resulted in several refinements to the hazard component of the model. These included the adoption of national flood datasets, the use of higher-resolution landslide information, revisions to tropical cyclone and wind hazard modelling, the incorporation of locally appropriate approaches for coastal flooding and heat stress, and the identification of drought as an area requiring further improvement because of limited municipal-level data. The outcomes of these technical reviews are summarised in [Table 1](#).

Table 1: Hazard-layer source selection and validation outcomes following the June 2026 technical validation mission.

Hazard	Assessment of global dataset	Preferred source / approach	Validation partner
Heat / temperature	Resolution too coarse; temperatures exceeding 40°C were indicated in some coastal areas	Elevation-corrected local model incorporating a humidity-based heat-stress index	DNMG Climatology
Flood (riverine / urban)	Does not adequately capture flooding in Dili and other local flood-prone areas	CPA flood dataset	DNMG and hydrology specialists
Coastal flood	Limited representation of local coastal conditions	Areas below approximately 5 metres elevation	-
Landslide	Overestimates exposure along parts of the eastern coast and in some highland areas	Higher-resolution CPA landslide dataset	Institute of Geoscience/Geology (ITG)
Tropical cyclones (wind)	Likely overestimates hazard because it is based on an approximately 100-year return period	CPA dataset based on an approximately 50-year return period, adjusted for topographic effects	Australian Bureau of Meteorology and Indonesia's Agency for Meteorology, Climatology and Geophysics
Earthquake	Based on a single global dataset	Pacific Community modelling with soil-amplification correction	ITG (geology)
Drought and El Niño	Poorly represented because municipal-level datasets are unavailable	Use of 2023 data as a provisional proxy	-
Sea-level rise	Substantial overlap with coastal-flood exposure	Incorporated within the coastal-flood layer	-

2.6. Capacity Building and Knowledge Transfer

An important objective of the project was to strengthen national capacity to maintain, update, and apply the CCRI-DRM beyond the completion of the initial assessment. To support this objective, the technical validation mission included a dedicated knowledge-transfer workshop on 24 June 2026, involving staff from the National Institute of Statistics of Timor-Leste (INETL) and other government institutions responsible for climate, disaster risk management, and sectoral data.

The workshop combined technical presentations with practical exercises covering the CCRI-DRM methodology, geographic information system (GIS) principles, hazard exposure analysis, indicator standardisation, and the calculation of composite risk scores. Participants were guided through the complete analytical workflow, from data preparation and processing to the generation and interpretation of municipal-level risk scores, providing a practical understanding of how the model can be updated as new datasets become available. To support the long-term sustainability of the model, participants were trained in the use of an automated calculation workbook and accompanying self-paced learning materials developed as part of the project. These resources were designed to facilitate future updates of the CCRI-DRM, promote methodological consistency, and strengthen institutional ownership of the analytical process. The workshop also provided a final opportunity to review remaining data gaps, discuss potential improvements to the indicator framework, and identify additional datasets for future model updates, including the newly available Demographic and Health Survey.



Figure 6: Technical Training for national stakeholders in Dili, Timor-Leste

2.7. Selection of the Municipal Analytical Scale

The municipality (Admin 1) was selected as the analytical unit for the Timor-Leste Subnational CCRI-DRM through consultation between the National Institute of Statistics of Timor-Leste (INETL), UNICEF, and the project team. The decision reflected the availability and consistency of national datasets and the need to align the assessment with existing government planning and reporting systems.

Although finer administrative levels, including sucos and aldeias, were considered, many of the pillar 2, child vulnerability indicators required for the model were not consistently available at these levels across the country. Using the municipal level therefore provided a common analytical scale for integrating hazard exposure and child vulnerability indicators and maintaining comparability across the national assessment,

While municipalities provide a consistent and operationally relevant analytical unit, results at this scale may mask important variations in exposure and vulnerability between sucos, aldeias, and individual communities within the same municipality. The CCRI-DRM should therefore be interpreted as a municipal-level prioritisation tool rather than as a substitute for detailed local risk assessment. Where more granular and sufficiently reliable data are available, the municipal results should be complemented by local-level analysis to support more targeted planning and intervention.



Figure 7: Administrative boundaries of Timor-Leste at municipality level

3. CCRI-DRM FRAMEWORK AND METHODOLOGY

Following the desk review, stakeholder consultations, and technical validation, the proposed indicators were refined based on their relevance, data availability, geographic coverage, and methodological suitability. The final Timor-Leste CCRI-DRM comprises of 56 indicators organised into two pillars and eight thematic components (Figure 8).

Pillar 1: Children’s Exposure to Shocks and Hazards consists of 8 indicators, including 5 climatic hazard indicators and 3 non-climatic hazard indicators. Pillar 2: Child Vulnerability contains 57 indicators across six thematic components: lack of coping capacity (9); child health and nutrition (22); education (7); water, sanitation and hygiene (10); child protection (3); and livelihoods and social protection (6).

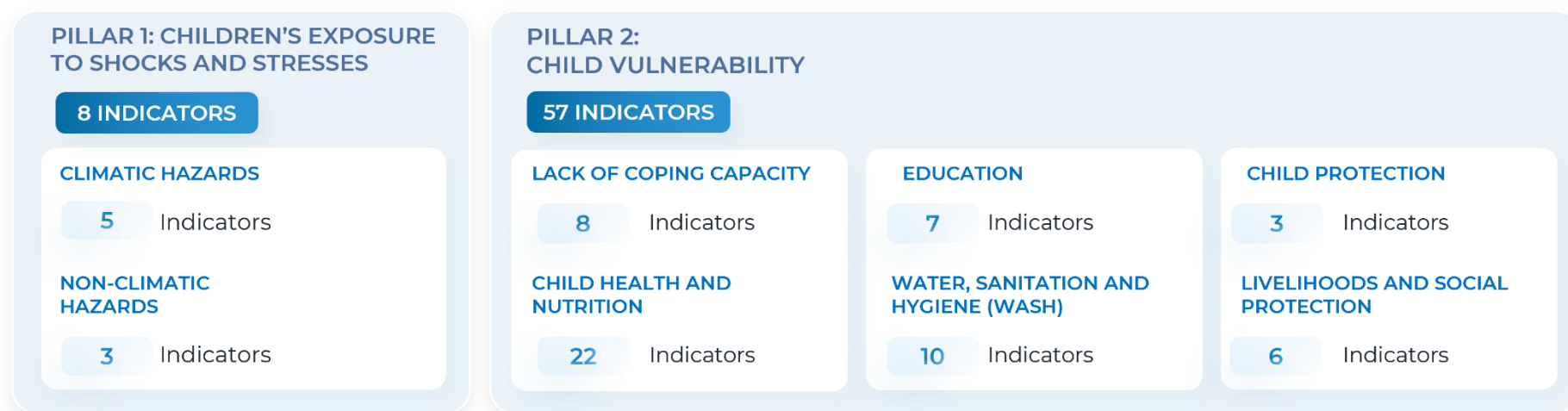


Figure 8: Final indicator framework for the Timor-Leste subnational CCRI-DRM.

Stakeholder recommendations from the national consultation process informed both indicator selection and the choice of data sources. Recommendations that could be supported by suitable and comparable municipal-level data were incorporated or retained in the final framework, including extreme heat and earthquake exposure, WASH across community, school and health-care settings, social protection, and measures of coping capacity. Other proposed additions—including

wildfire and tsunami exposure, mental health, food safety, shelter availability, disability-sensitive measures, and explicit emergency preparedness or institutional-readiness indicators, were not incorporated as separate scored indicators where sufficiently consistent municipal-level data could not be validated within the project timeframe. These recommendations have been retained for consideration in future updates of the model, as described in the National Inception Workshop section. Together, these two pillars provide a multidimensional assessment of children's climate and disaster risk by combining their exposure to hazards with the socioeconomic and service-related conditions that influence their vulnerability and capacity to cope with and recover from shocks.

3.1. Pillar 1: Children's Exposure to Shocks and Hazards

Pillar 1 assesses children's potential exposure to climate and disaster hazards by measuring the spatial distribution and relative intensity of hazards across Timor-Leste's municipalities. The pillar comprises 8 indicators representing the principal climatic and non-climatic hazards affecting children and provides the exposure component of the Timor-Leste CCRI-DRM.

The climatic hazard indicators capture the primary climate-related threats affecting children, including extreme heat, flooding, landslides, tropical cyclones and strong winds, and coastal flooding. Sea-level rise was considered during the development and validation of the hazard framework but was not included as a separate scored indicator because sufficiently consistent spatial data were not available for comparable municipal-level analysis. Instead, coastal flooding was retained to represent exposure of children in low-lying coastal areas. The coastal-flood analysis uses areas below approximately 5 metres elevation to identify locations

potentially susceptible to coastal inundation. This approach does not capture the full range of long-term impacts associated with sea-level rise but provides a consistent and reproducible measure of current coastal exposure within the CCRI-DRM.

Climate Hazard	Riverine Flood Exposure	Estimated number of children aged 0–17 living within areas classified as prone to riverine flooding in each municipality.
Climate Hazard	Coastal Flood Exposure	Estimated number of children aged 0–17 living in coastal areas located below five meters above mean sea level.
Climate Hazard	Extreme Heat Exposure	Estimated number of children aged 0–17 living in grid cells where the daily maximum Wet Bulb Globe Temperature exceeds 28°C.
Climate Hazard	Tropical Cyclone Exposure (Wind)	Estimated number of children aged 0–17 living in areas where the one-day wet-season wind speed event reaches or exceeds 24 m/s.
Climate Hazard	Landslide Exposure	Estimated number of children aged 0–17 living in areas classified as having high or very high rainfall-induced landslide susceptibility.

Figure 9: Climatic hazard indicators.

The non-climatic hazard indicators represent additional natural and health related hazards that can significantly affect children's wellbeing and access to essential services, including earthquakes, and waterborne disease, and vector-borne disease.

Non-Climatic Hazard	Earthquake Exposure	Estimated number of children aged 0–17 living in areas where modelled peak ground acceleration exceeds 0.22 g
Non-Climatic Hazard	Dengue Incidence	Municipality-level dengue incidence, expressed as the number of reported dengue cases per 100,000 population during the reference year.
Non-Climatic Hazard	Diarrhoea Prevalence	Percentage of children under five whose caregivers reported that the child experienced diarrhoea

Figure 10: Non-climatic hazard indicators.

Together, these indicators provide a comparative assessment of where children are most likely to be exposed to multiple climate and disaster hazards. The pillar measures potential exposure rather than the impacts of individual events and is combined with the child vulnerability indicators under Pillar 2 to produce the overall CCRI-DRM.

3.1.1 Hazard Selection

The hazard indicators were selected through a review of the global UNICEF CCRI framework, national disaster risk assessments, available geospatial datasets, and consultations with government technical agencies, including the National Directorate of Meteorology and Geophysics (DNMG), the Civil Protection Authority (CPA), and the National Institute of Statistics of Timor-Leste (INETL). Following technical validation, nationally produced datasets were adopted wherever they provided a more accurate representation of Timor-Leste's hazard conditions than global products. Global datasets were retained only where suitable national data were unavailable.

3.1.2 Exposure Calculation Methodology

Pillar 1 of the Timor-Leste CCRI-DRM quantifies children's exposure to climatic and non-climatic hazards using a geospatial overlay approach that integrates hazard layers with gridded population estimates for children under 18 years of age. For each hazard, spatial datasets were prepared, quality checked and validated to ensure a consistent coordinate reference system, spatial resolution and geographic extent before being aligned with the 2025 WorldPop child population dataset.

The 2025 WorldPop dataset was used specifically for the exposure analysis because a spatially disaggregated population surface was required to determine where children are located in relation to hazard-affected areas. National census and administrative population data remain important sources within the wider CCRI-DRM; however, population totals aggregated to administrative units do not provide the spatial detail required to identify the number of children located within individual hazard footprints. WorldPop provides an approximately 100-metre gridded population surface, allowing child population estimates to be spatially intersected with individual hazard footprints and enabling a consistent exposure-analysis approach across all hazards. This use of WorldPop therefore complements, rather than replaces, nationally produced a more spatially precise population data used elsewhere in the model.

The analytical workflow comprised four sequential stages: (i) preparation of hazard and population datasets; (ii) validation and standardisation of spatial inputs; (iii) geospatial exposure analysis; and (iv) generation of exposure indicators. Hazard layers were overlaid with the WorldPop child population surface to estimate the number of children residing within hazard-affected areas. Exposure estimates were subsequently aggregated to the municipal (Admin 1) level.

Two complementary exposure indicators were generated for each hazard:

Absolute exposure: the estimated number of children under 18 years of age residing within the hazard-affected area. This measure captures the magnitude of exposure and helps identify locations where large numbers of children may require risk-reduction or preparedness intervention.

Relative exposure: the proportion of the total child population exposed within each administrative unit that resides within the hazard affected area. This measure accounts for differences in population size and identifies areas where a large share of children is exposed, even where the overall child population is comparatively small.

Both measures are retained because they capture different but complementary dimensions of exposure. Relying only on absolute exposure could give greater prominence to more populous municipalities, while relying only on relative exposure could understate locations where a large number of children are exposed but represent a smaller proportion of a much larger population. Their inclusion therefore allows Pillar 1 to reflect both the magnitude and the concentration of child exposure. For each hazard, the absolute and relative exposure measures are standardised independently and incorporated into the Pillar 1 aggregation so that both dimensions contribute to the resulting exposure assessment.

To enable comparison across hazards and municipalities, the absolute and relative exposure measures were normalised to a common 0 -10 scale using the methodology described in the section 3.3. Indicator Standardisation and Composite Index Calculation. Higher standardised scores correspond to higher levels of child exposure. These standardised measures form the exposure component (Pillar 1) of the Timor-Leste CCRI-DRM and provide a consistent basis for comparing children's relative exposure to multiple hazards across municipalities.

Child Population Baseline

Estimating children's exposure to climate and disaster hazards requires a spatially explicit representation of where children live. The WorldPop child population dataset provides high-resolution estimates of the distribution of children under 18 years of age across Timor-Leste. The dataset combines census-based population information with geospatial modelling techniques to distribute population estimates across approximately 100-metre grid cells, providing a consistent representation of the spatial distribution across the country.

Within the CCRI-DRM, the WorldPop dataset serves as the baseline population layer for estimating children's exposure to both climatic and non-climatic hazards. By overlaying the population surface with each hazard layer, the model estimates the number and proportion of children residing within hazard-affected areas. These exposure estimates are subsequently aggregated to the municipality (Admin 1) level to support comparative risk analysis, prioritisation, and planning.

Dataset Metadata

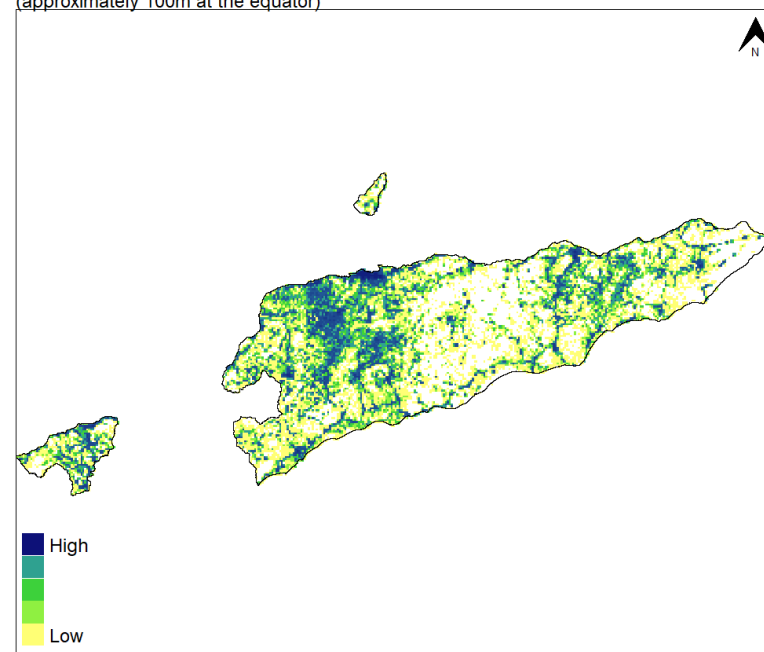
Data Type	Resolution	Source	Population Group	Data access
Modelled population raster	Approximately 100m	WorldPop	Children under 18 years	WorldPop: Link

Timor-Leste

Population under the age of one.

Estimated total number of people per grid-cell at a resolution of 3 arc seconds (approximately 100m at the equator)

WorldPop



WorldPop (www.worldpop.org) School of Geography and Environmental Science, University of Southampton.
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Figure 11: Spatial distribution of the population of children in Timor-Leste, WorldPop 2026

Climatic Hazard

Exposure of Children Under 18 to Riverine Flooding

Riverine flooding occurs when rivers and streams exceed their channel capacity and overflow into surrounding floodplains following prolonged or intense rainfall. In Timor-Leste, riverine flooding is among the country's most significant natural hazards, particularly during the wet season (November to April).

Flash flooding frequently occurs in steep catchments, disrupting settlements, transport networks, agricultural land, and critical infrastructure. Flood events can have severe consequences for children by disrupting access to healthcare, education, safe drinking water, sanitation, and other essential services, while also increasing the risks of injury, displacement, and water-borne disease.

Dataset Metadata

Attribute	Description
Dataset	Riverine flood hazard raster
Source	Civil Protection Authority (CPA) Multi-Hazard Vulnerability and Risk Assessment
Year	2023
Resolution	Approximately 30 m
Threshold	Flood-prone areas (>3 m flood depth)

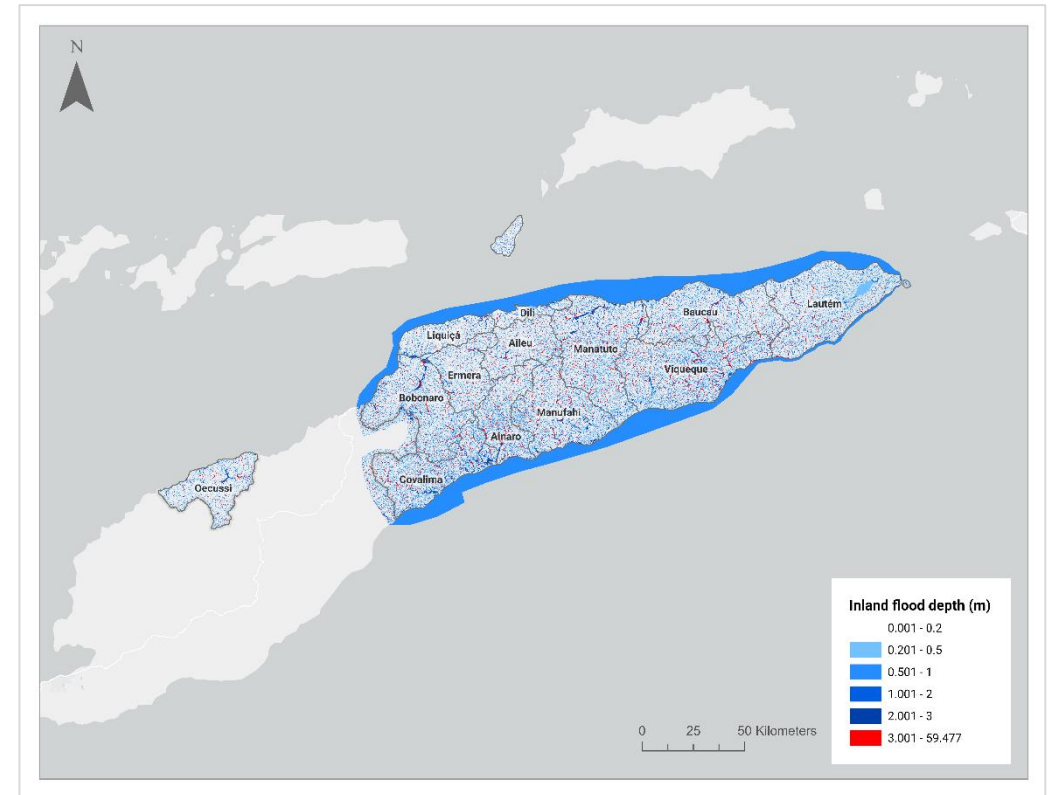


Figure 12: Riverine flood hazard layer used to estimate children's exposure in Timor-Leste.

Exposure of Children Under 18 to Extreme Stress

Extreme heat refers to periods when high temperatures and humidity combined to create conditions that can adversely affect human health. In the Timor-Leste CCRI-DRM, extreme heat is represented using the daily maximum Wet Bulb Globe Temperature (WBGT), an index that accounts for the combined effects of air temperature, humidity, solar radiation, and wind speed to estimate heat stress.

Children are particularly vulnerable to extreme heat because of their developing thermoregulatory capacity, and greater dependence on caregivers. Prolonged exposure can increase the risk of heat-related illness, reduce physical activity and learning capacity, and exacerbate existing health conditions.

Dataset Metadata

Attribute	Description
Dataset	Daily maximum Wet Bulb Globe Temperature (WBGT) raster
Source	World Bank Group / VITO Global Extreme Heat Hazard (Risk Data Library)
Year	Baseline climatology (1980–2009); published 2022
Resolution	Approximately 10 m
Threshold	WBGT $\geq 28^{\circ}\text{C}$ (moderate-to-severe humid heat stress)

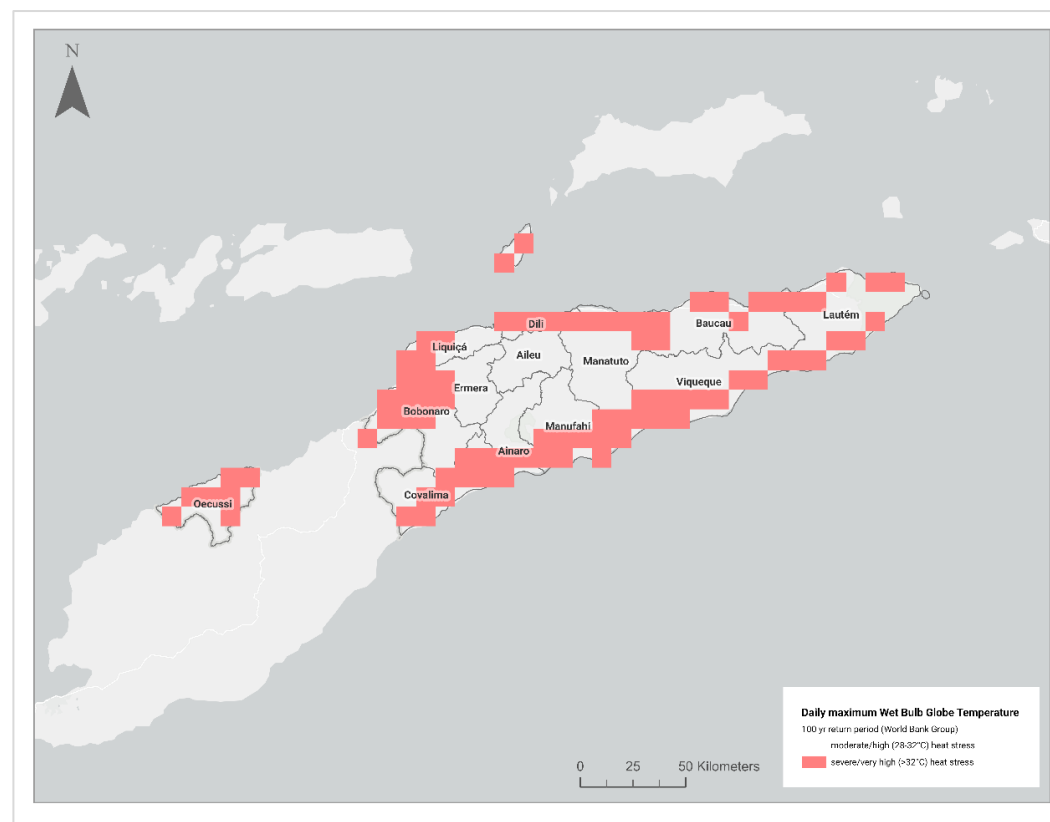


Figure 13: Daily maximum Wet Bulb Globe Temperature (WBGT) hazard layer used in the CCRI-DRM.

Exposure of Children Under 18 to Heatwave Frequency

Heatwave frequency represents the occurrence of prolonged periods of unusually high temperatures that may adversely affect human health and wellbeing. In the Timor-Leste CCRI-DRM, this indicator identifies areas where heatwave events are expected to occur more frequently based on the national Multi-Hazard Vulnerability Assessment (MHVRA).

Repeated exposure to heatwaves can increase the risk of heat-related illness, dehydration, and reduced physical and cognitive performance among children. Frequent heatwaves may also disrupt education, reduce outdoor activities, and place additional pressure on health services, particularly in communities with limited adaptive capacity.

Dataset Metadata

Attribute	Description
Dataset	Maximum temperature (°C), current climate, dry season, 1-in-50-year, 2-day event
Source	UNDP Multi-Hazard Vulnerability Assessment (MHVRA)
Year	2023
Resolution	Approximately 1km
Threshold	Maximum temperature (2-day heatwave event)

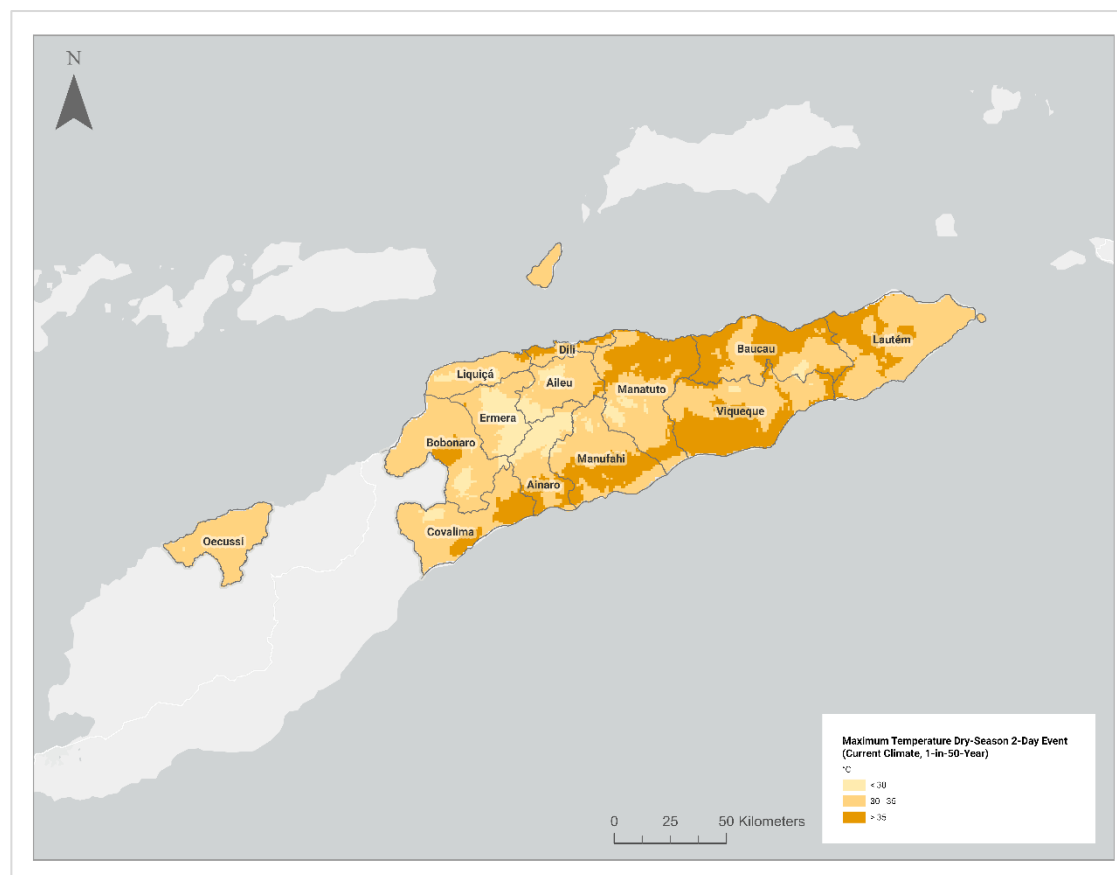


Figure 14: Heatwave frequency hazard layer used in the CCRI-DRM.

Exposure of Children Under 18 to Tropical Cyclone Winds

Tropical cyclones are characterised by destructive winds, heavy rainfall, and associated hazards such as flooding and landslides. Although Timor-Leste lies outside the main tropical cyclone belt, severe cyclonic events can still affect the country, as demonstrated by Cyclone Seroja in 2021. Strong winds can damage homes, schools, health facilities, and critical infrastructure, disrupting essential services and increasing risks to children's health, safety, and wellbeing.

In the Timor-Leste CCRI-DRM, this indicator represents potential exposure to damaging tropical cyclone winds using a 50-year return period wind hazard layer for the wet season. Areas where wind speeds exceed 24 m/s are classified as exposed to damaging wind conditions

Dataset Metadata

Attribute	Description
Dataset	Wind hazard – 50-year return period (wet season, daily mean) raster
Source	UNDP Multi-Hazard Vulnerability Assessment (MHVRA)
Year	2023 (50-year return period, 1-day event)
Resolution	Approximately 10 km
Threshold	Wind speed $\geq$ 24 m/s

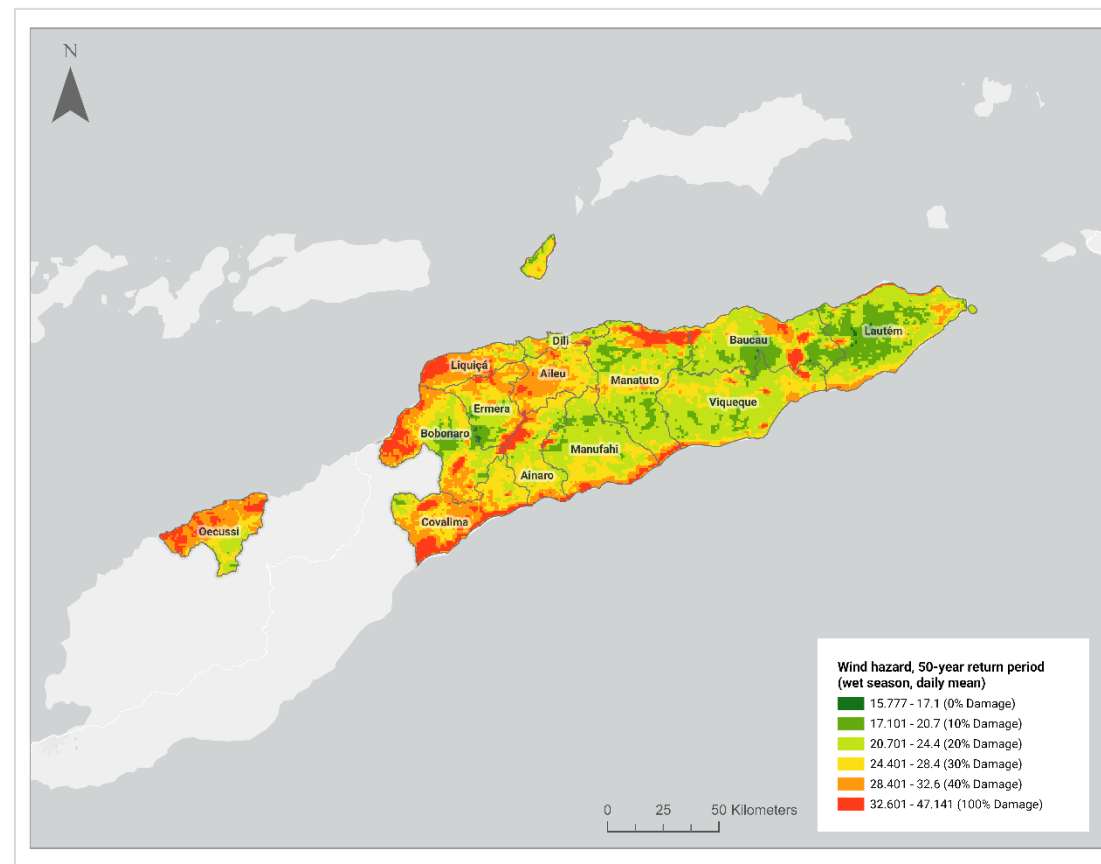


Figure 15: Tropical cyclone wind hazard layer used in the CCRI-DRM.

Exposure of Children Under 18 to Landslide

Landslides are among Timor-Leste's most significant climate-related hazards due to the country's steep terrain, intense seasonal rainfall, and fragile geological conditions. Rainfall-induced landslides can damage homes, schools, health facilities, transport networks, and other critical infrastructure, disrupting access to essential services and increasing risks to children's safety and wellbeing.

In the Timor-Leste CCRI-DRM, landslide exposure is represented using a precipitation-induced landslide susceptibility map that classifies terrain according to the likelihood of landslide occurrence under current climatic conditions. The model integrates terrain characteristics, including slope, lithology, vegetation cover, and antecedent rainfall, to identify areas with varying levels of landslide susceptibility.

Dataset Metadata

Attribute	Description
Dataset	Precipitation-induced landslide susceptibility raster
Source	GIRI – Landslide Susceptibility
Year	2023 (50-year return period, 1-day event)
Resolution	Approximately 90 m
Threshold	Five susceptibility classes (very low to very high)

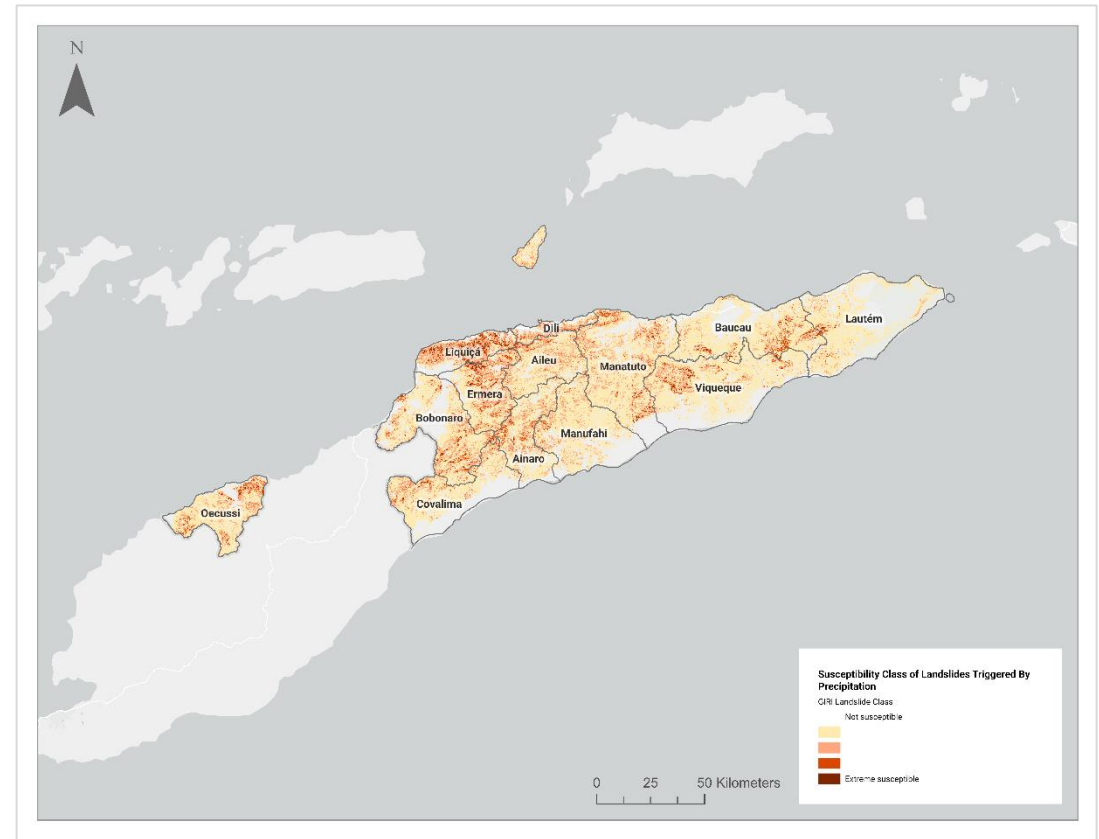


Figure 16: Landslide susceptibility hazard layer used in the CCRI-DRM.

Non-Climatic Hazards

Exposure of Children Under 18 to earthquakes

Earthquakes are a significant natural hazard in Timor-Leste due to the country's location within a tectonically active region. Strong ground shaking can damage or collapse buildings, schools, health facilities, transport networks, and other critical infrastructure, placing children at increased risk of injury, displacement, and disruption to essential services.

In the Timor-Leste CCRI-DRM, earthquake exposure is represented using a Peak Ground Acceleration (PGA) hazard map, which estimates the level of ground shaking associated with a 500-year mean return period. Areas where PGA exceeds 0.22 g are classified as having significant earthquake hazard and are used to identify children potentially exposed to damaging ground motion.

Dataset Metadata

Attribute	Description
Dataset	Earthquake Peak Ground Acceleration (PGA) raster
Source	NEXUS / Pacific Data Hub – Seismic Hazard (PGA)
Year	2020 (500-year return period)
Resolution	Approximately 300 m
Threshold	Peak Ground Acceleration (PGA) > 0.22 g

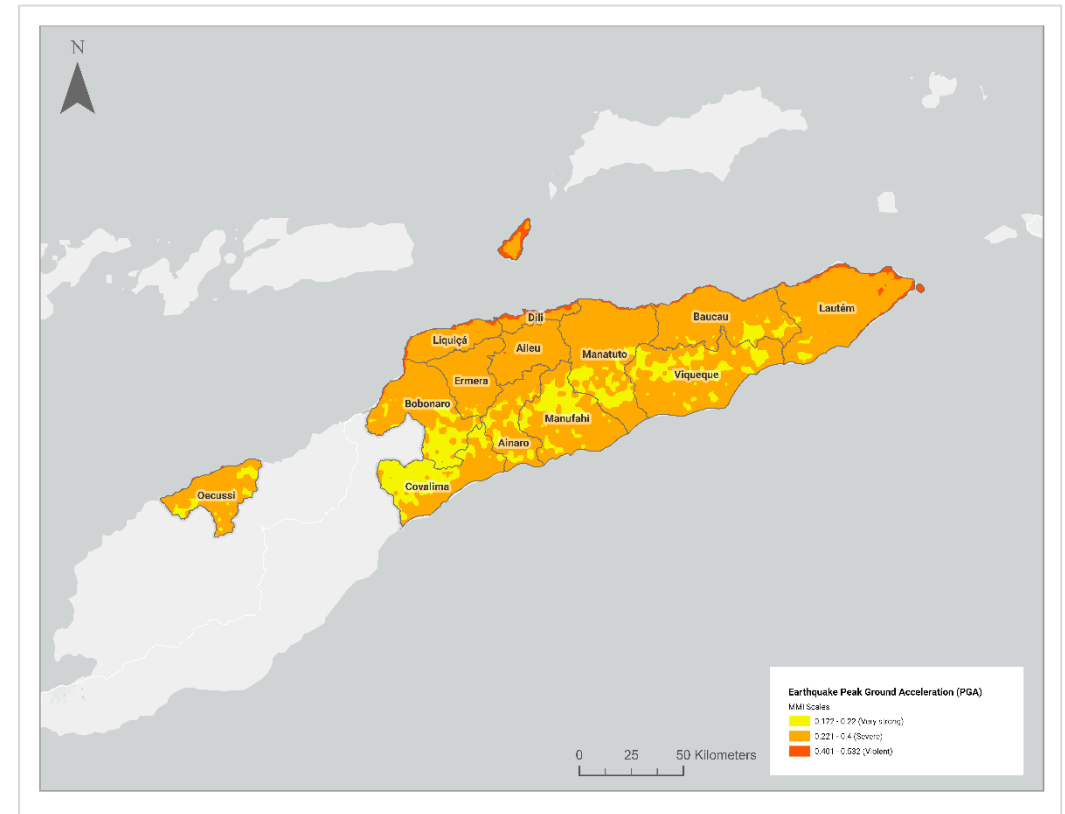


Figure 17: Landslide susceptibility hazard layer used in the CCRI-DRM.

Exposure of Children Under 18 to Dengue Fever

Dengue fever is a mosquito-borne viral disease that poses a significant public health risk in Timor-Leste, particularly during the rainy season when environmental conditions favour mosquito breeding. Climate variability, including changes in rainfall and temperature, can increase dengue transmission, placing children at greater risk of illness and hospitalisation.

In the Timor-Leste CCRI-DRM, this indicator is represented using municipal dengue incidence reported through the Ministry of Health's dengue surveillance system. As the indicator is available as a municipality-level incidence rate, it was incorporated directly into the CCRI-DRM following standardisation. The resulting Pillar 1 dengue fever score, calculated from the standardised incidence values, represents the relative level of dengue exposure across municipalities, as shown in Figure 18.

Dataset Metadata

Attribute	Description
Dataset	Dengue incidence
Source	Ministry of Health – Dengue Surveillance
Year	2023
Spatial unit	Municipality (Admin 1)
Indicator	Cases per population

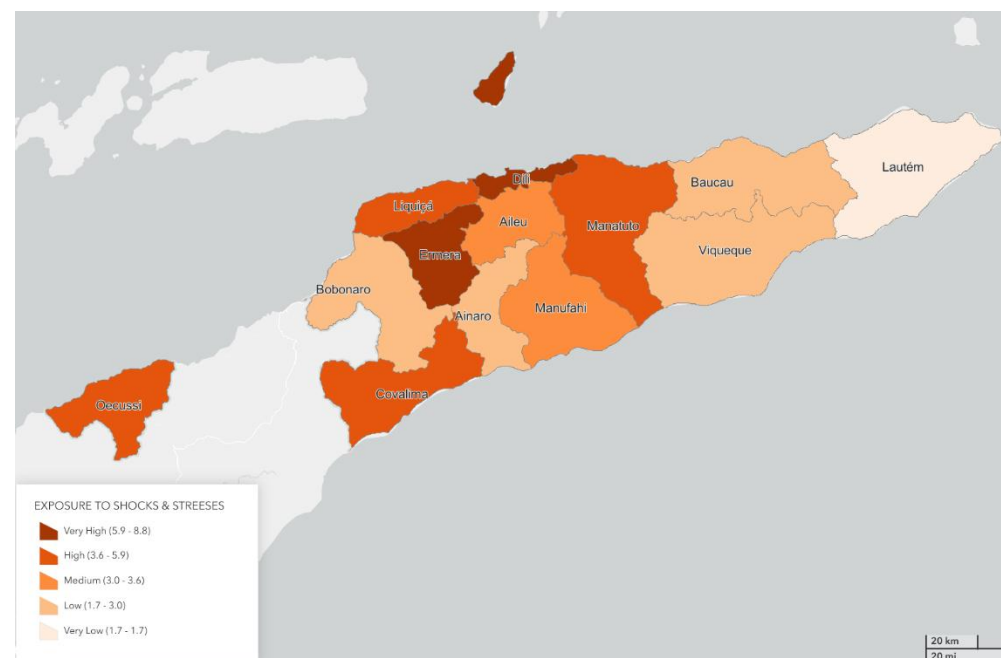


Figure 18: Municipality-level Pillar 1 dengue fever exposure scores for children under 18 in Timor-Leste.

Exposure of Children Under Five to Diarrhoeal Disease

Diarrhoeal disease is a major cause of childhood morbidity in Timor-Leste and is closely associated with inadequate water, sanitation and hygiene (WASH) conditions. Flooding and poor sanitation can increase the risk of disease transmission, particularly among young children.

In the Timor-Leste CCRI-DRM, this indicator is represented using the prevalence of diarrhoea among children under five years of age at the municipality (Admin 1) level, derived from the Timor-Leste Food and Nutrition Survey (TLFNS) 2020. As the indicator is reported as a municipality-level prevalence estimate, it was incorporated directly into the CCRI-DRM following standardisation. Although the CCRI-DRM assesses climate risk for all children, this indicator specifically reflects the burden of diarrhoeal disease among children under five, the age group most vulnerable to its health impacts. The resulting Pillar 1 diarrhoeal disease score, calculated from the standardised prevalence values, represents the relative level of diarrhoeal disease exposure across municipalities, as shown in Figure 19.

Dataset Metadata

Attribute	Description
Dataset	Prevalence of diarrhoea among children under five years of age
Source	Timor-Leste Food and Nutrition Survey (TLFNS)
Year	2020
Spatial unit	Municipality (Admin 1)
Indicator	Prevalence (%)

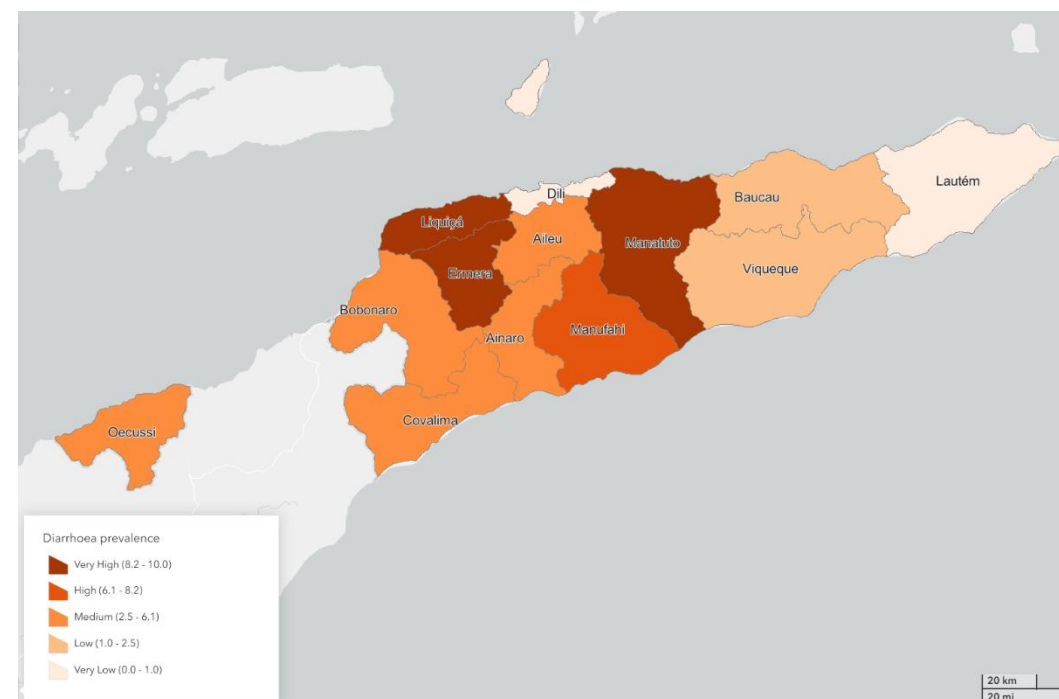


Figure 19: Municipality-level Pillar 1 diarrhoeal disease exposure scores for children under 18 in Timor-Leste

3.2. Pillar 2: Child Vulnerability

Pillar 2 assesses the underlying conditions that influence the ability of children and their communities to prepare for, cope with and recover from climate-related hazards, disasters and other shocks. While Pillar 1 measures exposure to hazards and stress, Pillar 2 focuses on the social, economic and service-related factors that can increase or reduce the severity of their effects on children.

Children may experience the same hazard differently depending on their health status, access to education, water and sanitation, protection services, household livelihoods and the capacity of local systems to respond. Municipalities with weaker basic services, poorer health and nutrition outcomes, or limited institutional capacity may therefore face greater child vulnerability, even where levels of hazard exposure are similar.

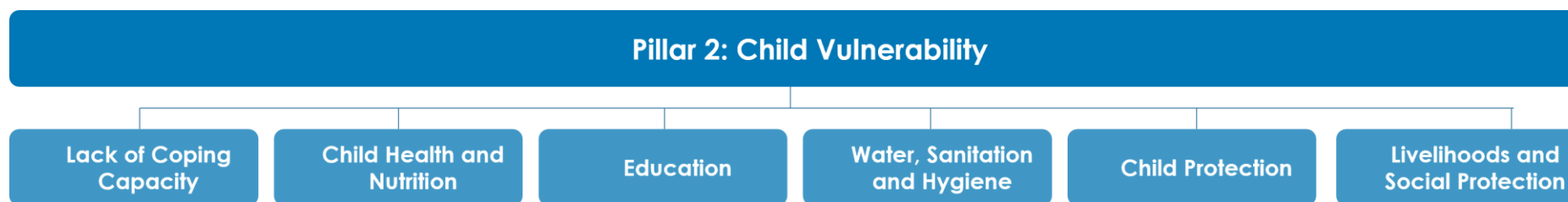


Figure 20: Pillar 2 framework for CCRI-DRM Model

The Timor-Leste CCRI-DRM organises child vulnerability into six components: Each component is represented by a set of municipality-level indicators selected according to their relevance to children, national data availability, geographic coverage and suitability for comparison across municipalities. The indicators were standardised to a common scale before being aggregated into component scores and an overall Pillar 2 score. Indicators were oriented consistently so that higher scores represent greater vulnerability.

The indicators draw on datasets from different reference years, reflecting the most recent suitable and sufficiently comparable data available for each thematic area at the time of model development. The reference year for each indicator is documented in the accompanying metadata. As a result, Pillar 2 should be interpreted as a composite profile of relative vulnerability rather than as a snapshot in which all indicators refer to the same year.

Pillar 2 should be interpreted as a comparative measure of relative vulnerability across municipalities. It does not provide a direct count of vulnerable children or a complete assessment of every factor affecting child well-being. Rather, it identifies areas where underlying conditions may increase children's susceptibility to the effects of climate and disaster hazards and where additional attention, investment or risk-reduction measures may be warranted.

3.2.1 Lack of Coping Capacity

The Lack of Coping Capacity component assesses the extent to which children and their households have access to the infrastructure, services and resources needed to prepare for, respond to and recover from climate-related hazards and other shocks. Municipalities with limited access to essential infrastructure and basic services are generally less able to cope with emergencies, increasing children's vulnerability to adverse impacts.

This component is organised into two dimensions: critical infrastructure and household assets. Together, these dimensions capture the availability of essential public infrastructure and basic household resources that support resilience before, during and after climate-related shocks.

Critical infrastructure

The Critical Infrastructure dimension evaluates the availability of education facilities, health facilities and the road network relative to the child population. Expressing these indicators per 1,000 children provides a standardised measure of infrastructure availability across municipalities, accounting for differences in population size. Higher values indicate greater availability of essential infrastructure that supports children's access to education, healthcare, mobility and emergency services.

These indicators measure infrastructure availability rather than geographic accessibility. The number of facilities or kilometres of road network available per 1,000 children does not fully capture factors such as the spatial distribution of infrastructure, travel time, terrain, service quality, capacity or functionality. This distinction is particularly important in remote and mountainous areas, where infrastructure may be present within a municipality but remain difficult for some communities to access.

Critical Infrastructure	Education Facilities per 1,000 Children	Number of education facilities available per 1,000 children aged 0-18.
Critical Infrastructure	Health Facilities per 1,000 Children	Number of health facilities available per 1,000 children aged 0-18.
Critical Infrastructure	Road Network (km) per 1,000 Children	Kilometers of road network available per 1,000 children aged 0-18.

Figure 21: Critical infrastructure indicators.

Assets

The household assets dimension uses proxy indicators of housing quality and access to basic services that contribute to household resilience. Durable housing materials provide greater protection against climate-related hazards, while access to electricity supports communication, education and access to information during emergencies. Together, these indicators reflect the capacity of households to provide safe living conditions and withstand the impacts of climate-related hazards.

Assets	Improved Wall Materials	Percentage of households with walls constructed from durable building materials.
Assets	Improved Floor Materials	Percentage of households with floors constructed from durable building materials.
Assets	Improved Roof Materials	Percentage of households with roofs constructed from durable building materials.
Assets	Access to Electricity	Percentage of households with access to electricity from any source.

Figure 22: Household asset indicators.

Child Health and Nutrition

The Child Health and Nutrition component assesses children's health status and nutritional wellbeing, recognising that healthy and well-nourished children are better able to withstand, respond to and recover from climate-related hazards and other shocks. Poor health outcomes, inadequate nutrition and limited access to preventive healthcare can increase children's susceptibility to disease, reduce their resilience to environmental stressors and hinder healthy growth and development.

This component comprises two indicator groups: Child Health and Child Nutrition. These indicators provide a comprehensive assessment of children's health and nutritional status across municipalities, supporting the identification of areas where underlying health conditions may increase child vulnerability to climate and disaster risks.

Child Health

The Child Health indicator group assesses key aspects of child survival, preventive healthcare and disease burden. It includes indicators relating to skilled birth attendance, under-five mortality, basic and measles vaccination coverage, insecticide-treated net use, school-based preventive health services, acute respiratory infection (ARI) prevalence, deworming coverage, childhood fever prevalence, and care seeking for childhood fever. Care seeking for childhood fever specifically measures the proportion of children under five who experienced fever in the preceding two weeks and for whom advice or treatment was sought from a formal health provider.

Child Health	Skilled Birth Attendance	Percentage of live births delivered by a skilled health provider.
Child Health	Under-5 Mortality (per 1,000 live births)	Number of health facilities available per 1,000 children aged 0-18.
Child Health	Basic Vaccination Coverage	Percentage of children aged 12–23 months who received all basic vaccinations.
Child Health	Measles Vaccination Coverage	Percentage of children vaccinated against measles.
Child Health	Insecticide-Treated Net Use	Percentage of children under five who slept under an insecticide-treated net the previous night.
Child Health	School Health Prevention	Percentage of children under five who slept under an insecticide-treated net the previous night.
Child Health	Acute Respiratory Infection (ARI) Prevalence	Percentage of children under five with symptoms of acute respiratory infection.
Child Health	Deworming Coverage	Percentage of children aged 12–59 months who received deworming treatment
Child Health	Care Seeking for Childhood Fever	Percentage of children with fever for whom advice or treatment was sought.
Child Health	Childhood Fever Prevalence	Percentage of children under five with fever during the preceding two weeks.

Figure 23: Child health indicators.

Collectively, these indicators reflect child health outcomes, preventive health practices, the provision and utilisation of essential health services, and the capacity of communities to prevent and manage health risks. They therefore provide insight into children's underlying health vulnerability and resilience before, during and after climatic and non-climatic hazards, disasters and other shocks.

Child Nutrition

The Child Nutrition indicator group assesses children's nutritional status and key feeding practices that influence healthy growth, immune function and resilience to climate-related hazards. Adequate nutrition during infancy and childhood is fundamental to child survival and development, while poor nutritional outcomes can increase susceptibility to disease, impair physical and cognitive development, and reduce children's capacity to cope with environmental and socioeconomic shocks.

Child Nutrition	Child Stunting	Percentage of children under five who are stunted, indicating chronic undernutrition and impaired physical growth.
Child Nutrition	Child Wasting	Percentage of children under five who are wasted, indicating acute undernutrition and recent nutritional deprivation.
Child Nutrition	Child Underweight	Percentage of children under five who are underweight for their age, reflecting the combined effects of chronic and acute undernutrition.
Child Nutrition	Early Initiation of Breastfeeding	Percentage of children breastfed within one hour of birth, reflecting optimal newborn feeding practices.
Child Nutrition	Bottle Feeding Prevalence	Percentage of infants and young children aged 0–23 months who are fed using a bottle, reflecting feeding practices that may increase the risk of infection
Child Nutrition	Vitamin A Coverage (6–59 months)	Percentage of children aged 6–59 months who received Vitamin A supplementation during the previous six months, supporting healthy immune function and child survival.
Child Nutrition	Minimum Acceptable Diet (6–23 months)	Percentage of children aged 6–23 months receiving a minimum acceptable diet, reflecting adequate dietary diversity and meal frequency.

Figure 24: Child Nutrition indicators

3.2.3 Education

The Education indicator group assesses children's access to education, selected learning and developmental outcomes, and educational retention, recognising education as a fundamental determinant of child development, resilience and future socio-economic opportunities. Continued participation in education can enhance children's knowledge, skills and adaptive capacity, while educational exclusion or interrupted learning can increase vulnerability to climate-related hazards and other shocks. The indicator group includes measures of school participation across pre-school, primary, pre-secondary and secondary education, together with literacy, early childhood development, child functional difficulty and school dropout. Collectively, these indicators provide an assessment of educational vulnerability, capturing participation in education, attainment and continuity of education across municipalities. The indicators do not directly measure the overall quality of the education, including factors such as teaching quality, learning environments or school resources, and the results should therefore not be interpreted as a comprehensive assessment of education quality.

Education Access & Learning Outcomes	Literacy Rate	Percentage of individuals aged five years and older who are able to read and write a simple statement with understanding.
Education Access & Learning Outcomes	Pre-school Net Enrolment Rate	Percentage of children of official pre-school age enrolled in pre-school education programmes.
Education Access & Learning Outcomes	Primary and Pre-Secondary Net Enrolment Rate	Percentage of children of official primary and pre-secondary school age enrolled in the appropriate level of education.
Education Access & Learning Outcomes	Secondary Net Enrolment Rate	Percentage of children of official secondary school age enrolled in secondary education.
Education Access & Learning Outcomes	Early Childhood Development Index	Percentage of children aged 24–59 months who are developmentally on track in health, learning and psychosocial well-being.
Education Access & Learning Outcomes	Functional Difficulty	Percentage of children aged 5–17 years reported to have functional difficulty in at least one domain.
Retention	Basic Education Dropout Rate	Percentage of students who discontinue basic education before completing the academic year.
Retention	Secondary Dropout Rate	Percentage of students who discontinue secondary education before completing the academic year.

Figure 25: Education Indicators

3.2.4 Water, Sanitation and Hygiene (WASH)

The Water, Sanitation and Hygiene (WASH) indicator group assesses children's access to safe and clean water, adequate sanitation and hygiene services across schools, health care facilities and communities. Safe WASH services are fundamental to child health, development and resilience, reducing exposure to waterborne and hygiene-related diseases while supporting healthy learning environments and overall well-being. Inadequate WASH conditions can increase children's vulnerability to infectious diseases, malnutrition and disruptions associated with climate-related hazards and other emergencies.

The indicator group comprises measures of WASH service availability and functionality in schools and health care facilities, together with household access to improved drinking water, improved sanitation, handwashing facilities and the safe disposal of child faeces.

WASH in Schools	Schools with Clean Drinking Water Facilities	Percentage of schools where drinking water facilities are regularly cleaned and maintained according to established operational schedules
WASH in Schools	Schools with Clean Sanitation Facilities	Percentage of schools where sanitation facilities are regularly cleaned and maintained according to established operational schedules.
WASH in Schools	Schools without Toilet Facilities	Percentage of schools without toilet facilities.
WASH in Health Care Facilities	Health Facilities without Toilet Access	Percentage of health facilities without access to toilet facilities.
WASH in Communities	Households with Improved Drinking Water	Percentage of children aged 24–59 months who are developmentally on track in health, learning and psychosocial well-being.
WASH in Communities	Households with Improved Sanitation	Percentage of households using improved sanitation facilities that hygienically separate human excreta from human contact, including flush or pour-flush toilets connected to sewer systems
WASH in Communities	Households with Handwashing Facilities	Percentage of households with access to handwashing facilities equipped with both water and soap.
WASH in Communities	Safe Disposal of Child Faeces	Percentage of households that safely dispose of children's faeces by placing or rinsing them directly into a toilet or latrine

Figure 26: WASH indicators

3.2.5 Child Protection

The Child Protection indicator group assesses children's access to protective care and their exposure to violence, abuse and exploitation, recognising that safe family environments and protective services are fundamental to children's well-being and resilience. Children who experience inadequate parental care, violence or exploitation may face increased risks of physical and psychological harm, disrupted development and reduced capacity to cope with climate-related hazards and other shocks.

The indicator group comprises measures of parental care, birth registration, exposure to violent discipline and severe physical punishment, and child labour. Collectively, these indicators provide a comprehensive assessment of child protection vulnerability, reflecting children's access to protective family environments, legal identity and freedom from violence and exploitation across municipalities.

Parental Care	Birth Registration	Percentage of children under five whose births are registered with the civil registration authority.
Parental Care	Not Living with Either Biological Parent	Percentage of children under 18 who do not live with either biological parent.
Parental Care	One or Both Parents Deceased	Percentage of children under 18 whose mother, father or both parents are deceased.
Violence, Abuse & Exploitation	Any Violent Discipline	Percentage of children aged 1–14 who experienced psychological aggression and/or physical punishment during the month preceding the survey.
Violence, Abuse & Exploitation	Severe Physical Punishment	Percentage of children aged 1–14 who experienced severe physical punishment during the month preceding the survey.
Violence, Abuse & Exploitation	Working Children	Percentage of children aged 5–17 engaged in employment or own-use production work.

Figure 27: Child Protection Indicators

3.2.6 Livelihoods and Social Protection

The Livelihoods and Social Protection indicator group assesses the socioeconomic conditions that influence households' capacity to meet children's basic needs and cope with climate-related hazards and other shocks. Household livelihoods, income security, access to social protection and food security are important determinants of children's health, nutrition, education and overall well-being. Limited economic opportunities, poverty and food insecurity can reduce household coping capacity and increase children's vulnerability during emergencies.

The indicator group comprises measures of employment, poverty, social protection coverage and household food security. Collectively, these indicators provide a comprehensive assessment of socioeconomic vulnerability, reflecting household livelihood conditions, access to social assistance and the ability to maintain adequate food consumption and nutritional security across municipalities

Poverty and Dependence	Employment Ratio	Percentage of the working-age population that is employed.
Poverty and Dependence	Poverty Rate	Percentage of the population living below the national poverty line.
Social Protection	Social Protection Coverage	Percentage of children aged 0–14 years receiving government social protection benefits.
Food Security	Poor Food Consumption	Percentage of households with poor food consumption based on the Food Consumption Score.
Food Security	Severe Food Insecurity (FIES)	Percentage of households experiencing severe food insecurity based on the Food Insecurity Experience Scale (FIES).

Figure 28: Livelihoods and Social Protection indicators.

3.3. Indicator Standardisation and Composite Index Calculation

All CCRI-DRM outputs are expressed on a standard 0-10 scale⁷, with higher scores representing greater relative exposure, vulnerability, lack of coping capacity or overall risk to children. The scores are relative to the municipalities included in the Timor-Leste model: a score of 0 represents the lowest observed value within the national dataset and a score of 10 the highest observed value after accounting for indicator directionality. The scale should therefore not be interpreted as an absolute measure of risk or expected impact. To enable comparison across indicators measured in different units, raw values were normalised using the range observed across Timor-Leste's 13 municipalities.

For indicators in which higher raw values represent more adverse conditions, the following formula was applied:

$$X_{standardised} = \frac{X_i - X_{min}}{X_{max} - X_{min}} \times 10$$

Where:

X_i = original value for the municipality

X_{min} = lowest observed value among all municipality

X_{max} = highest observed value among all municipality

For indicators in which higher raw values represent more favourable conditions, such as access to essential services or stronger coping capacity, the scale was reversed:

$$X_{standardised} = \frac{X_{max} - X_i}{X_{max} - X_{min}} \times 10$$

This directional alignment ensures that higher standardised scores consistently represent more adverse conditions for children. Missing-data checks were undertaken before standardisation and aggregation. Indicator datasets were reviewed for completeness and geographic coverage, and where a suitable alternative or updated source providing comparable municipal-level information was available, this was prioritised. Indicators with unresolved data gaps or insufficiently

⁷ The 0-10 scale supports interpretability and comparison across indicators and administrative units. Scores should be understood as relative values within the Timor-Leste CCRI-DRM model, not as absolute measures of expected impact

consistent municipal coverage were not carried forward into the scored framework unless a documented and methodologically appropriate substitute value or source was available. This approach was intended to minimise the influence of missing data on component and final index scores, with remaining data limitations documented in the relevant indicator metadata.

The standardised indicators were then progressively aggregated through the model hierarchy, from individual indicators to subcomponents, components and pillars. The final CCRI-DRM score combines Pillar 1: Children's Exposure to Shocks and Hazards and Pillar 2: Child Vulnerability, providing a relative measure of climate and disaster risk to children across Timor-Leste's municipalities. Figure 21 summarises the principal stages of this process.



Figure 29: Overview of the CCRI-DRM score calculation process

The CCRI-DRM should be interpreted as a prioritisation tool rather than a predictive model. It does not estimate absolute disaster impacts, forecast future losses or replace real-time early warning systems. Instead, it identifies municipalities where children face relatively higher risk compared with other municipalities included in the national model. Accordingly, a score of 0 does not indicate the absence of risk, nor does a score of 10 represent the highest theoretically possible level of risk.

4. DEVELOPMENT OF THE CCRI-DRM PLATFORM

Following completion of indicator selection, data processing and composite index calculation, the Timor-Leste Subnational Children's Climate Risk Index–Disaster Risk Model (CCRI-DRM) results were integrated into an interactive geospatial platform. The platform enables users to visualise and explore child-sensitive climate and disaster risk patterns across Timor-Leste at the municipal level.

The interface allows users to navigate between the overall CCRI-DRM score, the two analytical pillars, and their underlying components and indicators. Results are presented through interactive choropleth maps, classification legends, comparative scores and municipality-level summaries, supporting both national comparison and detailed subnational analysis.

4.1. Overall Interface View: CCRI-DRM Composite Score

The overall CCRI-DRM score provides a composite measure of climate and disaster risk affecting children in each municipality. It combines results from Pillar 1: Exposure to Shocks and Hazards and Pillar 2: Child Vulnerability into a single standardised score.

Municipalities are classified into five relative risk categories, ranging from Very Low to Very High. This classification supports consistent comparison across municipalities and helps identify areas where children face comparatively higher levels of climate and disaster risk. The composite score is displayed through a colour-coded map, accompanied by municipality-level information to support interpretation.

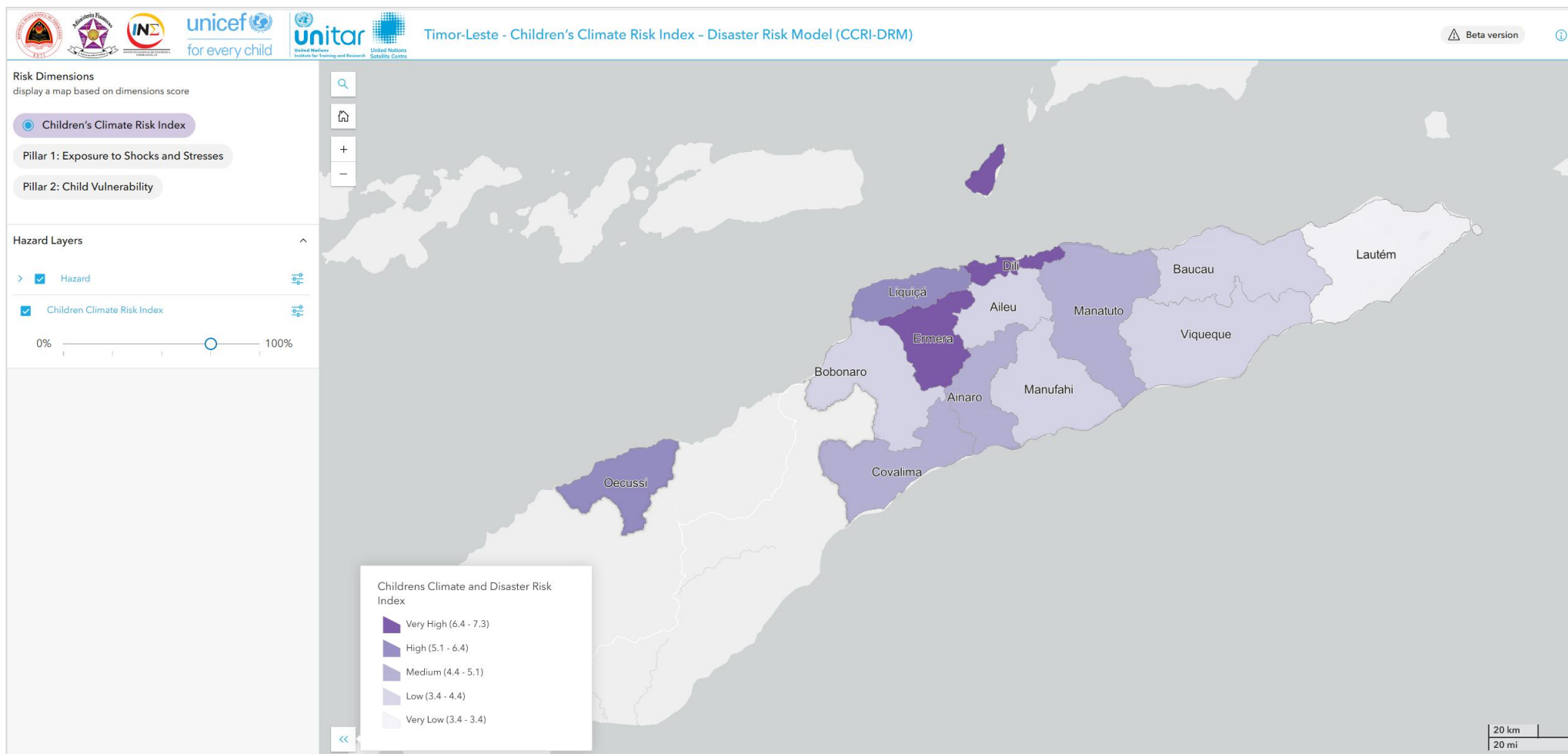


Figure 30: CCRI-DRM Overall Interface View:

4.1.1 Pillar 1 Interface View: Exposure to Shocks and Hazards

The Pillar 1 interface displays the geographic distribution of children's exposure to climatic and non-climatic hazards across Timor-Leste. Users can view the combined Pillar 1 score or explore individual hazard layers through the indicator menu. Municipalities are classified into five exposure categories, ranging from Very Low to Very High, with darker colours representing higher relative exposure. Users can compare exposure patterns across hazards including riverine flooding, tropical cyclones, landslides, earthquakes, extreme heat, heatwaves, dengue and diarrhoea. This view supports identification of municipalities where children are exposed to multiple or particularly severe hazards.

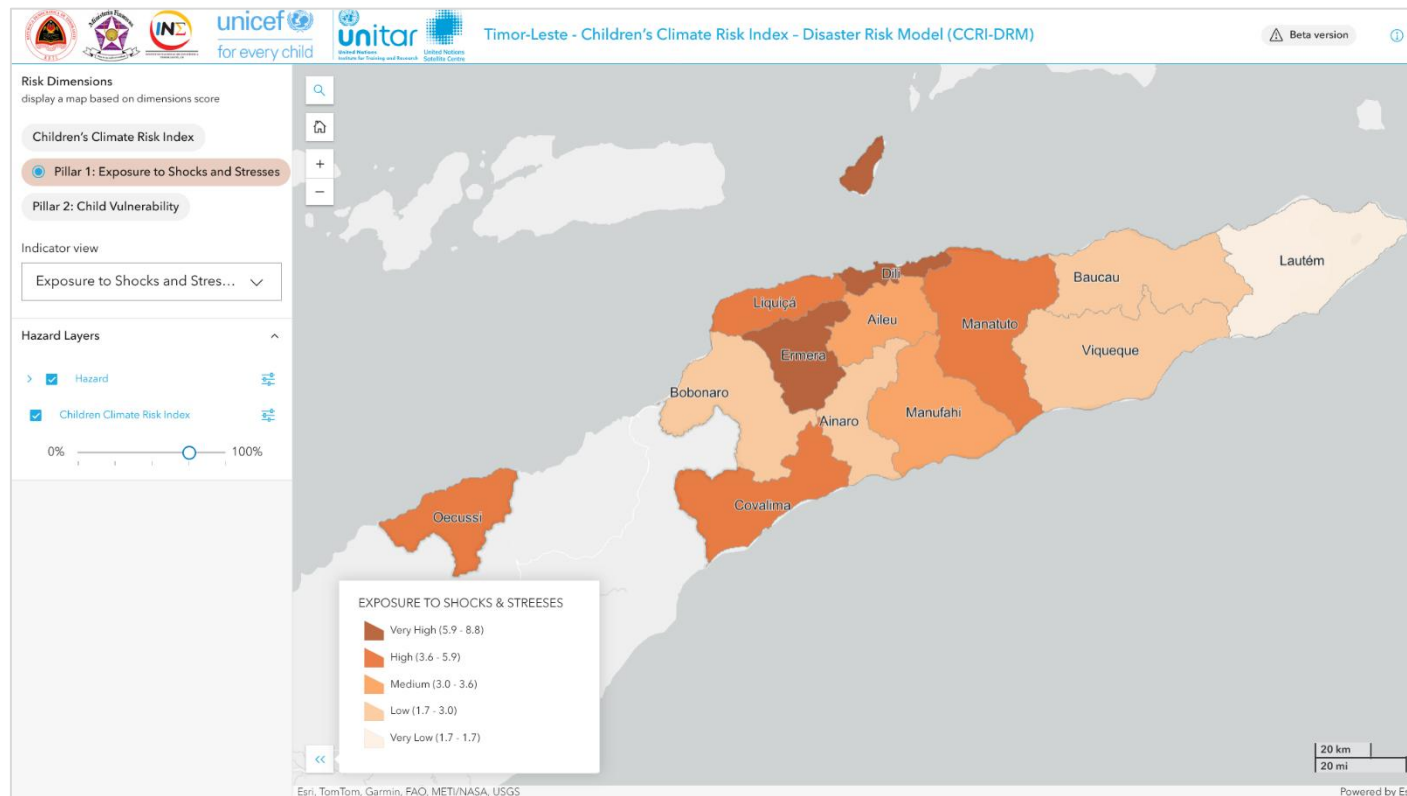


Figure 31: Pillar 1 Interface View: Exposure to Shocks and Hazards

4.1.2 Pillar 2 Interface View: Child Vulnerability

The Pillar 2 interface presents the spatial distribution of the underlying conditions that influence children's capacity to cope with and recover from climate- and disaster-related hazards. Municipalities are classified into five vulnerability categories, ranging from Very Low to Very High, with darker colours representing higher levels of vulnerability. Users can view the aggregated Pillar 2 score or explore individual components, including Lack of Coping Capacity, Child Health, Child Nutrition, Education, Water, Sanitation and Hygiene (WASH), Child Protection, and Livelihoods and Social Protection. This enables users to examine the specific structural, social and service-related factors contributing to children's vulnerability within each municipality

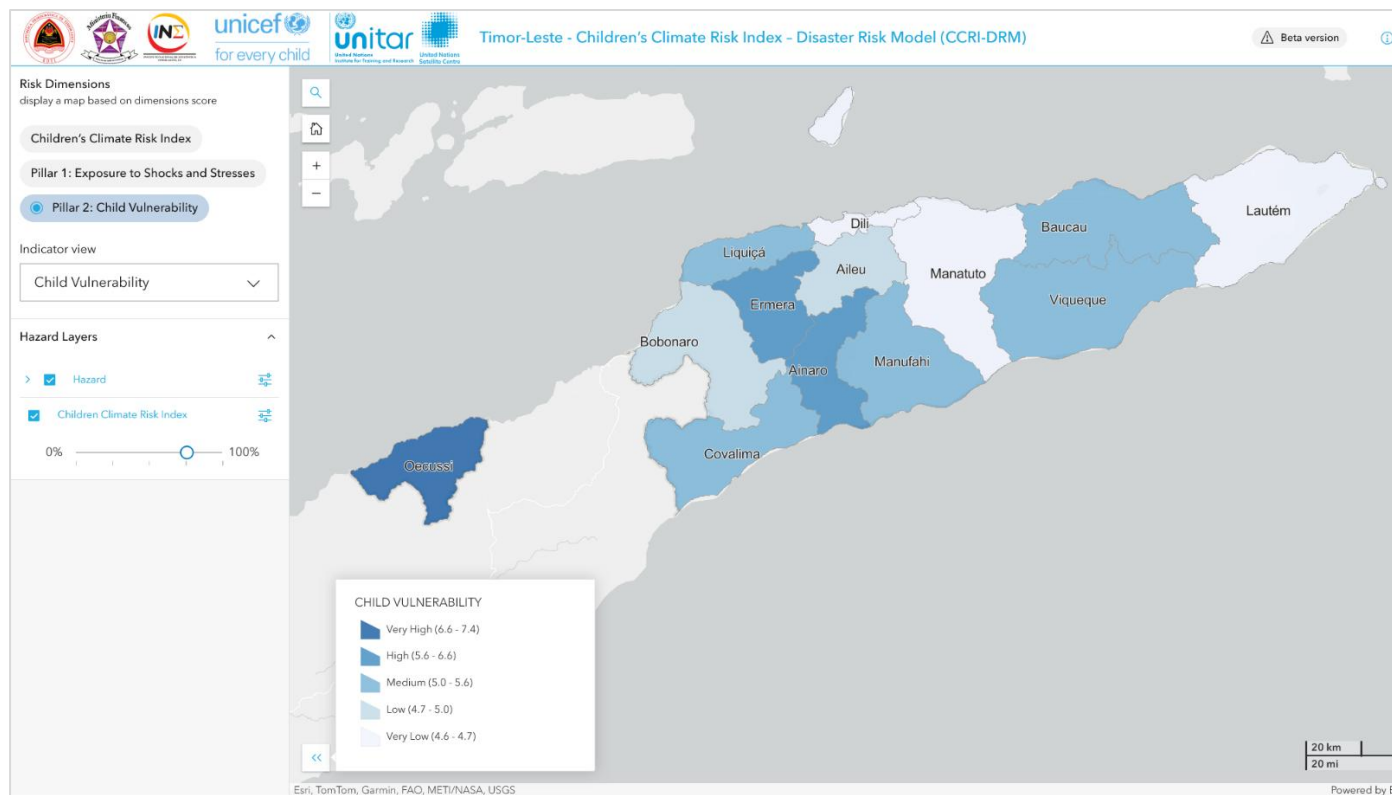


Figure 32: Pillar 2 Interface View: Child Vulnerability

4.1.3 Municipality-Level Risk Profile and Automated Summary

The platform provides a detailed risk profile for each municipality. When a municipality is selected, an information panel displays the overall CCRI-DRM score and classification, together with the corresponding Pillar 1 and Pillar 2 results.

For Pillar 1, the panel presents hazard-specific exposure information, including the estimated number and percentage of children exposed where applicable. For Pillar 2, component-level vulnerability scores are displayed to highlight the principal factors contributing to the municipality's vulnerability profile. Population information, including the total population and the child population, is also provided to support interpretation of the results.

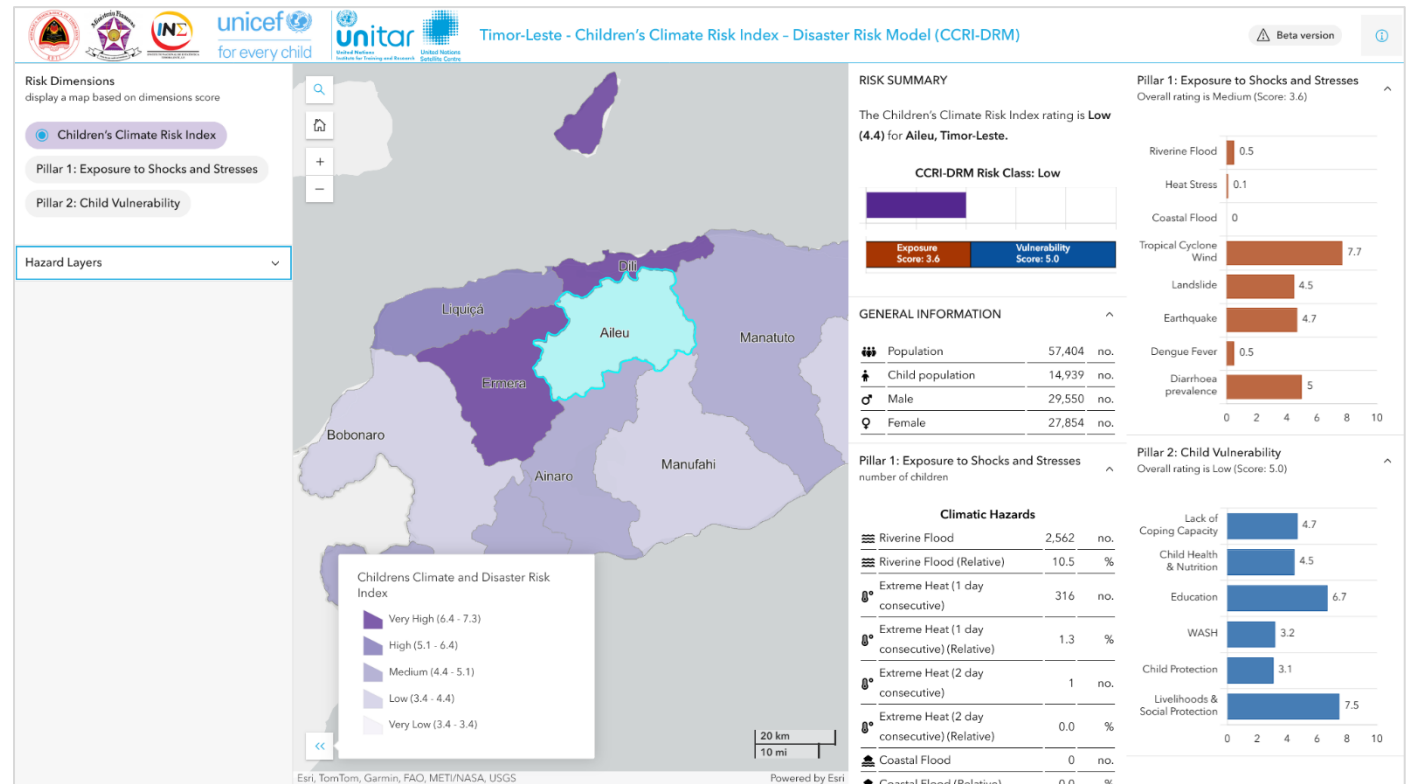


Figure 33: Municipality-Level Risk Profile

The platform also supports the automated generation of municipality-level summary reports. These reports compile the selected municipality's composite CCRI-DRM score, hazard exposure profile, vulnerability assessment and key indicators into a structured report, supporting evidence-based prioritisation, programme planning and subnational decision-making.

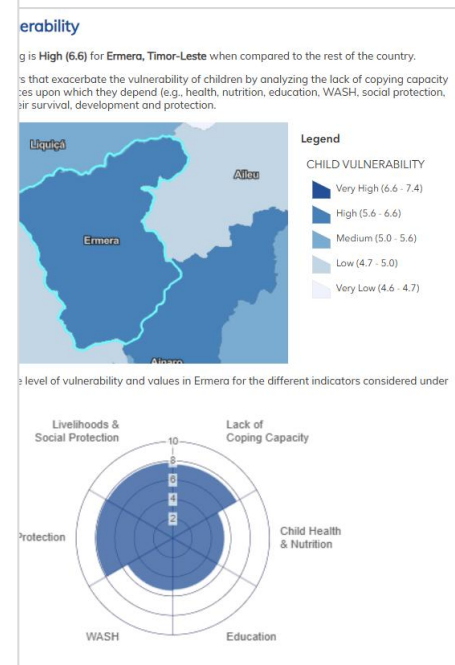
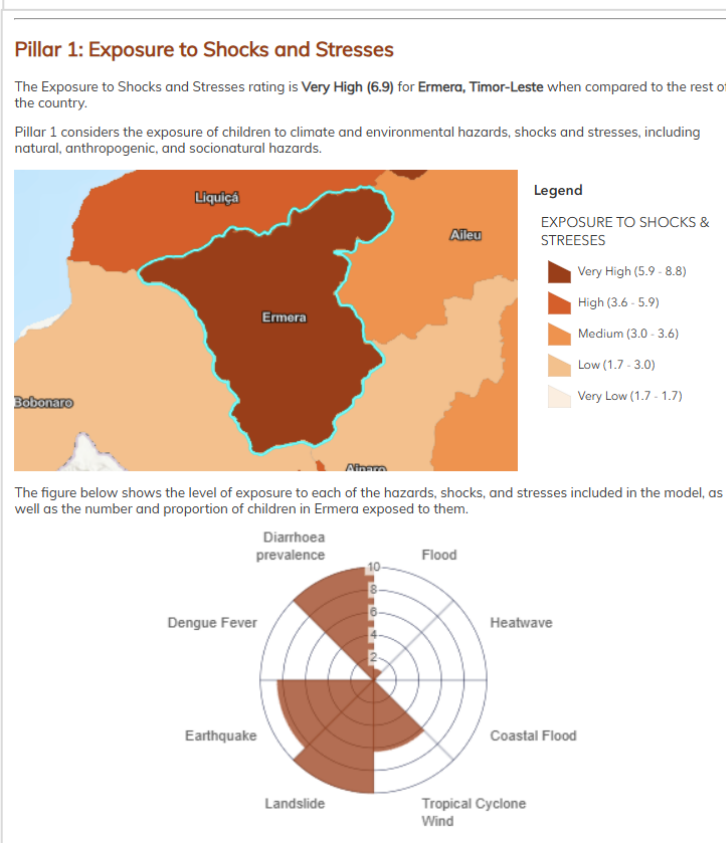
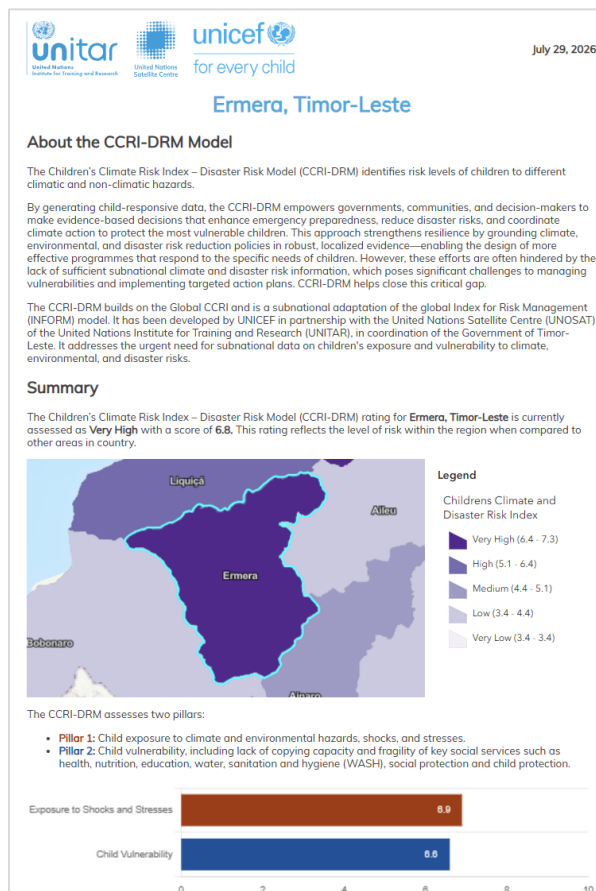


Figure 34: automated generation of municipality-level summary reports

5. CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

The Timor-Leste Subnational Children's Climate Risk Index–Disaster Risk Model (CCRI-DRM) provides a child-centred, subnational evidence base for understanding how climate- and disaster-related hazards interact with the underlying conditions that influence children's well-being, health, safety and development. By integrating Children's Exposure to Shocks and Hazards (Pillar 1) with Child Vulnerability (Pillar 2), the model provides a comparative assessment of where children are exposed to multiple hazards and where underlying social, economic and service-related factors may influence their capacity to cope with and recover from shocks.

The analysis demonstrates that child climate and disaster risk varies across Timor-Leste and is shaped by different combinations of hazard exposure and vulnerability. While some municipalities record comparatively higher exposure to climatic and non-climatic hazards, others exhibit higher overall CCRI-DRM scores primarily because of elevated levels of child vulnerability. These findings highlight the importance of adopting a multidimensional approach to child climate and disaster risk assessment, recognising that children living in areas with similar levels of hazard exposure may experience different outcomes depending on access to essential services, household conditions and broader socioeconomic factors.

The findings also demonstrate that child vulnerability is multidimensional, encompassing lack of coping capacity, child health, child nutrition, education, water, sanitation and hygiene (WASH), child protection, and livelihoods and social protection. The component-level analyses illustrate how the CCRI-DRM can be used to examine the spatial relationship between hazard exposure and sector-specific vulnerabilities, providing evidence to support more targeted analysis and planning across sectors including health, education, WASH, nutrition, child protection, social protection and disaster risk management.

The interactive CCRI-DRM platform enhances the practical application of these findings by enabling users to visualise the overall index, explore individual pillars, components and indicators, compare municipalities, and generate automated municipality-level summary reports. Together, the CCRI-DRM and the geospatial platform provide an evidence base to support risk-informed planning, climate change adaptation, disaster risk reduction, resource prioritisation and child-centred development planning across Timor-Leste.

5.2 Limitations

The CCRI-DRM is a relative prioritisation tool and should not be interpreted as an absolute measure of disaster risk, a prediction of future impacts, or a substitute for detailed local risk assessments. Scores indicate how municipalities compare with one another within the Timor-Leste model and are influenced by the indicators and datasets available for the current model cycle.

The municipal (Admin 1) analytical scale enables consistent comparison across the country but may mask important differences between sucos, communities and population groups within the same municipality. The model also combines datasets from different reference years and spatial resolutions, reflecting the most recent suitable and comparable information available for each indicator. Some population exposure estimates rely on modelled gridded population data, while the availability and quality of nationally consistent data vary across sectors and hazards.

The current model does not systematically incorporate future climate projections as separate exposure inputs and cannot capture every factor affecting children's vulnerability, including some aspects of service quality and accessibility, institutional preparedness and local coping mechanisms for which consistent municipal-level data were not available. A formal sensitivity analysis of alternative normalisation, weighting and aggregation specifications was also not undertaken during the current model cycle. These limitations should be considered when interpreting the results and provide priorities for future refinement as improved data and analytical methods become available.

5.3 Recommendations

The Timor-Leste Subnational Children's Climate Risk Index–Disaster Risk Model (CCRI-DRM) is intended as a decision-support tool to inform child-sensitive climate change adaptation, disaster risk reduction and development planning at national and subnational levels. Potential applications include:

- **Support evidence-based planning:** Use the overall CCRI-DRM score together with the Pillar 1 and Pillar 2 results to identify municipalities where children face the highest relative climate and disaster risks within Timor-Leste, and to inform planning, prioritisation and resource allocation across sectors.
- **Inform sector-specific interventions:** Use the component-level analyses to understand how individual hazards interact with vulnerabilities in child health, child nutrition, education, water, sanitation and hygiene (WASH), child protection, livelihoods and social protection, and lack of coping capacity, supporting targeted programme design and investment.
- **Strengthen municipal risk assessment:** Municipality-level risk profiles and automated summary reports provide a consolidated overview of hazard exposure, child vulnerability and key indicators, supporting local planning, preparedness and disaster risk management. Where decisions require finer-scale targeting, these results should be complemented by more detailed suco- or community-level information where reliable data are available.
- **Promote integrated and cross-sectoral planning:** The CCRI-DRM integrates information from multiple sectors within a common analytical framework, supporting coordinated decision-making and helping identify municipalities where multiple vulnerabilities overlap.
- **Undertake structured post-validation reviews:** Before future releases, convene relevant data custodians, sectoral stakeholders and technical institutions to review newly incorporated datasets, confirm indicator definitions and methodological assumptions, address outstanding data gaps, and validate updated results. This will help ensure that successive versions remain technically robust and nationally relevant.
- **Establish a data governance and update mechanism:** Formalise responsibilities for maintaining the CCRI-DRM, including institutional ownership, designated data custodians for key indicators, procedures for submitting and validating updated datasets, and agreed update cycles linked where possible to major census, survey, administrative and hazard-data releases. The proposed long-term institutional role for INETL should be confirmed as part of this governance arrangement. The June handover process already identified confirmation of INETL's long-term hosting and maintenance role as a next step

- **Maintain the CCRI-DRM as a living platform:** Periodic updates aligned with new data releases will ensure that the index continues to reflect changing hazard patterns, socioeconomic conditions and child vulnerabilities. The automated calculation workbook and supporting technical resources can facilitate recalculation as validated datasets are updated.
- **Support collaborative use:** The CCRI-DRM provides a common evidence base for government institutions, UNICEF, development partners, humanitarian organisations and research institutions, strengthening coordination across climate change adaptation, disaster risk reduction and child-focused development initiatives.

Annex: Indicator Metadata

Timor-Leste Subnational Children's Climate and Disaster Risk Index (CCRI-DRM)

Pillar 1: Exposure to Shocks and Stresses: Indicator Metadata

Indicator 01			
Riverine Flood Exposure			
Pillar 1: Exposure to Shocks and Stresses			
Classification			
Component	Climatic	Sub-component	Flood
Pillar	Exposure to Shocks and Stresses		
Full Indicator Name	Riverine Flood Exposure		
Hazard Profile			
Hazard Intensity Measure	Riverine flood hazard extent	Hazard Intensity Unit	Hazard class
Hazard Intensity Threshold	Areas classified as riverine flood-prone		
Hazard Data Source	UNDP Multi-Hazard Vulnerability and Risk Assessment – Riverine Flood	Hazard Data Year	2023
Exposure Measurement			
Exposure Unit	Number of children aged 0 - 17	Granularity	Admin 1
Exposure Data Source	WorldPop age-disaggregated population data	Exposure Data Year	2025
Reverse Indicator	N		
Description			
Indicator Description	Estimated number of children aged 0–17 living within areas classified as prone to riverine flooding in each municipality. The riverine flood-hazard extent was overlaid with the spatial distribution of the population aged under 18, and exposed children were aggregated to the municipality level.		
Indicator Reasoning	Riverine flooding can cause injury and displacement, damage homes and schools, contaminate water supplies and interrupt access to healthcare, education and other essential services. Children living within flood-prone areas may therefore face increased physical, health and service-access risks.		
Data Sources			
Source Link / Reference	Internal UNDP hazard dataset; public link not provided Not provided		

Indicator 02			
Coastal Flood Exposure			
Pillar 1: Exposure to Shocks and Stresses			
Classification			
Component	Climatic	Sub-component	Flood
Pillar	Exposure to Shocks and Stresses		
Full Indicator Name	Coastal Flood Exposure		
Hazard Profile			
Hazard Intensity Measure	Coastal inundation (Elevation above mean sea level)	Hazard Intensity Unit	Meters
Hazard Intensity Threshold	Elevation below 5 meters		
Hazard Data Source	FABDEM – Forest and Buildings Removed Copernicus Digital Elevation Model	Hazard Data Year	2023
Exposure Measurement			
Exposure Unit	Number of children aged 0 - 17	Granularity	Admin 1
Exposure Data Source	WorldPop age-disaggregated population data	Exposure Data Year	2025
Reverse Indicator	N		
Description			
Indicator Description	Estimated number of children aged 0–17 living in coastal areas located below five meters above mean sea level. The low-elevation zone was derived from FABDEM and overlaid with the spatial distribution of the population aged under 18.		
Indicator Reasoning	Children living in low-elevation coastal areas may be more exposed to coastal inundation, storm surge, sea-level rise, erosion and saltwater intrusion. These processes can damage homes, schools, health facilities, water systems and livelihoods.		
Data Sources			
Source Link / Reference	https://data.bris.ac.uk/data/dataset/25wfy0f9ukoge2gs7a5mqpq2j7 FABDEM is a global elevation dataset with forest and building height biases removed at approximately 30-metre resolution		

Indicator 03			
Heat Stress Exposure			
Pillar 1: Exposure to Shocks and Stresses			
Classification			
Component	Climatic	Sub-component	Heat
Pillar	Exposure to Shocks and Stresses		
Full Indicator Name	Extreme Heat Stress Exposure		
Hazard Profile			
Hazard Intensity Measure	Daily maximum Wet Bulb Globe Temperature (WBGTmax)	Hazard Intensity Unit	°C WBGT
Hazard Intensity Threshold	WBGTmax ≥28°C		
Hazard Data Source	Global Extreme Heat Hazard, World Bank Group/VITO, 100-year return-period layer	Hazard Data Year	1980–2009 baseline climatology; dataset published in 2022
Exposure Measurement			
Exposure Unit	Number of children aged 0 - 17	Granularity	Admin 1
Exposure Data Source	WorldPop age-disaggregated population data	Exposure Data Year	2025
Reverse Indicator	N		
Description			
Indicator Description	Estimated number of children aged 0–17 living in grid cells where the daily maximum Wet Bulb Globe Temperature for the 100-year return-period scenario reaches or exceeds 28°C. The exposed child population was aggregated to the municipality level.		
Indicator Reasoning	WBGT accounts for the combined effects of temperature and humidity and therefore provides a more complete measure of human heat stress than air temperature alone. Children are particularly susceptible to dehydration, heat exhaustion and heat-related illness because of their developing thermoregulatory systems and dependence on caregivers.		
Data Sources			
Source Link / Reference	https://datacatalog.worldbank.org/search/dataset/0040194/global-extreme-heat-hazard VITO (2022). Global Extreme Heat Hazard — Final Report v2. World Bank Group. https://datacatalogfiles.worldbank.org/ddh-published/0040194/DR0087127/VITO%20-%20Extreme%20heat%20Final_report_v2.pdf		

Indicator 04			
Heat Stress Exposure			
Pillar 1: Exposure to Shocks and Stresses			
Classification			
Component	Climatic	Sub-component	Heat
Pillar	Exposure to Shocks and Stresses		
Full Indicator Name	Extreme Heat Stress Exposure		
Hazard Profile			
Hazard Intensity Measure	Two-day maximum air temperature during the dry season	Hazard Intensity Unit	°C
Hazard Intensity Threshold	Maximum temperature ≥35°C		
Hazard Data Source	UNDP – Max temperature (°C), Current, Dry season, 1-in-50yr, 2-day	Hazard Data Year	2023
Exposure Measurement			
Exposure Unit	Number of children aged 0 - 17	Granularity	Admin 1
Exposure Data Source	WorldPop age-disaggregated population data	Exposure Data Year	2025
Reverse Indicator	N		
Description			
Indicator Description	Estimated number of children aged 0–17 living in areas where the modelled two-day dry season maximum temperature for a 1-in-50-year event reaches or exceeds 35°C.		
Indicator Reasoning	Exposure to high temperatures over consecutive days increases the risk of dehydration, heat exhaustion and heat-related illness. Multi-day heat can also affect school attendance, outdoor activity, household water demand and the capacity of health services.		
Data Sources			
Source Link / Reference	Internal UNDP hazard dataset; public link not provided Not provided		

Indicator 05			
Tropical Cyclone- Extreme Wind Exposure			
Pillar 1: Exposure to Shocks and Stresses			
Classification			
Component	Climatic	Sub-component	Tropical Cyclone
Pillar	Exposure to Shocks and Stresses		
Full Indicator Name	Tropical Cyclone- Extreme Wind Exposure		
Hazard Profile			
Hazard Intensity Measure	Wind speed	Hazard Intensity Unit	Maximum temperature ≥35°C
Hazard Intensity Threshold	Wind speed ≥24 m/s		
Hazard Data Source	UNDP – Wet-Season Wind, 50-Year Return Period, One-Day Duration	Hazard Data Year	2023
Exposure Measurement			
Exposure Unit	Number of children aged 0 - 17	Granularity	Admin 1
Exposure Data Source	WorldPop age-disaggregated population data	Exposure Data Year	2025
Reverse Indicator	N		
Description			
Indicator Description	Estimated number of children aged 0–17 living in areas where the one-day wet-season wind speed for a 50-year return-period event reaches or exceeds 24 m/s.		
Indicator Reasoning	Extreme winds can damage houses, schools, health facilities, electricity systems and communication infrastructure. Children may face direct injury, displacement and prolonged disruption to education, healthcare and protective services.		
Data Sources			
Source Link / Reference	Internal UNDP hazard dataset; public link not provided Not provided		

Indicator 06			
Landslide Exposure			
Pillar 1: Exposure to Shocks and Stresses			
Classification			
Component	Climatic	Sub-component	Landslide
Pillar	Exposure to Shocks and Stresses		
Full Indicator Name	Landslide Exposure		
Hazard Profile			
Hazard Intensity Measure	Rainfall-induced landslide susceptibility	Hazard Intensity Unit	Susceptibility class
Hazard Intensity Threshold	Classes greater than 3, corresponding to Classes 4 and 5		
Hazard Data Source	Global Infrastructure Risk Model and Resilience Index – Landslide Susceptibility	Hazard Data Year	2023
Exposure Measurement			
Exposure Unit	Number of children aged 0 - 17	Granularity	Admin 1
Exposure Data Source	WorldPop age-disaggregated population data	Exposure Data Year	2025
Reverse Indicator	N		
Description			
Indicator Description	Estimated number of children aged 0–17 living in areas classified as having high or very high rainfall-induced landslide susceptibility, corresponding to susceptibility classes 4 and 5.		
Indicator Reasoning	Landslides can destroy homes, roads, schools and health facilities and isolate communities from essential services. Children living in highly susceptible areas may face injury, displacement, interrupted education and delayed access to healthcare and emergency assistance.		
Data Sources			
Source Link / Reference	https://giri.unepgrid.ch/ GIRI was developed by a consortium including CIMA Research Foundation, INGENIAR, UNEP-GRID Geneva and the Norwegian Geotechnical Institute under CDRI and UNDP management		

Indicator 07			
Earthquake Exposure			
Pillar 1: Exposure to Shocks and Stresses			
Classification			
Component	Non-Climatic	Sub-component	Geological Hazard
Pillar	Exposure to Shocks and Stresses		
Full Indicator Name	Earthquake Exposure		
Hazard Profile			
Hazard Intensity Measure	Peak Ground Acceleration (PGA)	Hazard Intensity Unit	g
Hazard Intensity Threshold	PGA >0.22 g		
Hazard Data Source	NEXUS / Pacific Data Hub – Seismic Hazard (PGA)	Hazard Data Year	2020
Exposure Measurement			
Exposure Unit	Number of children aged 0 - 17	Granularity	Admin 1
Exposure Data Source	WorldPop age-disaggregated population data	Exposure Data Year	2025
Reverse Indicator	N		
Description			
Indicator Description	Estimated number of children aged 0–17 living in areas where modelled peak ground acceleration exceeds 0.22 g. The exposed population was aggregated to the municipality level.		
Indicator Reasoning	Strong ground shaking can cause building collapse, injury and death and can damage schools, health facilities, transport routes, water systems and other infrastructure essential to children.		
Data Sources			
Source Link / Reference	https://geonode.pacificdata.org/catalogue/#/dataset/394 NEXUS/Pacific Data Hub seismic-hazard dataset		

Indicator 08			
Dengue Incidence			
Pillar 1: Exposure to Shocks and Stresses			
Classification			
Component	Non-Climatic	Sub-component	Vector borne diseases
Pillar	Exposure to Shocks and Stresses		
Full Indicator Name	Dengue Incidence		
Hazard Profile			
Hazard Intensity Measure	Reported dengue incidence	Hazard Intensity Unit	Cases per 100,000 population
Hazard Intensity Threshold	Not applicable		
Hazard Data Source	Ministério da Saúde – Dengue Surveillance	Hazard Data Year	2023
Exposure Measurement			
Exposure Unit	Number of children aged 0 - 17	Granularity	Admin 1
Exposure Data Source	WorldPop age-disaggregated population data	Exposure Data Year	2025
Reverse Indicator	N		
Description			
Indicator Description	Municipality-level dengue incidence, expressed as the number of reported dengue cases per 100,000 population during the reference year.		
Indicator Reasoning	Dengue can cause severe illness and place pressure on households and health services. Children may be particularly affected during outbreaks, while changing rainfall, temperature and water-storage practices can influence mosquito breeding and transmission conditions.		
Data Sources			
Source Link / Reference	Internal Ministry of Health surveillance dataset; public link not provided Not provided		

Indicator 09			
Diarrhoea Prevalence among Children Under Five			
Pillar 1: Exposure to Shocks and Stresses			
Classification			
Component	Non-Climatic	Sub-component	Water borne diseases
Pillar	Exposure to Shocks and Stresses		
Full Indicator Name	Diarrhoea Prevalence among Children Under Five		
Hazard Profile			
Hazard Intensity Measure	Two-week diarrhoea prevalence among children under five	Hazard Intensity Unit	%
Hazard Intensity Threshold	Not applicable		
Hazard Data Source	Timor-Leste Food and Nutrition Survey	Hazard Data Year	2020
Exposure Measurement			
Exposure Unit	Number of children aged 0 - 17	Granularity	Admin 1
Exposure Data Source	WorldPop age-disaggregated population data	Exposure Data Year	2025
Reverse Indicator	N		
Description			
Indicator Description	Percentage of children under five whose caregivers reported that the child experienced diarrhoea during the survey reference period, presented by municipality.		
Indicator Reasoning	Diarrhoeal disease is closely associated with unsafe water, inadequate sanitation and poor hygiene. Flooding and disruption to water and sanitation systems can increase contamination and disease transmission, placing young children at increased risk of dehydration, malnutrition and severe illness.		
Data Sources			
Source Link / Reference	Timor-Leste Food and Nutrition Survey 2020 Not applicable		

Pillar 2: Child Vulnerability — Indicator Metadata

Indicator 01	
Education Facility per 1,000 Children	
Pillar 2: Child Vulnerability	
Classification	

Indicator 02	
Health Facility per 1,000 Children	
Pillar 2: Child Vulnerability	
Classification	

Component	Lack of Coping Capacity	Sub-component	Critical Infrastructure
Long Indicator Name	Number of education facilities per 1,000 children (aged 0 - 18)		
Measurement			
Unit of Measurement	Per 1000 children	Granularity	Admin 1 (municipality)
Reverse Indicator	N	Reference Year	2026
Description			
Indicator Description	Measures the number of mapped education facilities—including pre-primary, primary, secondary and other education facilities—available per 1,000 children aged 0–17 within each municipality. The indicator provides a population-adjusted measure of the relative availability of education infrastructure.		
Indicator Reasoning	Education facilities are essential for children’s learning, development, protection and access to school-based services. Municipalities with fewer facilities relative to their child population may experience overcrowding, longer travel distances and limited access to education. During floods, landslides, storms or other emergencies, low facility density may also reduce the availability of alternative schools when facilities are damaged or inaccessible.		
Data Sources			
Source	Education Facilities: Open Street Maps		
Source Link / Comment	https://data.humdata.org/dataset/hotosm_tls_education_facilities		

Component	Lack of Coping Capacity	Sub-component	Critical Infrastructure
Long Indicator Name	Number of Health facilities per 1,000 children (aged 0 - 18)		
Measurement			
Unit of Measurement	Per 1000 children	Granularity	Admin 1 (municipality)
Reverse Indicator	Y	Reference Year	2026
Description			
Indicator Description	Measures the number of mapped health facilities—including hospitals, community health centres, health posts, clinics and dispensaries—available per 1,000 children aged 0–17 within each municipality. The indicator provides a population-adjusted proxy for the relative availability of health-service infrastructure.		
Indicator Reasoning	Children depend on accessible health facilities for immunisation, maternal and newborn care, nutrition services, disease treatment and emergency care. Municipalities with fewer health facilities relative to their child population may face longer travel times, limited service availability and greater pressure on existing facilities. These constraints can become more severe during disease outbreaks, disasters and disruptions to transport or health services.		
Data Sources			
Source	Health Facilities: Open Street Maps		
Source Link / Comment	https://data.humdata.org/dataset/hotosm_tls_health_facilities		

Indicator 03

Kilometers of Road Network per 1,000 Children

Pillar 2: Child Vulnerability

Classification			
Component	Lack of Coping Capacity	Sub-component	Critical Infrastructure
Long Indicator Name	Number of education facilities per 1,000 children (aged 0 - 18)		
Measurement			
Unit of Measurement	Per 1000 children	Granularity	Admin 1 (municipality)
Reverse Indicator	Y	Reference Year	2026
Description			
Indicator Description	Measures the total length of the mapped road network, expressed in kilometres, per 1,000 children aged 0–17 within each municipality. The indicator provides a population-adjusted proxy for the availability of transport infrastructure serving children and their communities.		
Indicator Reasoning	Roads support access to schools, health facilities, markets, social services and emergency assistance. Municipalities with limited road-network coverage relative to their child population may face greater isolation, longer travel times and delayed access to essential services. During floods, landslides and other emergencies, low road density or the loss of key road connections can delay evacuation, humanitarian assistance and the restoration of services.		
Data Sources			
Source	Road Network: Open Street Maps		
Source Link / Comment	https://data.humdata.org/dataset/timor-leste-road-surface-data		

Indicator 04			
Improved Roof Materials			
Pillar 2: Child Vulnerability			
Classification			
Component	Lack of Coping Capacity	Sub-component	Assets
Long Indicator Name	Percentage of households with access to improved roof materials		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	Y	Reference Year	2022
Description			
Indicator Description	This indicator measures the percentage of private households whose dwelling roofs are constructed using durable materials such as tiles or corrugated iron. Roof materials are commonly used as a proxy indicator of housing durability and protection from environmental hazards. Houses with improved roof materials generally provide better protection from rainfall, heat, and extreme weather events. Higher values indicate improved structural housing quality across municipalities.		
Indicator Reasoning	Adequate housing structures are important for protecting children from environmental hazards such as heavy rainfall, storms, and extreme temperatures. Poor roofing materials can increase exposure to climate risks and reduce household resilience. Monitoring improved roof materials helps identify municipalities where inadequate housing structures may increase child vulnerability.		
Data Sources			
Source	Population and Housing Census		
Source Link / Comment	Timor-Leste Population and Housing Census (DGE) data provided by UNICEF TLS		

Indicator 05			
Improved Floor Materials			
Pillar 2: Child Vulnerability			
Classification			
Component	Lack of Coping Capacity	Sub-component	Assets
Long Indicator Name	Percentage of households with improved floor materials		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	Y	Reference Year	2022
Description			
Indicator Description	This indicator measures the percentage of private households whose dwelling floors are constructed using durable materials such as tiles or concrete. Housing floor materials serve as a proxy for housing quality and living conditions. Homes with improved floor materials are typically associated with safer, more hygienic environments and improved protection from moisture, pests, and environmental hazards. Higher values indicate a greater proportion of households living in structurally improved housing conditions.		
Indicator Reasoning	Housing conditions strongly influence children's health and wellbeing. Poor floor materials can increase exposure to pests, dampness, and unsanitary living conditions that contribute to disease transmission and reduced household resilience. Monitoring improved floor materials helps identify municipalities where inadequate housing conditions may increase children's vulnerability.		
Data Sources			
Source	Population and Housing Census		
Source Link / Comment	Timor-Leste Population and Housing Census (DGE) data provided by UNICEF TLS		

Indicator 06			
Improved Wall Materials			
Pillar 2: Child Vulnerability			
Classification			
Component	Lack of Coping Capacity	Sub-component	Assets
Long Indicator Name	Percentage of households with improved wall materials		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	Y	Reference Year	2022
Description			
Indicator Description	This indicator measures the percentage of private households whose dwelling walls are constructed using durable materials such as concrete or brick. Housing materials are used as a proxy for structural quality and living conditions. Dwellings built with durable wall materials are generally more resistant to environmental hazards and provide safer and healthier living conditions for occupants. Higher values indicate a greater proportion of households living in structurally durable housing.		
Indicator Reasoning	Housing quality is a key determinant of household resilience and child wellbeing. Children living in dwellings with poor structural materials are more vulnerable to environmental hazards, extreme weather events, and unhealthy living conditions. Monitoring access to improved wall materials helps identify municipalities where housing conditions may contribute to increased child vulnerability and exposure to climate-related risks.		
Data Sources			
Source	Population and Housing Census		
Source Link / Comment	Timor-Leste Population and Housing Census (DGE) data provided by UNICEF TLS		

Indicator 07

Access to Electricity

Pillar 2: Child Vulnerability

Classification			
Component	Lack of Coping Capacity	Sub-component	Assets
Long Indicator Name	Percentage of households with access to electricity		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	Y	Reference Year	2014
Description			
Indicator Description	This indicator measures the proportion of households with access to electricity from any source, including national grid connections, community grids, generators, or solar home systems. It reflects the ability of families to meet essential daily needs such as lighting, communication, food preparation, and children’s study or learning activities. Electricity access also supports households in charging mobile phones, accessing information, and maintaining safe living conditions. A higher value indicates broader access to reliable energy services, while a lower value suggests greater vulnerability, limited access to information, and potential barriers to safety, education, and essential services, particularly in remote or underserved areas.		
Indicator Reasoning	Electricity access is essential for children’s wellbeing, enabling safe lighting, study time, communication, and access to information. Low electricity access can heighten vulnerability during emergencies by limiting households’ ability to receive early warnings, charge mobile phones, or maintain safe living conditions. Identifying areas with low access supports targeted interventions and risk-informed planning in the CCRI-DRM model.		
Data Sources			
Source	Population and Housing Census		
Source Link / Comment	https://timor-lesste.unfpa.org/sites/default/files/pub-pdf/final-main-report_tlphc-census_2022.pdf		

Indicator 08

Skilled Birth Attendance

Pillar 2: Child Vulnerability

Classification			
Component	Child Health & Nutrition	Sub-component	Child Health
Long Indicator Name	Percentage of Births Delivered with Assistance from a Skilled Health Provider		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	Y	Reference Year	2026
Description			
Indicator Description	Percentage of births in the two years preceding the survey that were delivered with assistance from a health provider classified as skilled under the DHS methodology.		
Indicator Reasoning	Skilled attendance during delivery reduces the risk of preventable maternal and newborn complications and indicates access to essential maternal and newborn healthcare. Low coverage may reflect geographical barriers, limited service availability or weaknesses in the health system.		
Data Sources			
Source	Timor-Leste Demographic and Health Survey (DHS) 2025–26		
Source Link / Comment	DHS 2025–26 report		

Indicator 09

Under-5 Mortality

Pillar 2: Child Vulnerability

Classification

Component	Child Health & Nutrition	Sub-component	Child Health
Long Indicator Name	Under-Five Mortality Rate per 1,000 Live Births		

Measurement

Unit of Measurement	Deaths per 1,000 live births	Granularity	Admin 1 (municipality)
Reverse Indicator	N	Reference Year	2016

Description

Indicator Description	Number of deaths among children before reaching five years of age per 1,000 live births, estimated using birth-history information collected during the survey. Municipality-level estimates represent the ten-year period preceding the survey.
Indicator Reasoning	Under-five mortality is a core measure of child survival and reflects the combined effects of healthcare access, nutrition, sanitation, maternal health and early childhood care. Higher mortality indicates greater child vulnerability and weaker health-system performance.

Data Sources

Source	Timor-Leste Demographic and Health Survey 2016
Source Link / Comment	https://www.dhsprogram.com/pubs/pdf/FR329/FR329.pdf

Indicator 10			
Basic Vaccination Coverage			
Pillar 2: Child Vulnerability			
Classification			
Component	Child Health & Nutrition	Sub-component	Child Health
Long Indicator Name	Percentage of Children Aged 12–23 Months Fully Vaccinated with All Basic Antigens		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	Y	Reference Year	2026
Description			
Indicator Description	Percentage of children aged 12–23 months who received all vaccines included in the DHS basic-antigen definition, based on vaccination records or caregiver reporting.		
Indicator Reasoning	Full basic vaccination protects children from preventable infectious diseases. Low coverage increases the risk of outbreaks, severe illness and preventable mortality, particularly when routine health services are disrupted during emergencies.		
Data Sources			
Source	Timor-Leste Demographic and Health Survey (DHS) 2025–26		
Source Link / Comment	DHS 2025–26 report		

Indicator 11

Measles Vaccination Coverage

Pillar 2: Child Vulnerability

Classification

Component	Child Health & Nutrition	Sub-component	Child Health
Long Indicator Name	Percentage of Children Aged 18–59 Months Vaccinated Against Measles		

Measurement

Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	Y	Reference Year	2020

Description

Indicator Description	Percentage of children aged 18–59 months who received a measles-containing vaccine, based on vaccination cards or caregiver recall.
Indicator Reasoning	Measles vaccination is an essential child-survival intervention and an indicator of access to routine immunisation services. Low coverage increases susceptibility to outbreaks, especially during emergencies and periods of health-service disruption.

Data Sources

Source	Timor-Leste Food and Nutrition Survey (TLFNS) 2020
Source Link / Comment	https://www.unicef.org/timorleste/media/4606/file/Digital_Eng_TL%20Food%20Nutrition%20Survey%2020_FINAL_20%204%202022.pdf

Indicator 12			
Insecticide-Treated Net Use			
Pillar 2: Child Vulnerability			
Classification			
Component	Child Health & Nutrition	Sub-component	Child Health
Long Indicator Name	Percentage of Children Under Five Who Slept Under an Insecticide-Treated Net the Previous Night		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	Y	Reference Year	2026
Description			
Indicator Description	Percentage of children under five years of age in surveyed households who slept under an insecticide-treated mosquito net during the night preceding the survey.		
Indicator Reasoning	Use of insecticide-treated nets provides protection against mosquito-borne diseases. Low use may indicate limited access to preventive materials or inadequate adoption of protective practices, increasing child vulnerability in areas affected by mosquito-borne disease transmission.		
Data Sources			
Source	Timor-Leste Demographic and Health Survey (DHS) 2025–26		
Source Link / Comment	DHS 2025–26 report		

Indicator 13			
School Health Prevention			
Pillar 2: Child Vulnerability			
Classification			
Component	Child Health & Nutrition	Sub-component	Child Health
Long Indicator Name	School-Level Access to Preventive Health and Health-Promotion Services Index		
Measurement			
Unit of Measurement	Index score	Granularity	Admin 1 (municipality)
Reverse Indicator	Y	Reference Year	2022
Description			
Indicator Description	Municipality-level index measuring the provision of preventive health and health-promotion activities in schools. It reflects the extent to which schools implement measures such as hygiene education, nutrition awareness, deworming, first-aid readiness and WASH-related practices. Higher scores indicate stronger implementation of school health programmes.		
Indicator Reasoning	Preventive health activities in schools protect children from disease, encourage healthy behaviours and strengthen resilience to health-related shocks. Lower scores may indicate weaker disease prevention, hygiene practices and emergency preparedness in school environments.		
Data Sources			
Source	WHO, Baseline Survey: Say No to 5S in Schools in Timor-Leste		
Source Link / Comment	https://cdn.who.int/media/docs/default-source/timor-leste-docs/final-english_consolidated_sn5s_report-12th-dec_2022j1_.pdf?sfvrsn=e5d36ffa_1		

Indicator 14			
Acute Respiratory Infection (ARI) Prevalence			
Pillar 2: Child Vulnerability			
Classification			
Component	Child Health & Nutrition	Sub-component	Child Health
Long Indicator Name	Percentage of Children Under Five with Symptoms of Acute Respiratory Infection in the Previous Two Weeks		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	N	Reference Year	2020
Description			
Indicator Description	Percentage of children aged 0–59 months whose caregivers reported symptoms consistent with acute respiratory infection during the 14 days preceding the survey, including coughing accompanied by difficult or rapid breathing.		
Indicator Reasoning	Acute respiratory infection is an important cause of childhood illness and may reflect vulnerability associated with indoor air pollution, overcrowding, poor housing and limited healthcare access. Respiratory risks may intensify following floods, displacement or prolonged exposure to damp conditions.		
Data Sources			
Source	Timor-Leste Food and Nutrition Survey (TLFNS) 2020		
Source Link / Comment	https://www.unicef.org/timorleste/media/4606/file/Digital_Eng_TL%20Food%20Nutrition%20Survey%202020_FINAL_20%204%202022.pdf		

Indicator 15

Deworming Coverage

Pillar 2: Child Vulnerability

Classification

Component	Child Health & Nutrition	Sub-component	Child Health
Long Indicator Name	Percentage of Children Aged 12–59 Months Who Received Deworming Treatment in the Previous Six Months		

Measurement

Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	Y	Reference Year	2020

Description

Indicator Description	Percentage of children aged 12–59 months who received medication to treat or prevent intestinal parasitic infections during the six months preceding the survey.
Indicator Reasoning	Deworming reduces intestinal parasite infections that can impair nutrient absorption, immunity, growth and development. Higher coverage represents stronger preventive healthcare and therefore corresponds to lower child vulnerability.

Data Sources

Source	Timor-Leste Food and Nutrition Survey (TLFNS) 2020
Source Link / Comment	https://www.unicef.org/timorleste/media/4606/file/Digital_Eng_TL%20Food%20Nutrition%20Survey%202020_FINAL_20%204%202022.pdf

Indicator 16

Care Seeking for Childhood Fever

Pillar 2: Child Vulnerability

Classification

Component	Child Health & Nutrition	Sub-component	Child Health
Long Indicator Name	Percentage of Children Under Five with Fever for Whom Advice or Treatment Was Sought from a Formal Health Provider		

Measurement

Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	Y	Reference Year	2026

Description

Indicator Description	Among children under five who had fever during the two weeks preceding the survey, the percentage for whom advice or treatment was sought from an included formal healthcare source.
Indicator Reasoning	Seeking timely care for fever indicates the accessibility, affordability and utilisation of health services. Low care-seeking may reflect distance, cost, limited awareness or service shortages and can increase the risk of untreated illness and complications.

Data Sources

Source	Timor-Leste Demographic and Health Survey (DHS) 2025–26
Source Link / Comment	DHS 2025–26 report

Indicator 17			
Childhood Fever Prevalence			
Pillar 2: Child Vulnerability			
Classification			
Component	Child Health & Nutrition	Sub-component	Child Health
Long Indicator Name	Percentage of Children Under Five Reported to Have Had Fever in the Previous Two Weeks		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	N	Reference Year	2026
Description			
Indicator Description	Percentage of children under five years of age whose caregivers reported that the child experienced fever during the two weeks preceding the survey.		
Indicator Reasoning	Fever prevalence provides a broad measure of recent childhood morbidity. Higher prevalence may indicate an increased infectious-disease burden and greater pressure on households and local health services.		
Data Sources			
Source	Timor-Leste Demographic and Health Survey (DHS) 2025–26		
Source Link / Comment	DHS 2025–26 report		

Indicator 19			
Child Wasting			
Pillar 2: Child Vulnerability			
Classification			
Component	Child Health & Nutrition	Sub-component	Child Nutrition
Long Indicator Name	Percentage of Children Under Five Who Are Wasted		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	N	Reference Year	2026
Description			
Indicator Description	Percentage of children under five years of age whose weight-for-height z-score is below –2 standard deviations from the median of the WHO Child Growth Standards.		
Indicator Reasoning	Wasting reflects acute undernutrition and recent or severe weight loss. Wasted children have reduced physiological reserves and face heightened susceptibility to illness and mortality, particularly during emergencies, disease outbreaks and food-security shocks.		
Data Sources			
Source	Timor-Leste Demographic and Health Survey (DHS) 2025–26		
Source Link / Comment	Pending – final DHS 2025–26 report link		

Indicator 18			
Child Stunting			
Pillar 2: Child Vulnerability			
Classification			
Component	Child Health & Nutrition	Sub-component	Child Nutrition
Long Indicator Name	Percentage of Children Under Five Who Are Stunted		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	N	Reference Year	2026
Description			
Indicator Description	Percentage of children under five years of age whose height-for-age z-score is below –2 standard deviations from the median of the WHO Child Growth Standards.		
Indicator Reasoning	Stunting reflects chronic undernutrition and prolonged exposure to inadequate dietary intake, repeated infection and poor health, nutrition and WASH conditions. Stunted children may experience impaired physical growth, cognitive development and reduced resilience to disease, food insecurity and climate-related shocks.		
Data Sources			
Source	Timor-Leste Demographic and Health Survey (DHS) 2025–26		
Source Link / Comment	Pending – final DHS 2025–26 report link		

Indicator 20			
Child Underweight			
Pillar 2: Child Vulnerability			
Classification			
Component	Child Health & Nutrition	Sub-component	Child Nutrition
Long Indicator Name	Percentage of Children Under Five Who Are Underweight		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	N	Reference Year	2026
Description			
Indicator Description	Percentage of children under five years of age whose weight-for-age z-score is below –2 standard deviations from the median of the WHO Child Growth Standards.		
Indicator Reasoning	Underweight captures the combined effects of chronic and acute undernutrition. Children who are underweight may have weakened immunity, impaired development and reduced capacity to cope with illness, food shortages and disruptions to essential services.		
Data Sources			
Source	Timor-Leste Demographic and Health Survey (DHS) 2025–26		
Source Link / Comment	Pending – final DHS 2025–26 report link		

Indicator 21			
Early Initiation of Breastfeeding			
Pillar 2: Child Vulnerability			
Classification			
Component	Child Health & Nutrition	Sub-component	Child Nutrition
Long Indicator Name	Percentage of Children Aged 0–23 Months Who Were Breastfed Within One Hour of Birth		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	Y	Reference Year	2020
Description			
Indicator Description	Percentage of children aged 0–23 months whose mothers or caregivers reported that breastfeeding began within one hour of birth. The indicator represents a birth-related feeding practice reported retrospectively by the caregiver.		
Indicator Reasoning	Early initiation of breastfeeding supports newborn immunity, promotes bonding, reduces exposure to unsafe substitute feeding and lowers the risk of infection and neonatal mortality. Higher coverage indicates stronger maternal and newborn nutrition practices and lower child vulnerability.		
Data Sources			
Source	Timor-Leste Food and Nutrition Survey (TLFNS)		
Source Link / Comment	https://www.unicef.org/timorleste/media/4606/file/Digital_Eng_TL%20Food%20Nutrition%20Survey%202020_FINAL_20%204%202022.pdf		

Indicator 22			
Bottle Feeding Prevalence			
Pillar 2: Child Vulnerability			
Classification			
Component	Child Health & Nutrition	Sub-component	Child Nutrition
Long Indicator Name	Percentage of Infants and Young Children Aged 0–23 Months Currently Fed Using a Bottle		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	N	Reference Year	2020
Description			
Indicator Description	Percentage of infants and young children aged 0–23 months who were fed using a bottle at the time of the survey. The measure follows the infant and young child feeding current-status approach and reflects the child's recent feeding practice.		
Indicator Reasoning	Bottle feeding can increase exposure to contaminated water, feeding equipment and breast-milk substitutes, particularly where safe water, sanitation and hygiene conditions are inadequate. Higher prevalence therefore indicates greater vulnerability to diarrhoea, infection and inadequate nutrition.		
Data Sources			
Source	Timor-Leste Food and Nutrition Survey (TLFNS)		
Source Link / Comment	https://www.unicef.org/timorleste/media/4606/file/Digital_Eng_TL%20Food%20Nutrition%20Survey%202020_FINAL_20%204%202022.pdf		

Indicator 23

Vitamin A Coverage (6–59 months)

Pillar 2: Child Vulnerability

Classification

Component	Child Health & Nutrition	Sub-component	Child Nutrition
Long Indicator Name	Percentage of Children Aged 6–59 Months Who Received Vitamin A Supplementation in the Previous Six Months		

Measurement

Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	Y	Reference Year	2020

Description

Indicator Description	Percentage of children aged 6–59 months who received a vitamin A supplement during the six months preceding the survey, based on caregiver reporting or available health records.
Indicator Reasoning	Vitamin A supports immune function, vision, growth and child survival. Adequate supplementation reduces vulnerability to deficiency, infection and severe illness. Higher coverage indicates stronger access to essential preventive nutrition services and lower vulnerability.

Data Sources

Source	Timor-Leste Food and Nutrition Survey (TLFNS)
Source Link / Comment	https://www.unicef.org/timorleste/media/4606/file/Digital_Eng_TL%20Food%20Nutrition%20Survey%202020_FINAL_20%204%202022.pdf

Indicator 24

Literacy Rate

Pillar 2: Child Vulnerability

Classification

Component	Education	Sub-component	Education Access & Learning Outcomes
Long Indicator Name	Percentage of the Population Aged 10 Years and Over Who Can Read and Write		

Measurement

Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	Y	Reference Year	2022

Description

Indicator Description	Percentage of people aged 10 years and over who reported being able to read and write a short letter or simple statement in any language.
Indicator Reasoning	Literacy is a foundational learning outcome that influences access to information, employment opportunities and participation in social and economic life. Low literacy rates may indicate persistent barriers to education access and quality and can reduce the ability of households and communities to understand and respond to risk information.

Data Sources

Source	Timor-Leste Population and Housing Census, Thematic Report – Education
Source Link / Comment	https://timor-leste.unfpa.org/sites/default/files/pub-pdf/final-main-report_tlphc-census_2022.pdf

Indicator 25			
Pre-school Net Enrolment Rate			
Pillar 2: Child Vulnerability			
Classification			
Component	Education	Sub-component	Education Access & Learning Outcomes
Long Indicator Name	Net Enrolment Rate in Pre-school Education		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	Y	Reference Year	2022
Description			
Indicator Description	Measures the percentage of children of official pre-school age who are enrolled in pre-school education within each municipality. The indicator is calculated by dividing the number of children of official pre-school age enrolled in public and private pre-schools by the total population of children in the corresponding official age group, multiplied by 100. Higher values indicate greater participation in early childhood education.		
Indicator Reasoning	Access to pre-school education supports children’s cognitive, language, social and emotional development and strengthens their readiness to enter primary school. Low net enrolment may indicate limited availability of pre-school facilities, geographic isolation, household poverty, affordability constraints or low awareness of the importance of early childhood education. Municipalities with lower enrolment may therefore have a larger proportion of children without access to foundational learning opportunities, increasing their educational vulnerability and the risk of poorer long-term learning outcomes.		
Data Sources			
Source	Ministry of Education – Education Management Information System (EMIS)		
Source Link / Comment	Ministry of Education – Education Management Information System statistical data portal.		

Indicator 26			
Primary and Pre-Secondary Net Enrolment Rate			
Pillar 2: Child Vulnerability			
Classification			
Component	Education	Sub-component	Education Access & Learning Outcomes
Long Indicator Name	Net Enrolment Rate in Primary and Pre-Secondary Education		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	Y	Reference Year	2023
Description			
Indicator Description	This indicator measures the Net Enrollment Rate (NER) for pre-school education, defined as the percentage of children of official pre-school age who are enrolled in pre-school programmes. The indicator reflects participation in early childhood education and includes enrollment in both public and private institutions. The value reported uses the total NER across public and private pre-schools at the municipal level. Higher values indicate stronger participation in early childhood education services.		
Indicator Reasoning	Participation in early childhood education is a key determinant of children's cognitive development, school readiness, and long-term educational outcomes. Low enrollment in pre-school may signal structural barriers such as limited service availability, geographic isolation, poverty, or institutional capacity constraints. Monitoring NER supports identification of municipalities where children may face greater vulnerability due to limited access to foundational learning opportunities.		
Data Sources			
Source	Ministry of Education – Education Management Information System (EMIS)		
Source Link / Comment	https://www.moe.gov.tl/emis/dados-estadistico?utm_source Indicator derived from EMIS administrative data (Total NER – Public and Private combined).		

Indicator 27			
Secondary Net Enrolment Rate			
Pillar 2: Child Vulnerability			
Classification			
Component	Education	Sub-component	Education Access & Learning Outcomes
Long Indicator Name	Net Enrolment Rate in Secondary Education		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	Y	Reference Year	2023
Description			
Indicator Description	This indicator measures the Net Enrollment Rate (NER) for Primary and Pre-Secondary education, covering Cycles 1, 2, and 3 of the Timor-Leste education system. It represents the percentage of children of official school age enrolled in the appropriate education level. The values reported combine enrollment from both public and private schools to provide a comprehensive estimate of school participation at the municipal level. Higher values indicate stronger access to basic education services and broader participation in the formal education system.		
Indicator Reasoning	Enrollment in primary and lower secondary education is a key determinant of children's learning outcomes, resilience, and long-term socio-economic opportunities. Monitoring enrollment across Cycles 1–3 helps identify municipalities where children may face barriers to education access due to poverty, geographic isolation, infrastructure limitations, or climate-related disruptions affecting schooling continuity.		
Data Sources			
Source	Ministry of Education – Education Management Information System (EMIS)		
Source Link / Comment	https://www.moe.gov.tl/emis/dados-estatistico?utm_source Indicator uses Total NER values combining Public and Private institutions for Cycles 1, 2 and 3.		

Indicator 28			
Early Childhood Development Index			
Pillar 2: Child Vulnerability			
Classification			
Component	Education	Sub-component	Education Access & Learning Outcomes
Long Indicator Name	Percentage of Children Aged 24–59 Months Who Are Developmentally on Track According to ECDI2030		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	N	Reference Year	2026
Description			
Indicator Description	Percentage of children aged 24–59 months who have achieved the minimum number of age-appropriate milestones under the Early Childhood Development Index 2030. The index provides a combined measure of development across health, learning and psychosocial well-being.		
Indicator Reasoning	Early childhood development establishes the foundation for future learning, health and well-being. A low percentage of children developmentally on track may reflect inadequate nutrition, limited stimulation and early-learning opportunities, poor health or exposure to household and environmental stressors.		
Data Sources			
Source	TL DHS: Demographic and Health Survey		
Source Link / Comment	—		

Indicator 29

Functional Difficulty

Pillar 2: Child Vulnerability

Classification

Component	Education	Sub-component	Education Access & Learning Outcomes
Long Indicator Name	Percentage of Children Aged 2–17 Years with Functional Difficulty in at Least One Domain		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	N	Reference Year	2026

Description

Indicator Description	Percentage of children aged 2–17 years reported to have functional difficulty in at least one age-relevant domain. Domains include seeing, hearing, mobility, communication, learning and behaviour, with additional domains such as self-care, concentration, accepting change, relationships, anxiety and depression assessed among children aged 5–17 years.
Indicator Reasoning	Children with functional difficulties may face barriers to school enrolment, attendance, participation and learning, particularly where accessible infrastructure, assistive services and inclusive teaching support are limited. Higher prevalence may therefore indicate greater risk of educational exclusion and reduced capacity to cope with shocks and service disruptions.

Data Sources

Source	TL DHS: Demographic and Health Survey
Source Link / Comment	—

Indicator 30			
Basic Education Dropout Rate			
Pillar 2: Child Vulnerability			
Classification			
Component	Education	Sub-component	Retention
Long Indicator Name	Dropout Rate in Basic Education		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	N	Reference Year	2023
Description			
Indicator Description	Percentage of students enrolled in primary and pre-secondary education, covering basic education Cycles 1–3, who discontinue schooling during the academic year before completing the relevant grade or education cycle. The indicator combines records from public and private schools.		
Indicator Reasoning	School dropout is a direct measure of educational vulnerability and loss of continuity in learning. High dropout rates may reflect poverty, food insecurity, distance from schools, disability-related barriers, inadequate infrastructure, household responsibilities or disruption caused by disasters and other shocks.		
Data Sources			
Source	Ministry of Education – Education Management Information System (EMIS)		
Source Link / Comment	—		

Indicator 31

Schools with Improved Drinking Water

Pillar 2: Child Vulnerability

Classification

Component	Water, Sanitation and Hygiene (WASH)	Sub-component	WASH in School
Long Indicator Name	Proportion of schools where drinking water facilities are regularly cleaned and maintained		

Measurement

Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	Y	Reference Year	2022

Description

Indicator Description	This indicator measures the proportion of schools where drinking water facilities are regularly cleaned and maintained according to the required schedule. It reflects the operational functionality of water supply points and the level of hygiene practices that support safe drinking water access for students.
Indicator Reasoning	Regular maintenance of drinking water facilities is essential for preventing waterborne diseases, ensuring student health, and reducing absenteeism. In the context of climate-related risks such as drought, contamination, or supply disruption schools with poorly maintained water facilities face heightened vulnerability. This indicator helps identify districts where inadequate drinking water hygiene may compound broader child health and resilience challenges.

Data Sources

Source	WHO Final Report - Baseline Survey: Say no to 5s in schools in Timor-Leste
Source Link / Comment	—

Indicator 32

Schools with Improved Sanitation

Pillar 2: Child Vulnerability

Classification

Component	Water, Sanitation and Hygiene (WASH)	Sub-component	WASH in School
Long Indicator Name	Percentage of schools where sanitation facilities are cleaned and maintained		

Measurement

Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	Y	Reference Year	2022

Description

Indicator Description	This indicator captures the percentage of schools where sanitation facilities (toilets, latrines, washrooms) are cleaned and maintained according to established schedules. It reflects the functionality, safety, and hygiene standards of school WASH infrastructure.
Indicator Reasoning	Well-maintained sanitation facilities reduce exposure to infectious diseases and improve school attendance especially for girls, who are disproportionately affected by inadequate WASH conditions. In disaster-prone settings, poor sanitation can increase health risks during floods, water contamination events, and service disruptions. This indicator helps highlight structural and hygiene-related vulnerabilities that affect children's well-being and resilience.

Data Sources

Source	WHO Final Report - Baseline Survey: Say no to 5s in schools in Timor-Leste
Source Link / Comment	—

Indicator 33

Schools without Toilet Facilities

Pillar 2: Child Vulnerability

Classification

Component	Water, Sanitation and Hygiene (WASH)	Sub-component	WASH in School
Long Indicator Name	Percentage of Schools Without Toilet Facilities		

Measurement

Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	N	Reference Year	2023

Description

Indicator Description	Percentage of schools that reported having no toilet facility. The indicator is calculated by dividing the number of schools coded as having no toilet facility (Laiha or 0) by the total number of schools with a valid response to the School Toilet Facilities field, multiplied by 100. The dataset includes pre-schools, basic education schools, secondary schools and technical or vocational schools.
Indicator Reasoning	Access to toilets in schools is essential for hygiene, health, dignity, safety and regular school attendance. Schools without toilet facilities expose children to greater risks of disease, unsafe sanitation practices and disrupted learning. The impacts may be particularly severe for girls, younger children and children with disabilities, especially during emergencies or periods of water and sanitation service disruption.

Data Sources

Source	Ministry of Education – Education Management Information System (EMIS), WASH Facilities in Schools Dataset
Source Link / Comment	Internal MOE source workbook; no public source link provided

Indicator 34			
Health Facilities without Toilet Access			
Pillar 2: Child Vulnerability			
Classification			
Component	Water, Sanitation and Hygiene (WASH)	Sub-component	WASH in Health Care Facilities
Long Indicator Name	Percentage of Health Facilities Without Toilet or Sanitation Access		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	N	Reference Year	2024
Description			
Indicator Description	Percentage of assessed health facilities that reported having no sanitation or toilet access. The indicator should be calculated by dividing the number of facilities recorded as Laiha, La iha or an equivalent no-access response in the Sanitation (Saneamento) field by the total number of facilities with a valid sanitation response, multiplied by 100. Missing or blank sanitation records should be excluded from the denominator rather than classified as having no access.		
Indicator Reasoning	Functional and accessible toilets in health facilities are essential for infection prevention, patient safety, maternal and child healthcare and the safe delivery of health services. Facilities without toilet access increase the risk of disease transmission and undermine the dignity and safety of patients, caregivers and health workers. These risks may intensify during disease outbreaks, floods, displacement and other emergencies that place additional pressure on health services.		
Data Sources			
Source	BESI Health-Facility Water, Sanitation and Hygiene Dataset – Entry Data BESI Foun, April 2025		
Source Link / Comment	Internal BESI source workbook; no public source link provided		

Indicator 35			
Households with Improved Sanitation			
Pillar 2: Child Vulnerability			
Classification			
Component	Water, Sanitation and Hygiene (WASH)	Sub-component	WASH in Communities
Long Indicator Name	Access to Improved Sanitation Facility		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	N	Reference Year	2020
Description			
Indicator Description	This indicator measures the percentage of households using sanitation facilities considered “improved,” meaning they hygienically separate human excreta from human contact (e.g., flush/pour-flush toilets connected to septic tank, ventilated improved pit latrine, pit latrine with slab). Data is derived from household survey responses following JMP definitions.		
Indicator Reasoning	Access to improved sanitation reduces the risk of faecal-oral disease transmission, diarrhoeal outbreaks, and contamination during climate-related shocks. It is a key determinant of child health, resilience, and vulnerability, especially during floods and emergencies that disrupt sanitation systems.		
Data Sources			
Source	Timor-Leste Food and Nutrition Survey (TLFNS)		
Source Link / Comment	Digital_Eng_TL Food Nutrition Survey 2020_FINAL_20 4 2022.pdf		

Indicator 36

Households with Handwashing Facilities

Pillar 2: Child Vulnerability

Classification			
Component	Water, Sanitation and Hygiene (WASH)	Sub-component	WASH in Communities
Long Indicator Name	Handwashing with Water and Soap		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	Y	Reference Year	2020
Description			
Indicator Description	This indicator measures the proportion of households that rely on water and soap as their primary handwashing method. Data are derived from household self-reporting in the TLFNS 2020. “Water and soap” is considered the minimum global standard for effective hand hygiene and reflects households’ capacity to prevent infectious diseases.		
Indicator Reasoning	Access to adequate hand hygiene is directly linked to children’s vulnerability to diarrhoeal disease, acute respiratory infections, and other preventable illnesses. Including this indicator supports assessments of health risks, WASH resilience, and household preparedness during emergencies.		
Data Sources			
Source	Timor-Leste Food and Nutrition Survey (TLFNS)		
Source Link / Comment	Digital_Eng_TL Food Nutrition Survey 2020_FINAL_20 4 2022.pdf		

Indicator 37			
Households with Improved Drinking Water			
Pillar 2: Child Vulnerability			
Classification			
Component	Water, Sanitation and Hygiene (WASH)	Sub-component	WASH in Communnities
Long Indicator Name	Households with improved sources of drinking water		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	Y	Reference Year	2022
Description			
Indicator Description	Proportion of households that use improved sources of drinking water, such as piped water, boreholes, protected wells, protected springs, or rainwater collection, expressed as a percentage of total households. Improved sources are defined as those that are protected from outside contamination, particularly faecal matter.		
Indicator Reasoning	Access to safe drinking water is fundamental to child health and survival. Lack of access increases the risk of water-borne diseases such as diarrhoea, which is a leading cause of child morbidity and mortality. This indicator is critical for assessing environmental health conditions and child vulnerability.		
Data Sources			
Source	PHC – Population and Housing Census		
Source Link / Comment	Timor-Leste Population and Housing Census 2022, General Directorate of Statistics (GDS)		

Indicator 38			
Safe Disposal of Child Faeces			
Pillar 2: Child Vulnerability			
Classification			
Component	Water, Sanitation and Hygiene (WASH)	Sub-component	WASH in Communnities
Long Indicator Name	Safe Disposal of Child Faeces		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	Y	Reference Year	2020
Description			
Indicator Description	This indicator measures the proportion of households that dispose of a child’s faeces safely, meaning the faeces are put directly into a toilet/latrine. According to WHO/UNICEF JMP standards, only faeces disposed of “in the toilet” qualify as safe disposal. All other methods, burying, placing in rubbish bins, open disposal, or other practices are classified as unsafe.		
Indicator Reasoning	Safe disposal of child faeces reduces exposure to faecal contamination, which is a significant source of diarrhoeal disease and other infections. Areas with low safe-disposal rates may have higher faecal–oral transmission risks, especially during floods, water shortages, and emergency conditions. This indicator directly supports child health risk assessment in the CCRI-DRM model.		
Data Sources			
Source	Timor-Leste Food and Nutrition Survey (TLFNS)		
Source Link / Comment	Digital_Eng_TL Food Nutrition Survey 2020_FINAL_20 4 2022.pdf		

Indicator 39			
Birth registration (0–5 years)			
Pillar 2: Child Vulnerability			
Classification			
Component	Child Protection	Sub-component	Parental Care
Long Indicator Name	Children under 5 whose births are registered (%)		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	Y	Reference Year	2022
Description			
Indicator Description	Percentage of de jure children under age 5 whose births are registered with civil authorities, whether or not a birth certificate was seen.		
Indicator Reasoning	Birth registration provides legal identity and supports access to education, healthcare, social protection and humanitarian assistance.		
Data Sources			
Source	Timor-Leste Demographic and Health Survey		
Source Link / Comment	—		

Indicator 41			
One or both parents deceased			
Pillar 2: Child Vulnerability			
Classification			
Component	Child Protection	Sub-component	Parental Care
Long Indicator Name	Children under 18 with one or both parents deceased (%)		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	N	Reference Year	2026
Description			
Indicator Description	Percentage of de jure children under age 18 whose mother, father or both parents are deceased.		
Indicator Reasoning	Orphanhood can reduce household support and increase exposure to poverty, protection risks and disruption during disasters.		
Data Sources			
Source	Timor-Leste Demographic and Health Survey		
Source Link / Comment	—		

Indicator 40			
Not living with either biological parent			
Pillar 2: Child Vulnerability			
Classification			
Component	Child Protection	Sub-component	Parental Care
Long Indicator Name	Children under 18 not living with either biological parent (%)		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	N	Reference Year	2026
Description			
Indicator Description	Percentage of de jure children under age 18 who do not live with either biological parent, regardless of whether their parents are alive.		
Indicator Reasoning	Children without a co-resident biological parent may have reduced access to direct parental care, resources and support before, during and after emergencies.		
Data Sources			
Source	Timor-Leste Demographic and Health Survey		
Source Link / Comment	—		

Indicator 42			
Any Violent Discipline			
Pillar 2: Child Vulnerability			
Classification			
Component	Child Protection	Sub-component	Violence, Abuse & Exploitation
Long Indicator Name	Children aged 1–14 who experienced any violent discipline (%)		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	N	Reference Year	2026
Description			
Indicator Description	Percentage of children aged 1–14 who experienced psychological aggression and/or physical punishment during the month preceding the survey.		
Indicator Reasoning	Violent discipline indicates exposure to violence and an unsafe caregiving environment, which can compound psychosocial vulnerability during crises.		
Data Sources			
Source	Timor-Leste Demographic and Health Survey		
Source Link / Comment	—		

Indicator 43

Severe Physical Punishment

Pillar 2: Child Vulnerability

Classification

Component	Child Protection	Sub-component	Violence, Abuse & Exploitation
Long Indicator Name	Children aged 1–14 who experienced severe physical punishment (%)		

Measurement

Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	N	Reference Year	2026

Description

Indicator Description	Percentage of children aged 1–14 who experienced severe forms of physical punishment during the month preceding the survey.
Indicator Reasoning	Severe physical punishment captures an acute form of violence against children with potential physical and psychosocial consequences.

Data Sources

Source	Timor-Leste Demographic and Health Survey
Source Link / Comment	—

Indicator 45			
Employment Ratio			
Pillar 2: Child Vulnerability			
Classification			
Component	Livelihoods & Social Protection	Sub-component	Poverty and Dependence
Long Indicator Name	Percentage of the working-age population that is employed.		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	Y	Reference Year	2022
Description			
Indicator Description	Percentage of the working-age population that is employed. The indicator measures the share of the population engaged in economic activity relative to the total working-age population.		
Indicator Reasoning	Employment reflects household economic stability and livelihood security. Areas with lower employment ratios may have higher economic vulnerability and reduced capacity to cope with shocks, disasters, or climate-related impacts.		
Data Sources			
Source	Population and Housing Census		
Source Link / Comment	https://www.unicef.org/timorleste/media/4566/file/Timor-Leste%20at%20a%20Glance%20%202022.pdf?utm_source		

Indicator 44			
Working children			
Pillar 2: Child Vulnerability			
Classification			
Component	Child Protection	Sub-component	Violence, Abuse & Exploitation
Long Indicator Name	Children aged 5 - 17 involved in employment or own use of subsistence production		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	N	Reference Year	2021
Description			
Indicator Description	Working Children (5–17): in employment OR own-use/subsistence production. National (weighted) = 20.3%.		
Indicator Reasoning	Child labour reflects economic stress and protection risks affecting children. Children engaged in labour are more vulnerable to exploitation, hazardous conditions, and school dropout, reducing resilience to shocks and disasters.		
Data Sources			
Source	Labour Force Survey (LFS)- microdata		
Source Link / Comment	Internal Information		

Indicator 46			
Poverty rate			
Pillar 2: Child Vulnerability			
Classification			
Component	Livelihoods & Social Protection	Sub-component	Poverty and Dependence
Long Indicator Name	Percentage of the population living below the national poverty line		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	N	Reference Year	2014
Description			
Indicator Description	Percentage of the population living below the national poverty line, measured using household consumption data. The poverty headcount ratio represents the share of individuals whose consumption or income falls below the nationally defined minimum level.		
Indicator Reasoning	Poverty is a key determinant of household vulnerability and coping capacity. Households living below the poverty line often have limited financial resources, reduced access to services, and lower resilience to economic shocks.		
Data Sources			
Source	Timor-Leste Surveys of Living Standard		
Source Link / Comment	https://inetl-ip.gov.tl/wp-content/uploads/2024/01/TL-Living-Standard-Survey-2014.pdf?utm_source		

Indicator 47			
Social Protection			
Pillar 2: Child Vulnerability			
Classification			
Component	Livelihoods & Social Protection	Sub-component	Social Protection
Long Indicator Name	Percentage of children aged 0–14 years who receive cash benefits from government social protection programmes.		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	Y	Reference Year	2022
Description			
Indicator Description	Percentage of children aged 0–14 years who receive cash benefits from government social protection programmes. In Timor-Leste this primarily reflects coverage through the Bolsa da Mãe programme, which provides financial assistance to vulnerable households with children.		
Indicator Reasoning	Social protection programmes strengthen household resilience by providing financial support to vulnerable families. Cash transfers can improve access to food, education and health services, helping households cope with economic shocks and reducing risks to child wellbeing during crises and disasters.		
Data Sources			
Source	Labour Force Survey (LFS) 2021 microdata		
Source Link / Comment	Internal Information		

Indicator 48			
Severe Food Insecurity (FIES)			
Pillar 2: Child Vulnerability			
Classification			
Component	Livelihoods & Social Protection	Sub-component	Food Security
Long Indicator Name	Percentage of households classified as having severe food insecurity		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	N	Reference Year	2020
Description			
Indicator Description	The Food Insecurity Experience Scale (FIES) measures the severity of food insecurity at the household or individual level based on responses to eight questions related to constraints in accessing adequate food. Households are classified into food secure/mild, moderate, or severe food insecurity categories.		
Indicator Reasoning	Food insecurity directly affects child nutrition, health, and overall wellbeing. High levels of food insecurity increase risks of malnutrition, reduced dietary diversity, and vulnerability to shocks, making it a key indicator of household vulnerability affecting children.		
Data Sources			
Source	Timor-Leste Food and Nutrition Survey (TLFNS)		
Source Link / Comment	Digital_Eng_TL Food Nutrition Survey 2020_FINAL_20 4 2022.pdf		

Indicator 49			
Poor Food Consumption			
Pillar 2: Child Vulnerability			
Classification			
Component	Livelihoods & Social Protection	Sub-component	Food Security
Long Indicator Name	Percentage of households classified as having Poor Food Consumption (FCS 0–28)		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	N	Reference Year	2020
Description			
Indicator Description	This indicator measures the percentage of households classified as having Poor Food Consumption (FCS 0–28). It is based on a 7-day recall of how frequently households consumed food groups weighted by their nutritional value. Poor FCS reflects very low dietary diversity and insufficient regular access to nutritious foods.		
Indicator Reasoning	Poor FCS is a strong marker of household food insecurity and vulnerability, with direct implications for children’s nutrition, health, and resilience. Households with low dietary diversity face higher risks of undernutrition, weakened immunity, and reduced capacity to cope during emergencies.		
Data Sources			
Source	Timor-Leste Food and Nutrition Survey (TLFNS)		
Source Link / Comment	Digital_Eng_TL Food Nutrition Survey 2020_FINAL_20 4 2022.pdf		

Indicator 50			
Minimum Acceptable Diet (6–23 months)			
Pillar 2: Child Vulnerability			
Classification			
Component	Child Health & Nutrition	Sub-component	Child Nutrition
Long Indicator Name	Percentage of Children Aged 6–23 Months Receiving a Minimum Acceptable Diet		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	Y		Reference Year
Description			
Indicator Description	Percentage of children aged 6–23 months whose feeding practices meet the minimum acceptable diet standard. This composite infant and young child feeding indicator combines minimum dietary diversity and minimum meal frequency, with criteria applied according to breastfeeding status.		
Indicator Reasoning	The indicator captures both the quality and frequency of complementary feeding during a critical period of child growth and development. Low coverage indicates inadequate nutrient intake and greater risk of undernutrition, illness and reduced resilience when food availability and household care practices are disrupted.		
Data Sources			
Source	Timor-Leste Food and Nutrition Survey (TLFNS)		
Source Link / Comment	https://www.unicef.org/timorleste/media/4606/file/Digital_Eng_TL%20Food%20Nutrition%20Survey%202020_FINAL_20%204%202022.pdf		

Indicator 51

Secondary Dropout Rate

Pillar 2: Child Vulnerability

Classification			
Component	Education	Sub-component	Retention
Long Indicator Name	Percentage of the dropout rate in secondary education (Grades 10–12) the dropout rate in secondary education (Grades 10–12)		
Measurement			
Unit of Measurement	%	Granularity	Admin 1 (municipality)
Reverse Indicator	N	Reference Year	2023
Description			
Indicator Description	This indicator measures the dropout rate in secondary education (Grades 10–12). It represents the percentage of students enrolled at the beginning of the school year who leave school before completing the academic year. The values combine records from both public and private secondary schools to provide a comprehensive estimate of student retention across municipalities.		
Indicator Reasoning	Retention in secondary education is critical for adolescent development, future employment opportunities, and long-term socio-economic resilience. High dropout rates may reflect structural barriers such as financial constraints, limited school accessibility, early entry into the labour market, or disruptions to schooling caused by environmental hazards or socio-economic shocks. Monitoring secondary dropout rates helps identify municipalities where adolescents face increased risks of educational exclusion and vulnerability.		
Data Sources			
Source	Ministry of Education – Education Management Information System (EMIS)		
Source Link / Comment	https://www.moe.gov.tl/emis/dados-estadistico?utm_source Indicator uses Total values combining Public and Private secondary schools.		



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